

Grant Agreement No: 611366

PREventive Care Infrastructure based on Ubiquitous Sensing

Instrument: Collaborative Project

Seventh Framework Programme (FP7) Call FP7-2013-10

D6.1 Preliminary dissemination and exploitation report

Due date of deliverable: 30/04/2014

Actual submission date: 30/04/2014

Revised submission 09/05/2015

date:

Start date of project: November 1st 2013

Duration: 36 months

Project Manager: Professor Jörg Ott

Revision: v.2.0

Abstract

This document presents the planned dissemination and exploitation activities in PRECIOUS. An overview of progress against the dissemination plan is also presented. Targeted dissemination activities are vital to ensure the impact of PRECIOUS outputs. A range of activities are planned, which aim to deliver appropriate content to key stakeholders. Exploitation activities will take place both during, and following the completion of, PRECIOUS. It is expected that both the consortium and the wider public will benefit from PRECIOUS. In response to the Y1 review, a roadmap, series of KPIs (and their application), and other measures have been added to the document in order to better reflect the current status of the PRECIOUS's projects dissemination and exploitation activities.

Nature:	R (R: Report, P: Prototype, O: Other)		
Dissemination Level:	PU (CO: Confidential, PU: Public)		
Version:	1.0		
Date:	Original: 30/04/2014		
	Updated : 09/05/2015		
WP number and title:	WP6: Dissemination and exploitation		
Deliverable leader	UNIVIE		
Authors	Patrick Zwickl, Christopher Helf, David Stezenbach (UNIVIE), Sarah Kuczora (Campden BRI), Carlos Ramos (EuroFIR AISBL), Sian Astley (EuroFIR AISBL), Tero Myllymäki (Firstbeat), Carmina Castellano (VHIR), Pilar Lusilla (VHIR)		
Status:	Final		



Document History

Date	Version	Status	Change	
28.01.2013	0.1	Draft	Draft version of dissemination plan	
17.03.2014	0.2	Draft	Addition of draft version of exploitation	
			plan	
22.04.2014	0.3	Draft	Incorporation of consortium updates to	
			dissemination and exploitation plan	
30.04.2014	1.0	Final	D6.1 (v1.0) submitted to European	
			Commission	
09.05.2015	2.0	Final	Major reworks implemented after	
			having received the review comments	

Peer Review History

Date	Version	Reviewed By
22.04.2014	0.3	PRECIOUS Quality
		Evaluation Group

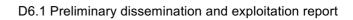


Table of Contents

1.	Executive s	summary	8
2.	Review Re	sponse	9
3.	Preliminary	Dissemination Report	11
3	3.1. Disse	mination plan	11
	3.1.1. I	ntroduction	11
	3.1.2.	Stakeholder engagement	11
	3.1.2.1.	Stakeholder analysis	11
	3.1.2.2.	PRECIOUS Advisory Board	18
3	3.2. Disse	mination routes	21
	3.2.1.	Written and printed material	21
	3.2.1.1.	Website and social media	21
	3.2.1.2.	PRECIOUS Blog	22
	3.2.1.3.	Press releases	23
	3.2.1.4.	Github	23
	3.2.1.5.	Leaflet and presentation slide set	23
	3.2.1.6.	Newsletter	23
	3.2.1.7.	Publication of journal articles	24
	3.2.2. E	Events	25
	3.2.2.1.	Poster and oral presentations at academic conferences	25
	3.2.2.2.	Presence at non-academic events	25
	3.2.2.3.	PRECIOUS workshops and seminars	26
	3.2.2.4.	PRECIOUS demonstration event	26
	3.2.3.	Scientific exchange	26
	3.2.3.1.	Interaction with other European Commission-funded projects	26
	3.2.4. I	ndividual partner dissemination activities	27
	3.2.4.1.	Aalto University (AALTO)	27
	3.2.4.2.	Campden BRI	28
	3.2.4.3.	EuroFIR AISBL	29



	3.2.4.4.	Firstbeat	30
	3.2.4.5.	The University of Helsinki	30
	3.2.4.6. (VHIR)	Hospital Universitari Vall d'Hebron – Institut de Recerca Vall d'Hebron 30	
	3.2.4.7.	Institut Mines-Telecom (IMT)	31
	3.2.4.8.	University of Vienna (UNIVIE)	31
	3.2.5. S	ummary	32
4.	Preliminary	Exploitation Report	34
	4.1. Exploi	tation plan	34
	4.1.1. Ir	ntroduction	34
	4.1.2. C	consortium-wide exploitation activities	34
	4.1.2.1.	Knowledge building	34
	4.1.2.2.	Technical advances in system design	34
	4.1.2.3.	Development of services	35
	4.1.2.4.	Summary	35
	4.1.3. Ir	ndividual partner exploitation activities	35
	4.1.3.1.	Aalto University (AALTO)	35
	4.1.3.2.	Campden BRI	36
	4.1.3.3.	EuroFIR AISBL	36
	4.1.3.4.	Firstbeat	37
	4.1.3.5.	University of Helsinki	37
	4.1.3.6.	Hospital Universitari Vall d'Hebron – Institut de Recerca Vall d'Hebron.	37
	4.1.3.7.	Institut Mines-Telecom (IMT)	37
	4.1.3.8.	University of Vienna (UNIVIE)	38
5.	Disseminati	on & Exploitation Monitoring Action Plan	39
	5.1. Asses	ment Methodology	40
	5.2. Disser	nination & Exploitation KPIs	40
	5.3. Disser	nination & Exploitation Roadmap	45
6.	Progress ag	gainst Dissemination & Exploitation Plans	48
	6.1 Valida	tion against the Roadman	48





6.2.	Vali	dation against KPIs	.48
6.3.	Deta	ailed Materials	.51
6.3.	1.	Stakeholder analysis	.52
6.3.	2.	Advisory Board	.52
6.3.	3.	Communication	.52
6.4.	Diss	semination Activities	.53
6.4.	1.	Position paper	.57
6.4.	2.	Exploitation activities	.57
	Exc	hange with Advisory Board (AB)	.58
6.4.	3.		.58
6.4.	4.	Collaboration with other Projects	.59
6.4.	5.	Collaboration with other Stakeholders	.59
6.5.	Sun	nmary	.59



List of Acronyms

AALTO: Aalto University

AB: Advisory Board

CVD: Cardiovascular disease

EC: European Commission

FP7: Seventh Framework Programme

ICT: Information and Communications Technology

IMT: Institut Mines-Telecom

PRECIOUS: PREventive Care Infrastructure based On Ubiquitous Sensing

SMEs: Small and medium enterprises

UNIVIE: University of Vienna

VHIR: Vall d'Hebron Research Institute

WP: Work Package



1. Executive summary

This preliminary report outlines the planned dissemination and exploitation activities in PRECIOUS. An update on progress against planned dissemination activities is also provided.

PRECIOUS dissemination actions aim to communicate project activities and results to a wide audience, which includes industry, academia, government bodies, and the general public. It is expected that PRECIOUS will generate innovations that can be applied by industry and result in successful patents.

The following dissemination activities are planned and presented in this document in detail: website and social media, press releases, project leaflet, bi-annual newsletter, conference posters and presentations, journal articles (peer review and trade), attendance at non-academic events, PRECIOUS workshops and seminars, a PRECIOUS demonstration event, and interaction with other projects and forums. These activities will involve all project partners, who will also carry out their own dissemination activities.

Exploitation activities will be carried out both during and after the project. These activities will aim to capitalise on acquired knowledge and project results, concerning preventive healthcare systems. The project will increase understanding of comprehensive, user-friendly, healthcare systems that can have both scientific and commercial value. Such systems can also impact at individual, as well as societal, levels.

In response to the Y1 review, a roadmap, series of KPIs (and their application), and other measures have been added to the document in order to better reflect the current status of the PRECIOUS's projects dissemination and exploitation activities. Based on those indicators, we can conclude that dissemination and exploitation activities need to be increased in Y2 and Y3 in order to meet the impact targets.

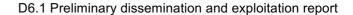


2. Review Response

In response to the review of the PRECIOUS project held on the 27th of January 2015 in Brussels, the PRECIOUS partners have improved this document in order to enhance dissemination and exploitation quantification, planning and implementation abilities. In particular, the following main points were targeted:

- Definition of Key Performance Indicators (KPIs) separated by different channels in order to be able to better track progress of dissemination activities
- Definition of Success Criteria based on defined KPIs, in order to be able to evaluate progress or under-achievement and hence initiate respective actions
- Creation of a dissemination and exploitation roadmap split up into three phases, and described by project month and milestones, including regular quarterly progress and KPIs checks
- Creation of a dissemination and exploitation template facilitating tracking of KPIs to be filled out by every partner on a quarterly basis
- Creation of an Evaluation Table to be filled out every year to monitor progress of KPIs every year, and subsequently define actions to be undertaken to countermeasure problematic areas
- Extensive overhaul of the stakeholder analysis with inclusion of two key additional stakeholders, namely large corporate firms and public healthcare insurances
- Increase of the advisory board to five members, with potential additional members to be found according to the new dissemination & exploitation roadmap
- Initiated process of increasing collaboration with other EU-funded projects
- Introduction of new dissemination measures, such as monthly-updated blog, a central GitHub repository for interaction and feedback from the open-source community, and website trackers for web-related KPI detection
- Adapted list of possible stakeholders and outlined possible interactions on how the different groups can beneficially guide the project and what actions can be performed by them

Overall, the project's dissemination activities as well as their quantification have been specified in a more detailed way. The introduction of new reporting structures, such as the "Reporting Template", will facilitate the consolidation of dissemination and exploitation-related efforts, which will then be assessed in quarterly KPI and progress checks. Within this document, general measures are defined to be undertaken in case of under- or overachievement of KPI values, such as the revision of KPIs themselves, the assignment of responsibilities or other escalation procedures. Furthermore, new stakeholders were





considered for this project, namely corporate employers and healthcare insurances, and will be included in future stakeholder interactions and exploitation plans. In light of above, with revised methods and plans, we hope to be able to vastly improve the visibility of this project over its duration and to disseminate innovations we are creating within those target groups potentially capable of exploiting them within real-life applications after the end of the project.



3. Preliminary Dissemination Report

3.1. Dissemination plan

3.1.1. Introduction

The consortium will employ a range of means to disseminate PRECIOUS concepts and results. These will include an online presence, oral and poster presentations, written publications, active contributions to research forums, and workshops involving key stakeholders. These dissemination activities will take place in accordance with the PRECIOUS Consortium Agreement, and protect any commercially sensitive material.

The purpose of this document is to present the dissemination plans in detail, listing foreseen activities. The WP leader (UNIVIE) is responsible for ensuring that the consortium carries out these activities as well as recording any achieved independently. This dissemination plan is a working document, that is, the plan will be updated regularly to reflect appropriate dissemination activities during the lifetime of the project. Still, the goals will remain valid and the consortium, as a whole, is responsible for implementing them.

3.1.2. Stakeholder engagement

In order for the project to be successful, dissemination to key stakeholders is vital. These stakeholders will help shape PRECIOUS through various feedback opportunities during the project, and will also ensure the lasting impact of PRECIOUS following its culmination.

3.1.2.1. Stakeholder analysis

During the first consortium plenary meeting, conducted in April 2014, a session was held in order to identify and prioritise stakeholders and plan dissemination activity to these key players. To achieve this, the consortium organised a "Message Mapping Session" with the aims of: identifying key stakeholder groups, outlining the "take out" message for each group, predicting the current perception of the stakeholder group, that is, their perception of our proposition (PRECIOUS), listing the content that will be used to present our message, and stating the channels that will be used to deliver this content.

The following stakeholder groups were identified during this session:

- End users / Consumers
- Media
- Software developers
- Health professionals
- Public healthcare organisations
- Policymakers
- · Patients / Patients' associations
- SMEs / Providers
- Researchers

Based on the feedback of the reviewers and further discussions of the consortium additional potential stakeholders will be considered:



- · Health care insurances
- · Department of health, family affairs & education
- Healthcare & youth NGOs
- Corporate Employers
- Employee protection representatives / staff associations / diversity managers

In order to structure the project progress the different groups were prioritised. As PRECIOUS is targeted to be included in the daily life, first consumers and health professionals are in the focus to identify possible fields of applications and possibilities. In accordance with these an interaction with SMEs, providers, and software developers will be established to determine the practical feasibility.

After first results are generated the consortium members will address organisations, as stated above, to gain broader recognition of project results. Furthermore, healthcare and youth NGOs and employee protection representatives are included to outline strategies to integrate preventive care in everyday working or school life.

As the different groups address various topics and interests the dissemination strategy applied to each is illustrated in the "Message Map" shown in Table 1. This table is intended to reflect the stakeholders who were identified by the consortium and how they could possibly benefit from or contribute to the project. These dissemination and communication strategies will be discussed, reviewed and adapted during monthly consortium teleconferences.

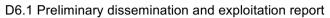


Table 1: Stakeholder "Message Map"

Priority	Stakeholder group	The Take Out Message	Current perception: level of difficulty	Making the shift: content / channels / targets
1	Consumers, End-Users, Patients' associations	Engagement: contribute to the design of PRECIOUS by communicating requirements and giving feedback Action: use PRECIOUS to improve lifestyle, diet and well-being	Currently unaware of PRECIOUS How can we reach them?	Content Case studies/examples Channels Traditional media PRECIOUS website/social media Online forums Workshops Women's and men's magazines
2	Health Professionals	Awareness & understanding: understand that PRECIOUS is a science-based system and that it can improve the quality of life of their patients Advocacy: recommend PRECIOUS to their patients	Currently unaware of PRECIOUS May be negative if the PRECIOUS approach does not fit with their common practices	Content Research evidence Reports Channels Expert Interviews Conferences/Webinars

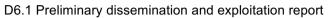


3	SMEs / Providers / Software developers	Engagement: explain how they would use PRECIOUS to generate business, and describe their technical requirements Action: link their sensors, applications etc to the PRECIOUS system	Most are neutral at this stage. They are likely to use other platforms/have their own platform and will need to be convinced by PRECIOUS	Peer review literature Professional literature/magazines PRECIOUS website Direct communication Workshops Content Case studies/examples Research evidence Channels Direct communication Trade shows Tech-healthcare magazines Workshops PRECIOUS website/social media
4	Researchers	Engagement: depict how PRECIOUS could interact with their current research activities, or how their work could be beneficially integrated into PRECIOUS Action: Reference and integrate	The research community is actively engaged in areas such as preventive care, eHealth and sensor technology. A number of	Content Research evidence Joint research work





		PRECIOUS in their publications	scientific conferences are also running in these areas. Enhance PRECIOUS visibility.	Future projects Channels Scientific conferences Peer reviewed journals Research Platforms LinkedIn Group
5	Coporate Employers, Employee / diversity representatives, NGOs,	Engagement: Disclose potential deployment and integration scenarios of PRECIOUS Action: Recommend / guide integration of PRECIOUS in daily life (e.g. work breaks, school)	Aware of requirements on preventive care. Need to be convinced of the efficacy of PRECIOUS	Content Deployment and integration in daily life strategies Channels Expert Interviews Direct communications Reports
6	Media	Engagement: Broaden PRECIOUS recognition in general public Action: Distribute press releases and reference PRECIOUS in articles	Public health is currently a media 'hot topic', although they are currently unaware of PRECIOUS.	Content Case studies/examples Broaden project recognition Channels





7	Public healthcare organisations	Engagement: Highlight possible fields of applications and guide PRECIOUS use cases and deployment strategies Action: Point out problem areas relevant to PRECIOUS	Aware of pressures on public healthcare services due to chronic diseases and familiar with the concept of preventive care. Need to be	Issue press releases Social media Content Research evidence Reports Channels
			convinced of the efficacy of PRECIOUS.	Direct communications Professional literature/magazines
8	Policymakers, Ministries	Engagement: Guide legal questions of PRECIOUS and possible integration into government programs Action: Ensure legal framework for services like PRECIOUS	Aware of pressures on government budgets due to chronic diseases and familiar with the concept of preventive care. Need to be convinced of the efficacy and economic benefit of services like PRECIOUS.	Content Case studies/examples Research evidence Reports Channels Direct communications
9	Health insurances	Engagement: Illustrate potential economic benefits of PRECIOUS services Action: Offer bonus system to	Aware of pressures on budgets due to chronic diseases and familiar with the concept of preventive care. Need to be	Content: Case studies/examples Economic impact values



D6.1 Preliminary dissemination and exploitation report

	policyholders for use of PRECIOUS	convinced of the	Channels:
	system	economic benefit of services like PRECIOUS	Expert Interviews
			Direct communications



The consortium has also identified a number of health organisations, through which health professionals and consumers can be targeted. Health professionals may be approached through connections to official social media pages, email and telephone or at appropriate events/workshops. Consumers often interact via forums hosted by these health organisations, which may provide an opportunity for PRECIOUS to engage with potential end users and understand their health concerns. The following list of organisations has been identified, and will be updated throughout the project:

- http://www.afdn.org/ AFDN Organisation of nutrition professionals
- http://www.afd.asso.fr/- AFD French association of diabetics
- http://www.fedecardio.org/ FEDECARDIO French association to fight cardiovascular diseases
- http://alimentation.gouv.fr/ French government web portal about food
- http://www.sante.gouv.fr/ Public Health France
- https://www.gov.uk/government/organisations/public-health-england Public Health England
- http://www.scotphn.net/ Scottish Public Health Network
- http://www.publichealth.hscni.net/ Public Health Agency for Northern Ireland
- http://www.wales.nhs.uk/ Public Health Wales
- https://www.diabetes.org.uk/ Diabetes UK
- https://www.bhf.org.uk/ British Heart Foundation
- https://www.bda.uk.com/ British Dietetic Association
- http://www.nutrition.org.uk/ British Nutrition Foundation
- http://www.thl.fi/ National Institute for Health and Welfare (THL) Finland
- http://www.ttl.fi/ Finnish Institute of Occupational Health (FIOH)

3.1.2.2. PRECIOUS Advisory Board

The creation of an Advisory Board (AB) is a key strategy for the engagement of stakeholders. All partners will invite influential stakeholders, in their field, to participate. The AB will consist of approximately 5-10 members. The AB will be consulted via email and Skype throughout the project to ensure that activities and outputs remain relevant. AB members will also be invited to attend face-to-face meetings as well as project workshops and seminars.



The consortium plans to consult the AB members once per quarter on average, depending on the steps currently performed. Furthermore, at least one relevant AB member will be included in the decision-making when essential questions are or a choice between multiple reasonable strategies needs to be made.

In order to make the influence of the AB visible to the public, opinions and comments of the AB members will be published on the project web page or as blog posts. These can consist of short report statements or relevant quotes. The detailed AB input will be included in the respective deliverables to document the interaction.

The following individuals have agreed to join the AB:

	6			
A	1		-	1
		M		
67	3		Re	100

Dr. Joan Colom

Program on Substance Abuse

Public Health Agency of catalonia Dr. Colom is deputy director of the Public Health Agency of Catalonia, and Research and Innovation manager. The Public Health Agency belongs to the Health Department of the Government of Catalonia¹



Sabri Abarkan

VivSan GmbH Sabri has been active in the field of nutrition and physical activity for children for six years. He is the founder of vitakid an online platform for healthy nutrition and physical activity for children which is used in Germany and Spain. Since 2008, he has been involved in research aiming to build IT-solutions to help fight childhood obesity. The platform developed and invented by him received the Innovation prize of the Universidad Católica de San Antonio in 2012 in Murcia, Spain. Sabri holds a Master in Economics and a Master of Law (Finance). Currently, he is focusing on widening the scope and availability of vitakid and participating in European research projects.

1

 $[\]frac{\text{http://www20.gencat.cat/portal/site/salut/menuitem.81a4919118f3026913a90f10b0c0e1a0/?vgnextoid}{= afc125837e73f310VgnVCM2000009b0c1e0aRCRD\&vgnextchannel= afc125837e73f310VgnVCM200009b0c1e0aRCRD}{\text{00009b0c1e0aRCRD}}$



Ólafur Andri Ragnarsson Betware Reykjavík University	Mr. Ragnarsson is the co-founder of and chief software architect at Betware, Reykjavik University. Betware is a company that has specialised on online platforms for online gaming and lottery. Betware is today one of the leading companies in this area. Mr. Ragnarsson is further affiliated with the Reykjavík University's School of Computer Science 1989 where is he actively teaching classes.			
Barbara Koroušic Seljak, Jožef Stefan Institute	Assistant Prof Barbara Koroušić Seljak is a senior researcher at the Computer Systems Department, Jožef Stefan Institute, in Ljubljana (Slovenia), contributing an expertise in real-time systems, software engineering, and e-health. BKS has been active in the field of food science and nutrition for ten years. She is an author of the Slovenian web application for dietary assessment and menu planning, and is responsible for compilation and management of national food composition data. Since 2005, she has been involved in several national and EU-funded research projects on children's, workers' and clinical nutrition. BKS earned her Doctorate at the University of Ljubljana in Computer Science and Informatics (Slovenia), and has specialized in Embedded Systems at the Loughborough University, UK. Currently, she is the Assistant Professor in Computer Science at the Jožef Stefan International Postgraduate School. She is a member of the Executive Board of EuroFIR AISBL and the Slovenian Society for Clinical Nutrition and Metabolism.			
Dr. Falko Sniehotta Newcastle University	Dr Sniehotta is Reader in Health Psychology at Newcastle University. He is president of the European Health Psychology Society, Associate Editor of Health Psychology Review, and member of the editorial boards of the Annals of Behavioral Medicine, Psychology & Health and the British Journal of Health Psychology (http://www.ncl.ac.uk/ihs/people/profile/falko.sniehottal).			

The following individuals have been invited to the AB:

Dr. Olli Pitkänen



Mr Olli Pitkänen works as a research leader in IPR University Center. The major tasks of this institute include especially coordination and research of IPR. University of Helsinki is a founder member of the institute. (http://www.hiit.fi/node/147)

Kirsi Mikkonen

Development manager Kirsi Mikkonen has a long career in practical work and research of organization management. Her special topics include Agile coach, being Scrum master, Kanban coach managing complex change initiatives and managing 3rd party supplier, resource and site strategies. She work currently in R&D at Oy LM Ericsson Ab.

Terhi Kajaste

CEO (Managing Director) Terhi Kajaste works in Finnish Healthtech that is active, nonprofit organization having a very large group of members in Finnish health and well-being companies.

Her essential background include especially good knowledge and practical long term experience in relating industrial relationships and vision of relating products and services.

Additional members will be invited in due course.

3.2. Dissemination routes

A variety of dissemination routes will be required to reach the diverse range of stakeholders, which have been identified. Therefore, in addition to the AB and interaction through health organisations, the following dissemination routes are planned.

3.2.1. Written and printed material

3.2.1.1. Website and social media

A project website is available at www.thepreciousproject.eu and will be used as one of the main vehicles of dissemination and interaction with the public seeking information about PRECIOUS. The website is structured into the following pages: Home, News Vision, Partners, Publications, Contact and Consortium Area. The 'Consortium Area' pages are password protected (intranet) and will be used as a tool of communication between the partners. All partners have editor-level access for this section of the website.

The public sections of the website are managed by the project co-ordinator; however, all consortium members are responsible for suggesting revisions and contributing to its contents (via the co-ordinator). In addition to providing general information about the project, such as plenary meeting updates, project milestones and links to existing systems and products, the website will be used as the main vehicle to disseminate public deliverables, as well as other reports the project may publish. This content will be made available under the 'Publications' section.





Figure 1: www.thepreciousproject.eu

Year 1:

In the first year of the project we have published:

- 2 newsletters
- 7 deliverables
- 6 articles/abstracts
- 1 workshop report

Social media channels, for example Twitter, Facebook and LinkedIn, will help to extend dissemination of project activities and results and, in particular, engage the general public and some media. Consortium members will also investigate the use of their websites and social media networks to highlight project progress, upcoming events and publications.

3.2.1.2. PRECIOUS Blog

The PRECIOUS consortium plans to establish a blog that provides a non-technical overview on the progress on a regular basis. The different consortium members will give an insight on their project work and thus, make research more visible and comprehensible to the public. Presentation videos of prototypes, results of surveys, or general project affairs will be offered



to a non-expert community and as such, facilitate PRECIOUS visibility and the general understanding of research projects. The blog will be promoted on the project website and in social media platforms.

3.2.1.3. Press releases

Press releases will be prepared to disseminate key project achievements. These are likely to include:

- Publication of 'PRECIOUS vision' diagram an overview of the multi-disciplinary nature of the project and its aims
- Presentations at conferences
- Arrangement of PRECIOUS workshops/other events
- Development of a prototype system
- · Results of efficacy studies

The press releases will be sent to journalists, for example via press release portals, and will be translated into local language as appropriate.

3.2.1.4. Github

A central, public GitHub page for the entire project will serve as the main platform for interaction with the open-source community and facilitate cooperation with other projects based on a shared code base. Therefore, PRECIOUS is following a GPL or LGPL licence strategy for its developments, depending on what is applicable based on third-party elements that are included.

PRECIOUS will publish prototypes that are results of the gamification approach followed by the consortium. In addition, this will expedite the agile software development due to short cycled feedback by the community. Furthermore, the development of the xAAL protocol will be constantly shared with the open source community.

3.2.1.5. Leaflet and presentation slide set

A leaflet describing PRECIOUS will be prepared and published on the 'Publications' area of the website. A second release will be published towards the end of the project.

A presentation PowerPoint, introducing the PRECIOUS vision on future network technologies, key developments undertaken in the project, and the reasons why these developments are strategic, will be prepared. These slides will published on the 'Publications' area of the website.

3.2.1.6. Newsletter

A PRECIOUS newsletter is planned and will be issued twice a year, describing progress. The newsletter will be distributed by email to the consortium, AB, EC, and other parties who subscribe to it by registering online. The consortium will circulate the newsletter amongst their contacts. A PDF copy of the leaflet will also be added to the public pages of the website. A link to this PDF will be posted on social media accounts.



The newsletter will contain several sections: *Editorial, In the spotlight, Progress and achievements, News from the partners,* and *Upcoming events*:

- The Editorial will be written by the project co-ordinator;
- In the Spotlight will present the activities of a given work package (WP) in more detail (on a rotating basis);
- Progress and achievements will give a short progress report on the main developments in WP;
- News from the Partners intends to present closely related activities occurring at partners' organisations;
- Upcoming events will promote future events, including project activities.

Table 1: Newsletter schedule

Date of release	Editorial	In the Spotlight	Progress and achievements	News from the partners	Upcoming events
May 2014 -	AALTO	WP2	Each WP leader to provide a summary of progress	Each partner to provide details of any closely related activities	Highlighting upcoming events
Complete					
Nov 2014 -		WP3			
Complete					
May 2015		WP4			
Nov 2015		WP5			
May 2016		WP6			

3.2.1.7. Publication of journal articles

The publication of papers is an important way to disseminate scientific knowledge, and PRECIOUS will also follow this approach. Many PRECIOUS partners, especially the academic partners, are planning to present papers at conferences (poster and oral contributions) and publish papers in selected peer-review journals. Given the lifespan of the project, it is likely that results will first be presented at conferences, and then, later on, in journals, presenting a more complete description of models and results.

The major peer-review journals being targeted are:

- IEEE Transactions on Networking
- IEEE Journal of Biomedical and Health Informatics
- Telemedicine and e-Health
- Games for Health Journal
- Health Psychology
- Psychological Medicine
- · European Journal of Medical Research

This list will be updated throughout the duration of the project.



Trade journals (e.g. Food Science and Technology Journal) and professional magazines (e.g. Diabetes Update) are a useful channel for project dissemination to a wider audience (such as industry and health professionals), and therefore opportunities to contribute articles in relevant publications will be sought.

3.2.2. Events

To increase networking opportunities, the PRECIOUS consortium will seek a presence at major events in the areas of future networks, gamification, healthcare, nutrition and psychology. Events targeted will include academic conferences, non-academic forums and industry trade shows. The consortium will also organise events, such as workshops, seminars and a demonstration event.

3.2.2.1. Poster and oral presentations at academic conferences

The project aims to target a carefully selected subset of major conferences in the field, for example:

- Institute of Electrical and Electronics Engineers (IEEE) INFOCOM
- IEEE PerCom
- IEEE SECON
- IEEE WoWMoM
- IEEE Healthcom
- · Association for Computing Machinery (ACM) SIGCOMM
- ACM MobiCom
- ACM MobiHoc
- ACM CoNext
- ACM MobiOpp
- International Communication Association (ICA) conference
- International Federation for Information Processing (IFIP) Networking
- International Digital Health Conference
- International Conference of Motivational Interviewing (ICMI)
- European Public Health Conference (EUPHA)
- World Congress on Public Health
- Conference of the European Health Psychology Society
- International Congress of Behavioural Medicine
- World Congress of Food Science and Technology
- Mobile World Congress

3.2.2.2. Presence at non-academic events

The PRECIOUS partners will seek to attend events organised by national governments, local authorities, and other international institutions focused in areas such as:

- eHealth
- Diet and health e.g. Westminster Food & Nutrition Forum events



- Public health
- New technologies and health
- Health psychology

Opportunities to interact with the technology industry, and potential investors, will also be sought. In particular, the consortium will consider attendance at technology trade shows such as:

- Consumer Electronics Show (CES)
- Mobile World Congress
- · Gadget Show Live

This list will be updated throughout the duration of the project.

3.2.2.3. PRECIOUS workshops and seminars

Two workshops will be organised by PRECIOUS, that is, one after Month 18 (Apr 2015), and one after Month 30 (Apr 2016). These workshops will be based on demonstrations and present project results. Information concerning the workshop will be made public via the project website, newsletter and social media.

Ideally, these workshops will be co-located with project face-to-face meetings, in order to maximise attendance of consortium members. Moreover, the members of the AB will be invited to participate and provide their feedback.

Partners will also organise local workshops, seminars and other opportunities to present project information, such as:

- Seminars and workshops that bring together academics and industry (University of Vienna & IMT)
- Presentations for the general public and local media (IMT)
- Dissemination of project results at Member Interest Groups (Campden BRI)
- Dissemination of project results at seminars and workshops for health professionals and end users (Hospital Universitari Vall d'Hebron)

3.2.2.4. PRECIOUS demonstration event

PRECIOUS will promote and prototype some technologies developed within the project. Public demonstration of these technologies will be organised towards the end of the project, when the prototype devices are ready. Opportunities to invite the media will also be sought. This event will take place the day before, or after, the final EC review meeting, which is scheduled to take place at VHIR, Barcelona (ES).

3.2.3. Scientific exchange

3.2.3.1. Interaction with other European Commission-funded projects

PRECIOUS will actively seek links and interaction(s) with other EC-funded projects in the areas of future networks, sensors, preventive health and personalised health.



Currently, the following projects have been identified, and will be approached to discuss sharing of disseminated materials, for example project newsletters, and the possibility of developing collaborative dissemination activities, such as joint workshops:

- QuaLiFY, grant agreement number: FP7-613783²
- SPLENDID, grant agreement number: FP7-610746³
- SimpleSkin, grant agreement number: FP7-323849⁴
- Internet of Things Architecture, grant agreement number: FP7-257521⁵
- BUTLER, grant agreement number: FP7-287901⁶

It is expected that additional projects will be identified throughout the duration of PRECIOUS, and this document updated accordingly. As suggested by the reviewers and of special interest for the consortium are funded projects of H2020 PHC 26. All of these projects will be investigated regarding its relevance to PRECIOUS and linkage possibilities. In addition to disseminating information, this activity will allow consortia to seek synergies with each other, and exploit opportunities for future research or business ventures.

3.2.4. Individual partner dissemination activities

3.2.4.1. Aalto University (AALTO)

Aalto has established the Health Factory organisation⁷, which provides a framework for various SMEs, hospitals and societal players in the Helsinki area. PRECIOUS will organise a joint workshop with the Aalto Health Factory to promote incubation of new preventive care associated services and SMEs. PRECIOUS will also organise joint courses with Aalto and SMEs in the Helsinki area to promote preventive care related technologies and business concepts.

Concrete targets:

- ST1:
 - 1 paper submissions per quarter
 - o 1 paper submission (total) to high end conferences
- ST4: Contribution to the project position / white paper

² http://www.qualify-fp7.eu/

³ http://splendid-program.eu/

⁴ http://www.simpleskin.org/

⁵ http://www.iot-a.eu/public

⁶ http://www.iot-butler.eu/

⁷ http://elec.aalto.fi/en/research/health_factory/



ST5: 1 workshop organized within 2 quarters

1 paper submission to high end conference ST1

[if !supportLists]- [endif]1 workshop organized within 2 quarters ST5

[if !supportLists]- [endif]Contribution to white paper and newsletter ST4

3.2.4.2. Campden BRI

Campden BRI provides technical support to the food, drinks and allied industries, serving 2,000+ member companies and other clients in 65+ countries. Campden BRI hosts regular on-site meetings with membership companies (Member Interest Groups), which offer the opportunity for presentation of on-going projects and group discussion. These meetings will provide a platform to update the food industry on PRECIOUS results, and receive feedback. Presentation of results to at least three meetings will be sought (e.g. Winter 2014, Winter 2015 and Spring 2016). Campden BRI can also disseminate information via its targeted Newsfeeds; members opt-in or out based on their interests. The 'Diet, Health and Nutrition' Newsfeed will be used to disseminate important updates regarding food intake, as well as overall progress. On-site training and conference facilities will also be used to host seminars/workshops for further dissemination of PRECIOUS outputs to key stakeholders.

Concreate targets:

- ST3: Editing of a project position paper in Y3
- ST5+DC1
 - 1 presentation at Campden BRI's Member interest groups Y2
 - 2 presentations at Campden BRI's Member interest groups Y3
 - Promotion of Project at Campden BRI's Day Y2 and Y3
- M3:
 - 1 in Y1: Article in Campden BRI's Newsletter (achieved)
 - o 2 in Y3: Trade article and Campden BRI Research Summary Sheet
- SM1+SM3+WE1:
 - Campden BRI will attempt to use their network to establish links between several major health organisation and the PRECIOUS social media pages.
 Campden BRI will further add a footer at the bottom of e-mail messages in order to reference to the PRECIOUS website.
- SM2+4:
 - 3 or more Facebook post in Y2



3 or more Facebook posts in Y3

3.2.4.3. EuroFIR AISBL

EuroFIR AISBL is an international, member-based, non-profit Association with individual and institutional members including dieticians, food manufacturers, software developers, public-sector funding bodies, regulators and academia. Members have access to EuroFIR's newsletter where on-going projects and the related results are presented. Participation in a wide variety of events (e.g. CommNet BioFora) will provide opportunities to disseminate information about PRECIOUS. Besides its membership, EuroFIR AISBL also has an extensive mailing list with more than 2000 contacts and a website for disseminating information globally. Recently, EuroFIR AISBL created a Technical Working Group for its members. The aim of this group is to coordinate and advise on development and management of EuroFIR ICT systems as well as the long -term ICT strategy for EuroFIR to ensure compatability and consistency in EuroFIR systems. It was agreed at the EuroFIR Working Groups' meeting that PRECIOUS activities would integrated into this group to promote the exchange of views that can help with future development.

In addition, EuroFIR is a beneficiary in QuaLiFY (Grant no. 613783), which is aims to utilise knowledge from previous Framework Programmes, and create new approaches for improving the health of EU citizens. A complementary group of SMEs is involved in (1) quantification of food intake and composition, (2) self-quantification technologies for genotype, phenotype and nutritional status, (3) data handling and personal advice IT tools, (4) production and provision of personalised dietary advice services and (5) innovative business development. QuaLiFY will create a solid basis to launch commercially viable products and services in the area of personalised dietary advice by providing a knowledge infrastructure and harmonised open innovation protocols. Beneficiaries from these consortia will review possible synergies between these projects over the coming months.

The PRECIOUS project can further profit from the EuroFIR newsletter as platform to reach an audience of approx.. 2000 contacts mainly from the food industry and research (including food consumers, policy advisors, members of the EC/EP, national regulators in the food area, academic partners, SMEs from the area, etc.).

Concrete targets:

- ST1: Submission of an abstract on at least 2 international conferences
- ST3: Contribution do the white paper
- ST5: Presentation of the project on the Annual EuroFIR symposium this was already the case for 2014 and will be for 2015
- M1: Contribution to the PRECIOUS newsletters
- M1+DC1+DC2: Dissemination of the project on the EuroFIR newsletter (4 times / year) and on EuroFIR website
- SM3: Management of the LinkedIn page



3.2.4.4. Firstbeat

Results from PRECIOUS will be published via the company's distribution channels, and in related activities, such as newsletters, partner newsletters, and seminars. Firstbeat will participate in writing scientific publications with other consortium partners. Dissemination through publications will target high quality, peer reviewed journals in the health and wellbeing domain.

Concrete targets:

- ST1: ≥ 1 publications per year in co-operation with other members of the consortium
- ST3: Contribution to project position paper
- M1: Contribution to every project newsletter
- M4: Firstbeat will contribute several blog posts (see roadmap) bringing in their expertise in the area of physiology (and nearby areas) and extensive field expertise.

3.2.4.5. The University of Helsinki

The University of Helsinki will focus its dissemination activities on journals and conferences relevant to preventive health and the use of technologies to support this. More specifically, the publications will be related to the building of psychological foundations for the PRECIOUS system, e.g. exploring the self-regulatory and motivational techniques, and the applicability of a gamification for behavior change. Publications are planned in the fields of neurosciences, as the laboratory experiments with psychophysiological measures will be conducted to detect the changes in, for example, brain responses and skin conductance, which are objective indicators of approach/avoidance motivation. Study findings will be discussed with local partners in biweekly health psychology research seminars and in collaboration with the Helsinki Institute for Information Technology (HIIT) findings will be integrated into teaching of information technology of social psychology. The research group will collaborate Helsinki Think Company (City of Helsinki and University of Helsinki) for dissemination of research results. The research group will arrange the annual Finnish Social Psychology meeting in 2014 where the theme will be technology and social psychology.

3.2.4.6. Hospital Universitari Vall d'Hebron – Institut de Recerca Vall d'Hebron (VHIR)

The scientific dissemination of VHIR will focus on participation in target international conferences and specific publications in peer-reviewed journals. Moreover, the newsletter and VHIR website will be used to post PRECIOUS-related events and disseminate results. Additionally, seminars and workshops for interested hospitals, universities and industry partners will be carried out.

Concrete targets:

- ST1: ≥ 2 publications per year
- M1: Contribution to every newsletter



- M1+M6: VHIR is already using already their institutional web site (www.vhir.org) to distribute the Newsletter and also we have carried out some informative sessions about the progress of our project. These activities will be continued throughout the project.
- M4: VHIR will contribute several blog posts (see roadmap) bringing in their expertise in the area of psychology (and nearby areas) around extensive field expertise.

3.2.4.7. Institut Mines-Telecom (IMT)

The scientific dissemination of IMT will focus on participation in target international conferences and specific publications in peer-reviewed journals. Additionally, the living lab, Experiment'HAAL, will be also used as a show room for demonstrations and communication to the general public and to SMEs. Moreover, since IMT is a graduate engineering school, the project-based learning pedagogical method implemented at IMT is important. We will use the benefits of PRECIOUS to promote preventive care technologies and the business concepts in teaching.

Concrete targets:

- ST1: 1 in Y2, ≥ 1 in Y3
- ST5:
 - o ≥ 1 project tutorial
 - o ≥ 1 presentation per year (Y2, Y3)
- D1: Optional dissemination at domain-specific networks
- SE1: ≥ 1 participated or hosted events (in total)
- IE1+IE2 ≥ 1 participated industry event (in total) and optionally one hosted event
- M2: 1 per year (Y1, Y2)
- M5: ≥ 4 per project
- M6: Reference from xAAL info page to PRECIOUS web site will be established

3.2.4.8. University of Vienna (UNIVIE)

The scientific dissemination activities of UNIVIE will focus on high-quality publications in appropriate top-level international conferences and/or journals, with an emphasis on significant research results in the areas of gamification approaches in preventive care, semantic technologies for sensor data, and economic modeling (including Quality of Experience) for eHealth scenarios. Further dissemination activities are planned especially within the Austrian eHealth community, for instance the organization of a tutorial event for interested industry partners. Project activities and results will also shape related teaching activities, including related seminars and Masters Theses. Applications for follow-up projects will be targeted.



Concrete targets:

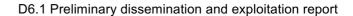
- 4-6 or more submissions to internationally recognised conferences, journals etc. in Y2 and Y3.
- At least one submission in one of the main contribution areas of UNIVIE (gamification, semantic technologies and techno-economic modelling & business models relating to the PRECIOUS context).
- Among others, we will target the publishing of laboratory-based trial results, new business model concepts for e-Health (e.g. healthcoin), motivational techniques to be used in the gamification context, etc.
- Two or more invited lecture or keynotes relating to PRECIOUS topics will be held within the project duration. A notable example will be the inaugural lecture of Prof. Peter Reichl (May 4, 2015) who will not only official introduce PRECIOUS to a broader audience, but will also give an online interview to the University of Vienna media and communications team, which will be openly accessible.
- One or more post on front page of the Faculty of Computer Science or one or more involved research groups, which promotes the PRECIOUS project and outcomes thereof.

KPI Contribution Estimate

- ST1: ≥ 3 per year (Y2 and Y3)
- ST4: Contribution to the project position / white paper
- SE1: ≥ 2 in total
- M1: Contribution to every newsletter
- M4: VHIR will contribute several blog posts (see roadmap) bringing in their expertise in the area of gamification, semantical technologies, and techno-economics and business.
- M6: References from one or more research group web sites to the PRECIOUS project have been established and will be remained throughout the project. Interesting news may also be shared via this vehicle.

3.2.5. Summary

Dissemination of PRECIOUS concepts, results and systems is vital to the success of the project. Various channels will be used to reach a diverse group of key stakeholders, which includes industry, academia, health networks and the general public. Early dissemination activities will include creation of a project website and social network accounts, production of a project leaflet and a targeted media presence. During the project, activities will include





release of a bi-annual newsletter, presentation of results at conferences, publication of articles in trade press, delivery of workshops and seminars, and interaction with other FP7 projects. If achievable, it is expected that preparation of articles for submission to journals will take place towards the end of the project. Additionally, a project leaflet will be released at the end of the project, and reports will be made available publically via the project website. Apart from this the PRECIOUS project targets to PRECIOUS workshops, one in Y2 and one in Y3 (see roadmap).



4. Preliminary Exploitation Report

4.1. Exploitation plan

4.1.1. Introduction

PRECIOUS aims to provide a preventive care system that will promote healthy lifestyles. To achieve this, the PRECIOUS consortium combines expertise from a range of organisations (research institutes, universities and commercial partners), and across multiple disciplines, including health ICT, sensor technology, wellness technologies, nutrition, and psychology. During the project, the consortium will exploit their combined expertise to deliver the project aims, and seek opportunities to disseminate their contributions. Following project completion, knowledge gained and prototypes/new technologies developed, will be exploited in each partner's ongoing and future activities. It is also hoped that the public will benefit from improved health and wellbeing, which in the longer term will reduce healthcare costs.

4.1.2. Consortium-wide exploitation activities

4.1.2.1. Knowledge building

During the project, consortium members will build knowledge that can be applied to the development of future services, research grant applications, teaching programmes etc. Key questions that will be answered include:

- How can ubiquitous ICT systems, that allow long term monitoring, be used in preventive healthcare systems?
- How can multisource data be combined in decision-making processes?
- What are the key elements of health and behavioural data that are needed in preventive healthcare systems?
- How can healthcare services, self-management tools, data trackers etc be combined in an intelligent healthcare system?
- How can motivational techniques, such as motivational interviewing and gamification, be used to support behavioural change?
- What are the key elements that encourage users to engage with the system in the mid- to long-term, and reinforce commitment to behaviour change?
- How can an individual's behaviour be facilitated towards healthier lifestyles?

4.1.2.2. Technical advances in system design

The PRECIOUS project will result in technical advances, especially in the development of a virtual individual model that is based on physiological signal analysis, as well as other data sources and related sensor technologies. PRECIOUS will contribute by innovating a model that utilizes physiological, environmental, and behavioural information collected with ICT-technologies including sensors and applications, and which results in a comprehensive overview of an individual's health status and it's sub-elements, such as stress, recovery, sleep, physical activity, and nutrition. PRECIOUS further supports lifestyle change if needed, through motivational tools and gamification elements implemented in the system. Thus, the technical advances in PRECIOUS are related to the development of needed sensors, interfaces, and data modelling, which together make it possible to collect and analyse



various health-related data for producing meaningful feedback and for supporting behavioural change. To achieve this, development of physiological signal analysis and modelling of physical and mental function is needed, as well as the ability to extract meaningful data from extensive amounts of ubiquitous sensor data. Moreover, technical advances are needed when carefully designing the PRECIOUS system architecture on the chosen platform.

4.1.2.3. Development of services

Based on the knowledge and technical expertise gained, it is expected that PRECIOUS will help the consortium partners (alone, or in collaboration with other organisations) to provide:

- New or improved preventive healthcare services
- New service models
- Increased efficacy, acceptability, and ease-of-use of ICT-based services
- Personalised services that build on user data

4.1.2.4. Summary

Overall, PRECIOUS provides many possibilities for commercialisation of the results, as well as supporting further scientific work in this area. Thus, PRECIOUS results will be utilized to improve services in related industries, as well as for future research activities of the academic partners. PRECIOUS aims to demonstrate usability of preventive healthcare systems based on ubiquitous sensor data. If proven successful, the PRECIOUS system could allow for large-scale usage in the healthcare sector. Overall, it is hoped that the results of PRECIOUS will lead to the development of commercial healthcare services that result in improved public health and reduced prevalence of lifestyle-related diseases, such as type II diabetes. This would ultimately lead to cost-savings in the healthcare sector. The following section provides a more detailed account of the planned exploitation activities for each consortium member.

4.1.3. Individual partner exploitation activities

4.1.3.1. Aalto University (AALTO)

Aalto University is just starting its Health Factory, which aims to provide a well-tutored framework for various SMEs, hospitals and societal players in Helsinki, and across Finland, for practical health and well-being research and service design. Aalto will organize a joint workshop with Aalto Health Factory to promote incubation of new preventive care associated services and SMEs. Furthermore, joint courses with Aalto and SMEs in Helsinki will be held to promote preventive care related technologies and business concepts. Development of PRECIOUS will offer a multitude of common forums to promote very interesting and practical methodology to foster preventive care. We are sure that associated national and international activities planned in this proposal will greatly benefit the Health Factory as well as PRECIOUS. Our workshops, publications, developed wide-scale agile management system and Europe-wide cooperation network will thus accumulate great benefits and true impact for health research, as well as for people in acute need of truly effective preventive care.



STARTUP SCENE

4.1.3.2. Campden BRI

Participation in PRECIOUS will raise the profile of Campden BRI in the diet and health area of the food industry. It will also foster the development of new contacts within the food industry and in UK government health departments (e.g. Department of Health, Public Health England). Contract work will hopefully be generated in the area of personalized food intake and reformulation for health, and the project will also stimulate research ideas for Campden BRI's ongoing member-funded research programme.

Concrete targets:

- IE1: Participation at least one industry domain relating to the background of Campden BRI and the contents of PRECIOUS
- IE2: 1 hosted event in Y3: A Seminar / Workshop to share findings with relevant members of Campden BRI
- CO1 + CO4: Active collaboration with QualiFY project in collaboration with the EuroFIR team. Meeting with EuroFIR and QualiFY targeted to discuss further collaboration and overlaps between the projects.

4.1.3.3. EuroFIR AISBL

PRECIOUS will impact European, biotech SMEs, healthcare providers, regulators, consumers and scientists with the development of new tools, resources and approaches delivering dietary and lifestyle advice as well as robust and exploitable evidence of the benefits. EuroFIR AISBL is providing underpinning expertise and food description and composition data interfaced to the PRECIOUS food intake module. The outcomes and results of PRECIOUS will continue to strengthen scientific and technological excellence in food composition and dietary intake assessment for researchers in academia and industry, as well as dieticians and health professionals. Its delivery to users will provide information about nutrients and biologically active compounds with putative health effects, specifically as related to type II diabetes, CVD and stroke; spread excellence and enhance the impact of food composition and public health nutrition through training; establish and deliver user/stakeholder requirements for sustainable and durable food databank systems and delivery of the information using mobile and other platforms; and demonstrate how new scientific and technological knowledge may be exploited to strengthen competitiveness of European food industry (SMEs), producing evidence-based healthier food benefiting European citizens of all ages. Additional membership opportunities and new research projects will hopefully be generated in the area of personalised food intake especially among SMEs.

Concrete targets:

• IE1+IE2: Stakeholder engagement with key international associations also based in Brussels (Food Consumers, Health and Fitness, Active Ageing, ...)



4.1.3.4. Firstbeat

Firstbeat Technologies Ltd has developed an innovative heart rate variability based analysis technology for measurement of stress, recovery and physical activity (Lifestyle Assessment). Firstbeat will exploit the PRECIOUS project results in developing its physiological analytics further. The project provides increased understanding of health and wellbeing status, and factors affecting behavioural change. In addition, Firstbeat will develop its wellbeing services based on the research results.

Concrete targets:

 CE2: Firstbeat aims to exploit the development work within the project and other achievements in its existing products related e.g. to physiological modeling of human behavior

4.1.3.5. University of Helsinki

PRECIOUS will stimulate collaboration and further research involving scientists previously focusing only on health-related research or research on human-technology interaction both within the UH and between UH and the Aalto University. Firstbeat will exploit the results by developing further its offering to be used as a part of different wellbeing services. The experiences in the PRECIOUS project will be used to design Firstbeat technology and analysis to enable integration of multiple assessments and processes into a coherent, multi-level intervention strategy.

4.1.3.6. Hospital Universitari Vall d'Hebron – Institut de Recerca Vall d'Hebron

PRECIOUS will stimulate further research in VHIR to obtain more empirical evidence of its application. We will organize workshops to increase awareness in other medical centres about the relevance of health care self-management as preventive measure.

We expect that PRECIOUS will have a great impact on users' health throughout a comprehensive system, designed between healthcare professionals and ICT experts. Additionally, a scientific impact is expected too by combining motivational principles and gamification theories into an ICT solution for health prevention.

Once the PRECIOUS project has ended and its finals results have been obtained, a randomized controlled trial (RCT) will be designed with different target groups in order to obtain empirical evidences with strong statistical power to test the system and further analyze its efficacy.

4.1.3.7. Institut Mines-Telecom (IMT)

Innovations and newly identified research challenges from the PRECIOUS project will stimulate further research within Institut Mines-Telecom. We will organize a joint workshop with Partners Club of Institut Mines-Telecom to promote incubation of new preventive care associated services and SMEs. Moreover, since we are a graduate engineering school, the project-based learning pedagogical method implemented in Institut Mines-Telecom will take the benefits of PRECIOUS to promote preventive care and related technologies and business concepts in teaching.



Concrete targets:

- CO2: xAAL has been provided as Open Source
- CE5:
 - o ≥ 2 internships
 - ≥ 2 student projects
 - 4.1.3.8. University of Vienna (UNIVIE)

The results of the project will provide a significant stimulus to further research within University of Vienna as well as collaboration with the Medical University of Vienna and a couple of local SMEs in the field, exploiting especially the interdisciplinary nature of the project. In the domain of linked open data we plan to establish relationships to existing projects and data sources focusing on health promotion and disease prevention, especially in order to share our experience in enhancing the quality of controlled vocabularies in the health domain with related institutions and initiatives to contribute towards an best-practices approach in this area. Another important outcome of the project will be the envisioned close integration between the Experiment'HAAL lab run by Institut Mines-Telecom and the COSY:LAB set up at UNIVIE which is expected to lead to significant future collaborations and joint projects.

Concrete targets:

- Young researchers:
 - At least one PhD will be conducted in the area of PRECIOUS. The work starts with the kick-off of the project, the student will be directly involved in all project stages and processes and will profit from the direct collaboration with industry experts. A submission, in accordance to common practice in Vienna, will be intended to take place after the finalisation of the project.
 - Several bachelor students and master students will be integrated in the research work of PRECIOUS in order to further motivate their interest in research, computer science, and eHealth.
- Integration in periodically-held lectures:
 - Bachelor seminar for computer scientists: Introduction of fundamental materials and motivation of students to do a bachelor thesis in the area of PRECIOUS or in the broader context of e-Health or wellbeing. This could motivate students to consider creating a startup in this area, as rather common among computer science students.



- Great Principles of Computer Science (Practical): Introduction of fundamental materials and announcement of several seminar works to be worked on by students.
- Master theses and practical works: All involved groups from UNIVIE (Entertainment Computing, Cooperative Systems, and Multimedia Information Systems) will announce open master theses in the broader area of PRECIOUS in order to facilitate the continuation of PRECIOUS work beyond the runtime of the project.

Laboratory Infrastructure

The laboratory infrastructure is intended to be used as permanent setting, which will run several trials per year. Installations created for PRECIOUS will be available for student projects, future research projects and the work of PhD students. We expect several trials to make use of the advancements made around the PRECIOUS project. We further envision a strengthening of the exchange between IMT's and UNIVIE's trial practice.

Open Source:

UNIVIE will work e.g. on client applications, which will be openly shared with research colleagues. An Open-Sourcing of at least one code project is targeted during the project runtime or beyond. The actual date of release will be dependent on the achievement of the required documentation and code quality standards expected when openly sharing a toolset.

· Interaction with Relevant Stakeholders:

- Communication on a European level with SMEs in the area of Serious Games, to show them the principle of app recommendation and selection.
- Communication with private insurance companies to show them the potentials of app recommendation

CO2:

• ≥ 1 code project

CE5:

- ≥ Integration in 2 periodically-held lectures
- ≥ 1 PhD started
- ≥ 1 Bachelor thesis
- ≥ 1 Academic practical work

5. Dissemination & Exploitation Monitoring Action Plan



Due to the interdisciplinary nature of PRECIOUS the consortium agreed on a dissemination and exploitation strategy that takes advantage of the different strength of the partners in respective areas. While, research oriented partner focus on covering the scientific exploitation channels, other partners exploit their strength in domain specific channels or industry contacts. Beside this diverse exploitation strategy, the dissemination plan follows a more homogeneous approach in order to present the broader context of PRECIOUS to the public. The monitoring action plan presented in this section addresses all project wide actions in an aggregated manner, and thus, applies to different partners in various ways.

5.1. Assesment Methodology

After the Y1 review, we have adapted our assessment methodology in order to better characterise and quantify the dissemination and exploitation activities by the project. The timeliness of measures will be monitored in terms of deviations from the plan roadmap (see Section 5.3).

For this purpose, the dissemination and exploitation activity assessment will rely on the following 5 stage process:

- 1. Pre-planning for upcoming quarters (by every partner)
- 2. Template-based activity recording (see Appendix III)
- 3. Aggregation of results and creation of KPIs (see Table 2)
- 4. KPI assessment against specified success criteria and interpretation (Table 3)
- 5. Reporting to WP1 and collection for submission to the project officer and the project reviewing team

In order to enable each project partner to overview the overall project dissemination and exploitation activities at any time a shared Google Doc is going to be created and accessible for each project partner. This document will contain the KPIs for the project and each project partner is required to immediately submit its activities after a KPI relevant work is finished. This will alleviate project reporting and enable UNIVIE as WP6 leader to plan forward and if necessary to take countermeasures in a preventive manner. To further intense the responsibility in fulfilling the dissemination and exploitation commitments of each partner, each will nominate a contact person being responsible for WP6 issues.

Thus, the following key concepts will be established to strengthen the dissemination and exploitation activities:

- Google Doc for collaboration and summarization of WP6 activities
- Single responsible contact person per partner for all WP6 issues
- Automatic reminder (e.g. cloud based calendar) for upcoming activities (e.g. blog posts)

5.2. Dissemination & Exploitation KPIs

The corresponding KPIs and relating success criteria are specified as follows:



Table 2: The PRECIOUS dissemination and exploitation KPIs (including success criteria)

Channel		KPI		Success Criteria
Scientific Targets, including conferences,	ST1	Number of scientific publications (papers, white papers etc.)	••	≥ 2 submission per quarter ≥ 1 submission per year at
events, publications & papers	ST2	Number of other external publications		flagship and/or target conferences or journals of relevant domains
[See target conferences,	ST3	Number of project white or position papers	•	2 position papers in total: 1 Mid of project
journals and events]	ST4	Number of partner- specific white paper	-	1 Towards the end of Y3 ≥ 1 Tutorial
	ST5	Number of tutorials, workshops, presentations, webinars, etc.	••	≥ 1 presentations per quarter
Domain-specific channels	DC1	Dissemination at food networks or other domain networks		≥ 2 per year
	DC2	Dissemination to end- users (e.g. via dedicated institutions or associations)		Representative number of users should be reached
Scientific events (e.g. workshops, project exchanges,)	SE1	Number of participated or hosted events	••	≥ 1 per quarter
Industry events, industry fora & events with public	IE1	Number of participated events and work meetings		≥ 1 per quarter
organizations (including start-ups)	IE2	Number of hosted events	••	≥ 1 (total)
Marketing	M1	Number of newsletters	•	≥ 2 newsletters
	M2	Number of posters for non-scientific audiences		≥ 1 per year
	М3	Number of press releases		≥ 3 (total)



vebsites, partner web port sides are to the por its social por specific
3
ect
ı account:
arter n account: ek
30 minutes
าร
(total)
arter



		projects		
	CO4	Meetings, telephone conferences, etc.	•	≥ 1 per quarter per cooperation partner
"Classical" Exploitation	CE1	Exchange with start-up scene	•	≥ 2 (total) (starting point Finnish start-up scene)
	CE2	New product developments around PRECIOUS or integration in existing products / product developments		≥ 1 (total)
	CE3	Contribution to standards or creation of new standards	••	≥ 1 (total) solution that is potentially standardisable OPTIONAL: Standards within project duration
	CE4	Personnel or in-house trainings on PRECIOUS topics and/or outcomes	••	Optional
	CE5	Integration of PRECIOUS context in academic teaching and education activities		≥ 3 bachelor and master theses started ≥ 1-2 PhDs started ≥ 4 periodically-held lectures adapted or created
	CE6	Follow-up research project or activities formulated and submitted		≥ 1 (total)

KPIs Legend

- Collection of project-wide figures
- Collection of per-partner figures

The listed KPIs will be assessed every quarter. Every partner digitally fills in the reporting form, and the WP 6 leader (UNIVIE) will aggregate the outcomes in order to validate against the defined KPI plans. The assessment will be done using tools known from project and risk management where the achievement is classified in categories in order to follow necessary implications from KPIs.



The following table (Table 3) shows the classifications used within the progress assessment.

Table 3: Action and contingency map upon KPI satisfaction or dissatisfaction

Ca	tegories	General Actions & Contingency
>	Immediate action necessary	KPI is substantially below expected value. Actions taken need to include work on contingency measures, reassigning of responsibilities, adapting plans, and shifting of efforts in order to improve activities relevant to the KPI.
•	Needs further attention	KPI is slightly below expectation or may deserve attention for other reasons, e.g. continuous performance drops. Proactive usage of this status is advised. The issue needs to be addressed in the monthly telco and further measures for improvement need to be discussed project-wide. Actions to be taken are to be carried out by partner assigned within monthly telco.
*	Good progress	KPI on track with plan. Measures implemented so far need to be carried out in a similar way for the remainder of the project.
*	Overachievement	KPI exceeds expectation. Potential adjustments of KPI plan necessary to account for undervaluation of dissemination efforts, or shift of efforts to tasks with lower performance.
	Not applicable, change of dissemination or exploitation plan or measures	KPI cannot be evaluated at this point due to changes in dissemination plans and newly introduced measures. Actions to be carried out need to include adjustment for enabling future tracking of KPI.

All mismatches will affect the planning for future reporting iterations. Substantial mismatches ("Immediate actions necessary") will be discussed with the PM team and the consortium. This may lead to the concentration on particular problems and as stated above, to the reassignments of efforts or responsibilities, or the revision of plans and strategies.



The envisioned pre-planning will help to achieve the desired targets. Partners are supposed to enter planned dissemination or exploitation activities as soon as possible into our digital recording system. Whenever the coverage appears to be low, proactive measures can be taken.

5.3. Dissemination & Exploitation Roadmap

Phase 1 - Y1, M1-M12

M1		Website Implementation & Design completed	✓
	-	Logo Design completed	✓
М6		Distribution of PRECIOUS Newsletter	√
		D6.1 Preliminary dissemination and exploitation report	✓
		Internal social media policy set up	✓
М9		D2.1 List of usage scenarios and user requirements	✓
M12		Distribution of PRECIOUS Newsletter	✓
	•	D2.4 Ethical and privacy guidelines for PRECIOUS system implementation	✓
	•	D3.1 Interim report on behavioural representation and virtual individual modelling	✓
	•	D3.1 Interim report on behavioural representation and virtual individual modelling	✓
		Collaboration with first project (or project liaison) initiated	✓

Phase 2 - Y2, M13-M24

M15		Blog Post UNIVIE ⁸	√
		New Dissemination Measures introduced Introduction of Dissemination KPIs Implementation of a Blog, reachable via http://blog.thepreciousproject.eu	✓
	-	Google statistics configured for web site	✓
	•	Newsletter subscription form deployed	✓
		Revised Twitter Account https://twitter.com/EUPrecious @EUPrecious	✓
		Public GitHub account for distribution of open-source elements created,	✓

⁸ Blog posts will be promoted using our social media channels. First blog post will be at the end of March 2015.



M21		Blog Post Campden BRI	
	•	Second regular AB conference call	
		1st white paper has been released	
M20		Blog Post FirstBeat	
	•	Quarterly Dissemination Progress Report of Partners Quarterly KPIs Check	
		Collaboration with first public health organisations (providing health guidelines, recommendations, advice, regulations, etc.) and/or insurances established Collaboration with one or two more research projects in the e-Health domain established	
M19		Blog Post IMT (e.g. on the presentation of xAAL results)	
		Advisory Board (AB) set up and fully functioning (including a definition of the regular exchange format and procedures; extension in place, if practicable)	
	•	Collaboration with existing projects systematically organised	
		Distribution of PRECIOUS Newsletter	
		Blog Post VHIR	
10		D4.1 System architecture and design specification	
M18		D2.2 Interim report on socio-economic factors and business models	
		DAPHNE First regular AB conference call ¹⁰	
(VI 1 /		Contact established with H2020 or other research projects, including	
M17		Second invitation planning has started Blog Post UH	
		Quarterly KPIs Check Second invitation planning has started	
		Quarterly Dissemination Progress Report of Partners	
		Contacted Jaakko Aarnio (jaakko.aarnio@ec.europa.eu) for improvement of list of relevant Horizon 2020 projects (PHC-26)	
	-	Publishing of xAAL on PRECIOUS public GitHub page	
M16	-	Blog Post AALTO	
		Advisory Board (AB): All first round members invited (4 members)	✓
	•	Adaptation of xAAL website for content sharing and communication about development advances & inclusion of PRECIOUS-specific section ⁹	✓
		reachable under https://github.com/preciousproject	

⁹ http://recherche.telecom-bretagne.eu/xaal/
10 Ad-hoc AB conference calls might be scheduled at any time



M22		Blog Post UNIVIE	
	•	Quarterly Dissemination Progress Report of Partners	
	•	Quarterly KPIs Check	
M23	•	Blog Post AALTO First PRECIOUS Workshop	
M24		Distribution of PRECIOUS Newsletter	
	•	News post on website regarding Plenary Meeting	
	•	Blog Post UH	
	•	D3.2 Final report on behavioural representation and virtual individual modeling	
	•	D3.4 Final motivational service design document	
	•	D5.1 End-to-end valuation plan	
	•	1 st PRECIOUS press release	
		Established first contacts with start-up scene for later exploitation	
	•	Publishing of video prototypes on website, blog and social media	
		Third regular AB conference call on feedback of implementation	

Phase 3 - Y3, M25-M36

		·	
M25		Blog Post VHIR	
		Quarterly Dissemination Progress Report of Partners	
		Quarterly KPIs Check	
M26		Blog Post IMT (e.g. on xAAL PRECIOUS demonstration)	
M27		Blog Post FirstBeat	
	•	D4.3 Development report of mobile applications and feedback tools	
		D4.3 Development report of mobile applications and feedback tools	
M28		D2.5 Report on legislative investigators	
		Blog Post Campden BRI	
		Quarterly Dissemination Progress Report of Partners	
		Quarterly KPIs Check	
M29		Blog Post UNIVIE	
M30		Blog Post AALTO	
	•	Fourth regular AB conference call Second PRECIOUS Workshop	
M31		Blog Post UH	
	-	Quarterly Dissemination Progress Report of Partners	
		Quarterly KPIs Check	



M32		Blog Post VHIR	
		2nd white paper has been released	
M33		Blog Post IMT	
	•	D4.2 System integration report	
M34		Blog Post FirstBeat	
		Quarterly Dissemination Progress Report of Partners	
		Quarterly KPIs Check	
M35		Blog Post Campden BRI	
M36		Blog Post UNIVIE	
	•	D1.5 Final Project Report	
	•	D2.3 Final Report on socio-economic factors and business models	
	•	D5.2 System validation report	
	•	D6.2 Final dissemination and exploitation report	
	•	2 nd PRECIOUS press release	
	•	Fifth regular AB conference call: Dissemination, closure and future collaboration	
		Final Dissemination Progress Report of Partners	
		Final KPIs Check	

Legend

- Deliverables
- Collaboration/Interaction with the AB and other associated boards
- Validation against success criteria
- Marketing, Website, Social Media, Press, etc.

6. Progress against Dissemination & Exploitation Plans

This section will validate the project's progress against the defined dissemination and exploitation plans.

6.1. Validation against the Roadmap

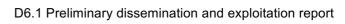
Currently no deviation from the newly designed dissemination and exploitation roadmap has been observed. Deviations will be reported in the future.

6.2. Validation against KPIs

КРІ	Status	Results and Comments
-----	--------	----------------------



ST1	Number of scientific publications (papers, white papers etc.)	*	Total: 14 submissions of which: • AALTO: 5 • Firstbeat: 1 • UH: 4 • UNIVIE: 2
ST2	Number of other external publications	*	Total: 6 submission of which: • Campden BRI: 5 • UH: 1
ST3	Number of project white or position papers	•	0 submitted / published 1 in preparation
ST4	Number of partner-specific white paper	*	0
ST5	Number of tutorials, workshops, presentations, webinars, etc.	*	11 scientific presentations of which: • Campden BRI: 1 • EuroFIR: 3 • UH: 7
DC1	Dissemination at food networks or other domain networks	*	Total: 6 activities of which: Campden BRI: 2 EuroFIR: 3 UH: 1
DC2	Dissemination to end-users (e.g. via dedicated institutions or associations)	*	0
SE1	Number of participated or hosted events	•	0 apart from events relating to paper presentations etc.
IE1	Number of participated events and work meetings	>	0
IE2	Number of hosted events	•	0
M1	Number of newsletters	*	2 project newsletters 3 EuroFIR newsletters
M2	Number of posters for non-scientific audiences	>	0
М3	Number of press releases	-	0
M4	Number of blog posts		Blog has been initiated after the review meeting. Hence, cannot be assessed for prior





			iterations.
M5	Number of videos, leaflets, etc.	*	1
M6	Number of referring websites		New after review – yet to be assessed
SM1	Number of Facebook Likes	_	27
SM2	Number of Facebook Posts	>	12
SM3	Number of LinkedIn group members	*	106
SM4	Number of LinkedIn Posts / Discussions	>	8
SM5	Number of Twitter Followers	*	Official: 8 Loose discussion account: 2667
SM6	Number of Twitter Posts	*	Official: New after review – not assessed. Loose discussion account: 7580
WE1	Number of visits	*	146 – since 03.03.2015
WE2	Time spent on website	*	00:01:54 - since 03.03.2015
CO1	Number of project liaisons	•	1 materialised collaboration 1 started
CO2	Source code projects shared with other projects and scientific community (e.g. via Open Sourcing)	*	1 Open Source project released by IMT
CO3	Number of e-mail exchanges with other projects		Figure has not yet been assessed in the previous iteration.
CO4	Meetings, telephone conferences, etc.	>	1 Meeting with QualiFy
CE1	Exchange with start-up scene	•	Not yet achieved.
CE2	New product developments around PRECIOUS or integration in existing	*	1 activity to influence a product initiated by Firstbeat



	products / product developments		
CE3	Contribution to standards or creation of new standards	*	0
CE4	Personnel or in-house trainings on PRECIOUS topics and/or outcomes		0
CE5	Integration of PRECIOUS context in academic teaching and education activities	*	3 periodically-held lectures (1 already held, 2 starting with March), relating bachelor thesis started, several bachelor and master students working in the context, one PhD started (all by UNIVIE)
CE6	Follow-up research project or activities formulated and submitted	*	0 (will be of higher relevance in Y3)

Categories		
>	Immediate action necessary	
	Needs further attention	
*	Good progress	
*	Overachievement	
	Not applicable, change of dissemination or exploitation plan or measures	

Based on this assessment a series of items need to be raised in the next consortium-internal discussions. Countermeasures are especially required in the exploitation area, which also results from the extension of the exploitation scope due to the valuable inputs of the reviewing team.

Social media interactions needs to be increased and more tailored. This will be achieved by using the vehicle of a project blog to create own content to be distributed via various kinds of social media channels. Moreover, more interaction by project partners is expected on those lists, e.g. sharing their research results and publications when they appear (which is easier to achiever in Y2 and Y3).

6.3. Detailed Materials

In this section, we will list the dissemination and exploitation activities. Those activities have affected the validation against the KPIs.



6.3.1. Stakeholder analysis

A stakeholder analysis was carried out at the consortium plenary in April 2014. The following were identified as priority stakeholder groups and a "Message Map" was created to understand how to communicate with these groups:

- 1. Consumers
- 2. Health professionals
- 3. SMEs / Providers / Software developers

Integrating the Y1 review comments, the message map has been extended and updated.

6.3.2. Advisory Board

Each partner has submitted the name of at least one potential Advisory Board member to the project co-ordinator. The first four members have been invited. The second phase of invitation has started with a brainstorming phase. We target 5-10 representative advisory board members. The interaction with the advisory board has been redesigned after the Y1 report. We foresees iterative telephone calls with the advisory board as well as direct interactions between partners, esp. WP and task leaders, and the AB in addition.

6.3.3. Communication

The consortium has created various public channels for the dissemination of PRECIOUS activities and results, as well as related content.

A project logo has been created combining the importance of health for the society with the ease of app-like designs. The logo intends to especially address younger audiences.

The website (http://www.thepreciousproject.eu/) has both public and private-access pages. The private section of the website ('Project Material') can be accessed by all consortium partners, and is used for posting of key documentation by work area. The public sections of the website are managed by the project co-ordinator. Currently, the following information is available:

- A news section to highlight recent outputs e.g. plenary meeting images
- Project contact details (including email address and links to social media accounts)
- Consortium partner details (partner website links and key people)
- Project overview and vision
- Project leaflet and project presentation

Public Twitter, LinkedIn and Facebook accounts unhave also been created and can be accessed via the following links:

- Twitter:
 - o Official: @euprecious¹¹ (created after the Y1 review report)
 - Loose discussions: @EU Precious¹²

¹¹ https://twitter.com/EUPrecious

¹² https://twitter.com/EU PRECIOUS



LinkedIn: the PRECIOUS project¹³
 Facebook: thepreciousprojecteu¹⁴

In addition, tools such as the Facebook 'Like' button are included on the project website within the 'Contact' section. The value of additional social media channels will be investigated, and further accounts may be created throughout the project.

A leaflet describing PRECIOUS was prepared, and posted on the 'Publications' area of the website in January 2014.

A presentation PowerPoint, introducing the PRECIOUS vision on future network technologies, key developments undertaken in the project, and the reasons why these developments are strategic, has been prepared. The slides were posted on the 'Publications' area of the website in January 2014.

Two newsletters have successfully been issued, which follow our newsletter design template. The newsletter have further been made available on the PRECIOUS website as PDF download, and referenced in dedicated social media posts. The automatic registration for the PRECIOUS newsletter will be enabled in March 2015 based on the comments provided during the Y1 review.

6.4. Dissemination Activities

- Scientific Publications [already on the web site?]
 - Books and Book Chcapters
 - AALTO:
 - Mutafungwa, E. and Hämäläinen, J. "Use of Small Cell Technologies for Telemedicine," to appear in "The E-Medicine, E-Health, M-Health, Telemedicine, and Telehealth Handbook (Two Volume Set)", Edited by H. Eren, H. and Webster, J.G., ISBN 978-1-48-223655-2, CRC Press, to appear 07-09, 2015. [accepted]
 - Conference or Journal Papers
 - AALTO:
 - Kärkkäinen T., Ott J., "Liberouter: Towards Autonomous Neighborhood Networking," 11th IEEE/IFIP Annual Conference on Wireless On-deman Network Systems and Services (WONS) Special Session on Community Wireless Networks, pp. 162-169, April 2014.
 - UH:
 - Ravaja, N., Aula, P., Falco, A., Laaksonen, S-M., Salminen, M. & Ainamo, A. (in press). Online news and corporation reputation: A neurophysiological investigation. Journal of Media Psychology. [submitted]
 - UNIVIE:

¹³ http://www.linkedin.com/groups/PRECIOUS-project

¹⁴ https://www.facebook.com/thepreciousprojecteu



 Helf, C. et al.: Towards A Framework for Gamificationbased Intervention Mapping in mHealth, submitted to Digital Games Research Association (DIGRA) conference 2015. [submitted]

Workshop Paper Papers

- AALTO:
 - Kärkkäinen T., Nagy M. and Ott J., "Enhancing Opportunistic Networks with Legacy Nodes," 9th ACM MobiCom Workshop on Challenged Networks, September 2014 (to appear) [accepted]
 - Kärkkäinen T. and Ott J., "Shared Content Editing in Opportunistic Networks" (concise contribution), 9th ACM MobiCom Workshop on Challenged Networks, September 2014 (to appear) [accepted]

o Short Papers, Extended Abstracts or Posters

- Campden BRI:
 - Kuczora S., et al. "Development of a preventive healthcare system to promote healthy lifestyles: measurement of food intake" IUFoST 2014 in August (http://iufost2014.org/index.php/iufost-2014)- IUFoST
 - "Development of a preventive healthcare system to promote healthy lifestyles: measurement of food intake", Poster/oral presentation abstract to the 17th World Congress of Food Science and Technology & Expo on 27th February 2014. A response is expected in April 2014; the conference will be held on 17th-21st August 2014. See Appendix I. [submitted]

UH:

Stok, M., König, L., Nurmi, J. & Müller, A. M., "Leveraging Mobile Technology and Social Media in Behavioral Research", Workshop report of the The European Health Psychologist: Create workshop, 2014.

VHIR:

- Castellano-Tejedor, C. "Motivational interviewing metaanalysis in health and primary care settings" Oral presentation at II Forum Getem, 24-25 October 2014 (http://www.getem.org/forum2.html) – II FÓRUM GETEM_Santiago 25 10 14_Meta-análisis en EM ámbito de salud y primaria-Castellano Tejedor [see Appendix]
- Lusilla, P., Castellano-Tejedor, C. Motivational interviewing & gamification principles. Communication (oral or poster, to be determined) presented at MINT Forum Motivational Interviewing Network of Trainers Berlin, Germany. October 2015.
- Lusilla, P., Castellano-Tejedor, C. Motivational interviewing and chronic diseases. New approaches for management.
 Communication (oral or poster, to be determined) presented at the National Congress of Motivational Interviewing Association. Poland. October 2015.



• Multiple Partners:

- Lusilla, P., Castellano-Tejedor, C., Helf, C., Zwickl, P., Hlavacs, H., Haukkala, A., & Ravaja, N. "Integrating Motivational Techniques in gamification systems for behaviour change", Poster communication presented at ICMI 2014 International Conference on Motivational Interviewing. Amsterdam, June 16-18, 2012. Poster ICMI. [accepted]
- Haukkala, A., Nurmi J., Falco A., Ravaja N., Myllymäki T., Lusilla P., Kuczora S. & Costa-Requena J. "Testing a sensor based application for physical activity and food intake with an N of 1 study" Poster in UCL meeting, February 2015.

Other External Publications

- Campden BRI:
 - Kuczora S. "Precious research" Page on Campden BRI's websitehttp://www.campdenbri.co.uk/news/precious-research.php
 - Kuczora S. "PREventive Care Infrastructure based On Ubiquitous Sensing (PRECIOUS)" –Campden BRI's Research program on website- http://www.campdenbri.co.uk/research/prod.php
 - Kuczora S. "Nutrition and health: Encouraging healthier food choices"
 Blog on Campden BRI's webpage http://www.campdenbri.co.uk/blogs/encouraging-healthier-food-choices.php#sthash.kNmmeE2e.dpuf 8th April 2014
 - Kuczora S. "Precious research" –Campden BRI's Newsletter May 2014- http://www.campdenbri.co.uk/news/may14.pdf
 - A series of posts and contents distributed via Facebook and especially LinkedIn
- **UH**:
 - Haukkala Ari, Konttinen Hanna, Nurmi Johanna, Ravaja Niklas (2014)
 Yksittäisen tapauksen (N = 1) tutkimusasetelmat ihmisen
 käyttäytymisen tutkimuksessa. [submitted]

Internal Publications / White papers / Technical reports

Campden BRI:

- Campden BRI, Research Summary Sheet December 2014 "User requirements of a preventive health care system"
- o IMT:
 - Christophe Lohr. xAAL project, Telecom Bretagne, [Online]. Available: http://recherche.telecom-bretagne.eu/xaal/, 2015.
- UH:
 - Aula, P.; Laaksonen, S-M.; Ravaja, N.; Salminen, M.; Falco, A. (2014). Mediamaine. Mediayrityksen maineen merkitys digitaalisen mediasisällön kuluttamisessa. Projektin loppuraportti. Viestinnän tutkimusraportteja, 2/2014.
- Scientific presentations or exchange (poster, oral, etc.)



Campden BRI

 Connection with John Hopkins University School of Medicine (obesity research) – Telco held in October 2014

o EuroFIR:

- Exchange and collaboration with University of Sao Paulo (Brazil)
- Dissemination at EUROFIR Annual Symposium
- Heikki Pakkala, Carlos Ramos, Oral Presentation of the PRECIOUS project at the EuroFIR AISBL Scientific Symposium 2014 - "Better Food Data and Tools to Support Food Health Research, Labelling and Health Claims in Europe".

UH:

- Falco, A. Visiting researcher (06.12.2014): Playing seriously: gamification. Project and project results presentation.
- Nurmi, J. et al., "Physical Activity: the Role of Autonomous Motivation and Self-Regulation Techniques". 28th Conference of the European Health Psychology Society, August 2014.
- Nurmi, J. et al., "Physical Activity: the Role of Autonomous Motivation and Self-Regulation Techniques". The Finnish <u>Social Psychology</u> <u>Days</u>, November 2014.
- Nurmi, J. et al., Autonominen motivaatio ja itsesäätelytekniikat nuorten fyysisen aktiivisuuden lisäämisessä" Let's move it - summer seminar, June .2014.
- Nurmi, J., Haukkala, A., Araujo-Soares, V., Hagger, M. & Hankonen, N. "Why do youth high in self-control exercise more? Motivation quality and Self-Regulatory Skills as mediators" 29th Conference of the European Health Psychology Society, September 2015. [submitted]
- Knittle, K.; Dombrowski, S., Crutzen, R., Nurmi, J., Hankonen, N., Haukkala, A. "Targeting Intention, Motivation and Engagement in Physical Activity Interventions (TIME-PAI): A meta-analysis examining effective components". 29th Conference of the European Health Psychology Society, September 2015. [submitted]
- Ari Haukkala. PRECIOUS: How to test lifestyle/mHealth applications for health interventions? Oral presentation at the seminar of "Behavioral interventions in real world: lessons from translating evidence across countries and settings". University of Helsinki. 26.08.2014
- Press releases (and similar dissemination activities)
 Not yet achieved.
- Dissemination at food networks or other domain networks



Campden BRI:

- Thomas S. "PRECIOUS Project- Up-date on consumer research"
 Campden BRI's Steering Group meeting- April 2014
- Presentation on PRECIOUS to Food and Drink Science Member Interest Group on 10th September 2014 - FDS MIG_SKK_10.9.14

o EuroFIR:

- EuroFIR Website http://www.eurofir.org/?p=1991
- EuroFIR Newsletter:
 - 8th Newsletter December 2013
 - 10th Newsletter September 2014
 - 11th Newsletter December 2014
- EuroFIR Website http://www.eurofir.org/?p=1991

o UH:

 Nurmi, J., Presentation of the PRECIOUS project and discussing of further collabarotion with Finnish Diabetes association. Board meeting of the Health psychology division of the Finnish Psychological Society. 4.2.2015.

Scientific/Expert workshops

Not yet achieved.

6.4.1. Position paper

The preparation of the first project position paper (white paper or dedicated distribution channel), which will describe the project scope and objectives, has been initiated. The multi-disciplinary nature of PRECIOUS will be described in this paper.

Proposed topics for inclusion are:

- Overall project vision (to include a diagram)
- User requirements
- Sensors, ubiquitous networking and semantics
- Food intake and analysis
- · Virtual individual modelling
- Motivational interviewing strategies and techniques, and gamification
- Socio-economic aspects

Platforms for the distribution of this paper are currently being explored. The white paper will be published this year, as indicated in the roadmap. A second project position paper will follow in Y3 of the project.

6.4.2. Exploitation activities

 Presentation / poster at industry fora or events (including standardisation bodies) with primarily non-scientific audience Not yet achieved.

Dissemination at interested industry partners



Not yet achieved.

- Exploitation in the startup scene (e.g. meetups with local startups, startup funding agencies, students targeting to create a startup, etc.)
 Not yet achieved.
- Products created or adapted, or product developments influenced
 - o Firstbeat:
 - Work on integration in Firstbeat Lifestyle Assessment has started.
- Integration in lecturing / teaching (university teaching, bachelor theses, master theses, PhDs, practical exercises, etc.)
 - o UNIVIE:
 - PhD student with thesis topic in the area of PRECIOUS:
 Christopher Helf (started working for UNIVIE since the project kick-off; official registration of doctoral study already done)
 - Several bachelor students and master students are working in the context of PRECIOUS, namely Gabriel Kovacs, Nenad Petkovic, and Christian Löw.
 - Integration in Bachelor and Master seminars for computer scientists (beginning with summer term 2015): Integration begins in the summer term 2015, which has started in March 2015. This lecture is scheduled every term, i.e. twice a year.
 - Bachelor thesis in the area of semantical technologies has been started.
 - Integration in academic seminar lecture "Great Principles of Computing" for computer scientists: Integration has begun in the winter term 2014, in which 5 seminar groups have worked on PRECIOUS topics. This lecture is repeated once a year.
- Personnel training, in-house training
- Contribution to standards or guidelines for the domain / Exchange with bodies involved in corresponding activities

This goal has not yet been achieved.

- Open-Sourcing of code
 - o IMT:
 - xAAL has been licensed on the GNU lesser license (LGPL) and GNU license. Source code is available in a webpage dedicated to xAAL and host by Telecom Bretagne at the following link: http://recherche.telecom-bretagne.eu/xaal/. A section, http://recherche.telecombretagne.eu/xaal/research/#the-precious-project, about the PRECIOUS project has been added.

6.4.3. Exchange with Advisory Board (AB)

The interaction with the AB will be reported in more details in subsequent reporting iterations.



6.4.4. Collaboration with other Projects

FP7 QuaLiFY Project Project

- Contact person: Barbara Koroušić Seljak (Jožef Stefan Institute) now also part of the Advisory Board (AB)
- Direct work collaboration (apart from presentation of both projects) at plenary meeting at University of Vienna (Sept 2014) – contact via EuroFIR
- Systematic future exchange via the AB and potentially further exchanges at plenary meetings or scientific occasisions
- Poster presentation stakeholder meeting for EU Meeting EuroDISH (grant agreement no 311788) in June 2014

6.4.5. Collaboration with other Stakeholders

The interaction with other stakeholders will be reported in more details in subsequent reporting iterations.

6.5. Summary

The first year in WP6 has mainly concerted on preparing the required infrastructure and communication vehicles (websites, collaboration platforms, social media accounts and associated publishing strategies). D6.1 (primarily reporting the efforts of WP6) has further worked on clearing the ground for initial scientific publications and the exploitation of results, which has mainly been successful for oral publications and lecturing. A newly created dissemination and exploitation roadmap will facilitate the coordinated and timely dissemination and exploitation in the future. While no deviation to the roadmap has been observed, future iterations will provide more meaningful assessments. Apart from this the assignment of responsibilities has taken an important role.

Amongst others, dissemination activities have focussed on the identification of key stakeholders and preparing the platforms through which the consortium will disseminate project outputs. In particular, an online presence has been formed (project website and social media), the project outline published in the form of a leaflet and PowerPoint presentation and partners have begun to submit conference abstracts and publicise PRECIOUS.

Dissemination activities will increase as the PRECIOUS aims and objectives are realised (e.g. list of user requirements, prototype system, and prototype food intake sensor). During the coming months, the Advisory Board (AB) will be extended and brought to proper functioning (as requested during the Y1 review). We have envisioned a regular telephone conference-based exchange with the AB, focusing on current issues and challenges to be solved by the project, and will include further direct exchange methods between the consortium and the AB. As suggested by the AB, we intend to provide outcomes and/or citations for better documenting the exchange with the AB in subsequent iterations.

Based on our KPI-based analysis, as response to the comments provided by the reviewing team, we have been able to identify that scientific publication has made good progress within PRECIOUS. Especially in the psychological and nutritional domains, we have recorded a





high number of oral presentations. Future reporting iterations will focus on increasing classical workshop, conference and journal publications in all domains. We have further, made acceptable progress towards using the website and social media as channels for distributing project information. In the future, more tailored contributions are intended, which will be facilitated by the newly created concepts like the project blog (including the blog posting strategy introduced in the roadmap). The exploitation with most relevant stakeholders is insufficient as the exchange with industrial partners has been too low. This issue will be raised within the project consortium, countermeasures have to be set in order to progress in the next iterations.



Appendix I: Abstract submitted to 17th World Congress of Food Science and Technology & Expo

Purpose: In an EU FP7-funded collaborative project (PREventive Care Infrastructure based on Ubiquitous Sensing (PRECIOUS): Grant Agreement No. 611366) a preventive healthcare system will be developed. The system will be comprised of three components: 1) transparent sensors to monitor health indicators, especially food intake, physical activity, sleep and stress; 2) representation of the user by virtual individual models, which infer health risks and suggest behavioural changes; 3) use of gamification and motivational interview principles to change user habits towards more healthy conduct.

Key Findings: Food intake is known to impact on health, and a poor diet is associated with increased risk of obesity, type II diabetes and other metabolic disorders. Self-monitoring of food intake may help individuals to make dietary improvements. Monitoring tools should ideally provide an overview of habitual dietary intake for key nutrients. However, collecting accurate data on habitual intake is a key challenge in food intake monitoring.

Users are typically required to make day-to-day recordings of food intake. Traditionally such recordings are paper-based, and must be entered into dietary analysis software by a suitable health professional, who can feed information back to the individual. This approach is still valid in some situations, e.g. a clinical research setting or a one-to-one patient consultation. However, for the general population a more transparent, user-friendly system is required.

Advances in digital technology have provided this opportunity, and a number of mobile and internet applications can provide instant nutritional information about foods entered by the user. Other emerging tools include software that can process digital photographs of food, load sensing tables and motion sensors in clothing. These emerging tools offer greater transparency; however may provide less detail and accuracy.

Future Directions: PRECIOUS will review tools available for monitoring food intake and assess their recording accuracy, as well as gathering user feedback. The data collected will help to develop a user-friendly food intake tool for PRECIOUS, which will be enhanced by links to the virtual individual model, motivational tools and monitoring of other lifestyle aspects.



Appendix II: Abstract submitted to International Conference on Motivational Interviewing

Purpose: To present the adaptation of motivational interviewing principles/techniques to a gamification system for behaviour change.

Background

There is no doubt that games engage people as it should be fun and rewarding. Nowadays, there is an increasing interest whether game could be of benefit in certain scientific fields like education and health. Moreover, there is very recent evidence that gamification that is, the use of game principles in a non-game environment, may be used to enhance healthy lifestyles among people. Games for health purposes are in their early youth. To date, it seems quite easy to engage people to play games; however, it is more difficult to achieve persistence. Additionally, there are still no evidences that games can maintain behaviour change once the game ends. Motivational Interviewing (MI) is a promising 30-year-old therapeutic approach that integrates person-centred therapy principles and more directive strategies to move clients toward behaviour change. A large and expanding number of randomized control trials of MI have demonstrated its efficacy in different health settings and cultures, as well as its adaptability to other psychological techniques.

Overall Description

In the PRECIOUS project a preventive healthcare system will be developed. The system will be comprised of three components: 1) transparent sensors to monitor health indicators, especially food intake, physical activity, sleep and stress; 2) representation of the user by virtual individual models, which infer health risks and suggest behavioural changes; 3) use of gamification and MI principles to change user habits towards more healthy behaviours.

To reach these goals, the PRECIOUS consortium gathers partners with comprehensive expertise in networking, pervasive sensing, cognitive analysis, nutrition research, semantic technologies, psychological theory and motivational techniques. We have chosen to focus on Type II Diabetes prevention as a central use case.

Motivational Interviewing principles adapted to a gamification system

Computer games and MI share the ability to place the individual in the centre of the action. MI principles of personalized guiding are based on the four processes: 1) engaging, 2) establishing goal settings (focusing), 3) evoking the own user resources (self-control) and 4) planning; match with personalized health delivered through new technologies. A number of mobile and internet applications can provide instant feedback about lifestyles. Rewarding and praise (a positive evaluation of performance) of these tools are linked with MI principles.

Conclusion

The contribution of MI experience to PRECIOUS will be to foster engagement and contribute to behavior change in a user-friendly system. This will be developed in two stages: 1)To describe the state-of-the-art of MI delivered through new technologies and 2)To offer an



integrative approach of a motivational framework for PRECIOUS System designing tailored motivational feedback.

Appendix III: Exploitation & Dissemination Reporting Template

Report Identifier

- <partner name or short name>
- <contact person>
- <reporting period>

Please report to:

- patrick.zwickl@univie.ac.at and
- christopher.helf@univie.ac.at and
- hannes.weisgrab@univie.ac.at

Process:

Only one report per partner per reporting period proactively submitted by the contact person

Frequency: Every quarter, when you submit your effort sheets!

Reporting dates:

- 2015: Mar (for Feb), May, Aug, and Nov
- 2016: Feb, May, Aug, and [end of project]

For all points, try to answer the following questions (if fitting):

- who? (e.g. was presenting?)
- what? (e.g. was presented)
- where? (if appropriate)
- when and in which frequency (day or schedule)?
- why? (what was the purpose of the meeting? how does it relate to PRECIOUS?)
- outcomes? recommendations? research directions?

Categories:

- Activities: Primarily unilateral (we share some knowledge e.g. with the industry)
- Collaboration: We exchange knowledge or receive inputs

Activities

Dissemination

- Other External Publications

<please list, preferable in IEEE format or comparable>



- Press releases (and similar dissemination activities)
 <please list>

- Participation at or hosting of (scientific/expert) workshops
 <please list>

Exploitation

- Presentation / poster at industry fora or events (including standardisation bodies) with primarily non-scientific audience <please list>
- Dissemination at interested industry partners <please list>
- Exploitation in the startup scene (e.g. meetups with local startups, startup funding agencies, students targeting to create a startup, etc.)
 <please list>
- Products created or adapted, or product developments influenced <please list>
- Integration in lecturing / teaching (university teaching, bachelor theses, master theses, PhDs, practical exercises, etc.)
 <please list>
- Personnel training, in-house training
- Contribution to standards or guidelines for the domain / Exchange with bodies involved in corresponding activities
 <please list>
- Open-Sourcing of code
 <please list, describe, license, link>

[For bilateral exchange with food networks, health organisations or insurances, see the dedicated section below. Unilateral exploitation or dissemination activities may be added here.]

Collaboration

Exchange with Advisory Board

For each please list occasions (e.g. dedicated meeting, exchange at conferences, e-mail exchanges), date, topic and if so outcome/recommendation.



Dr. Falko Sniehotta

• Dr. Joan Colom

<please list/describe>
<Give quotes!>

Dr. Olli Pitkänen

<please list/describe>
<Give quotes!>

Kirsi Mikkonen

<please list/describe>
<Give quotes!>

Terhi Kajaste

<please list/describe>
<Give quotes!>

Sabri Abarkan

Ólafur Andri

<please list/describe>
<Give quotes!>

Barbara Koroušic

<please list/describe>
<Give quotes!>

Collaboration/Exchange with other projects (i.e. implementing the project liaison)

For each please list occasions (e.g. dedicated meeting, exchange at conferences, e-mail exchanges), date, topic and if so outcome/recommendation. Please, also specify whether the exchange has been bilateral or primarily unidirectional (e.g. dissemination activity or input/recommendation for PRECIOUS).

FP7 QuaLiFY Project

<please list/describe>
<have you exchanged code?>
<Pot. give quotes!>

 ... complete list ... [also suggest interesting new partner projects on the mailinglist]

Collaboration/Exchange with private/public healthcare corporations and insurances



For each please list occasions (e.g. dedicated meeting, exchange at conferences, e-mail exchanges), date, topic and if so outcome/recommendation.

Potentially give quotes.

Leave sections or items empty if you have nothing new to report.

* Funding: The PRECIOUS project (PREventive Care Infrastructure based on Ubiquitous Sensing (PRECIOUS): Grant Agreement No. 611366) is a project supported by the European Commission through the seventh Framework programme (FP7).