



**eHealth**  
week

11 - 13 MAY 2015  
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# PRECIOUS HEALTH

FP7 Project

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# HEALTH AS PRECIOUS GAME

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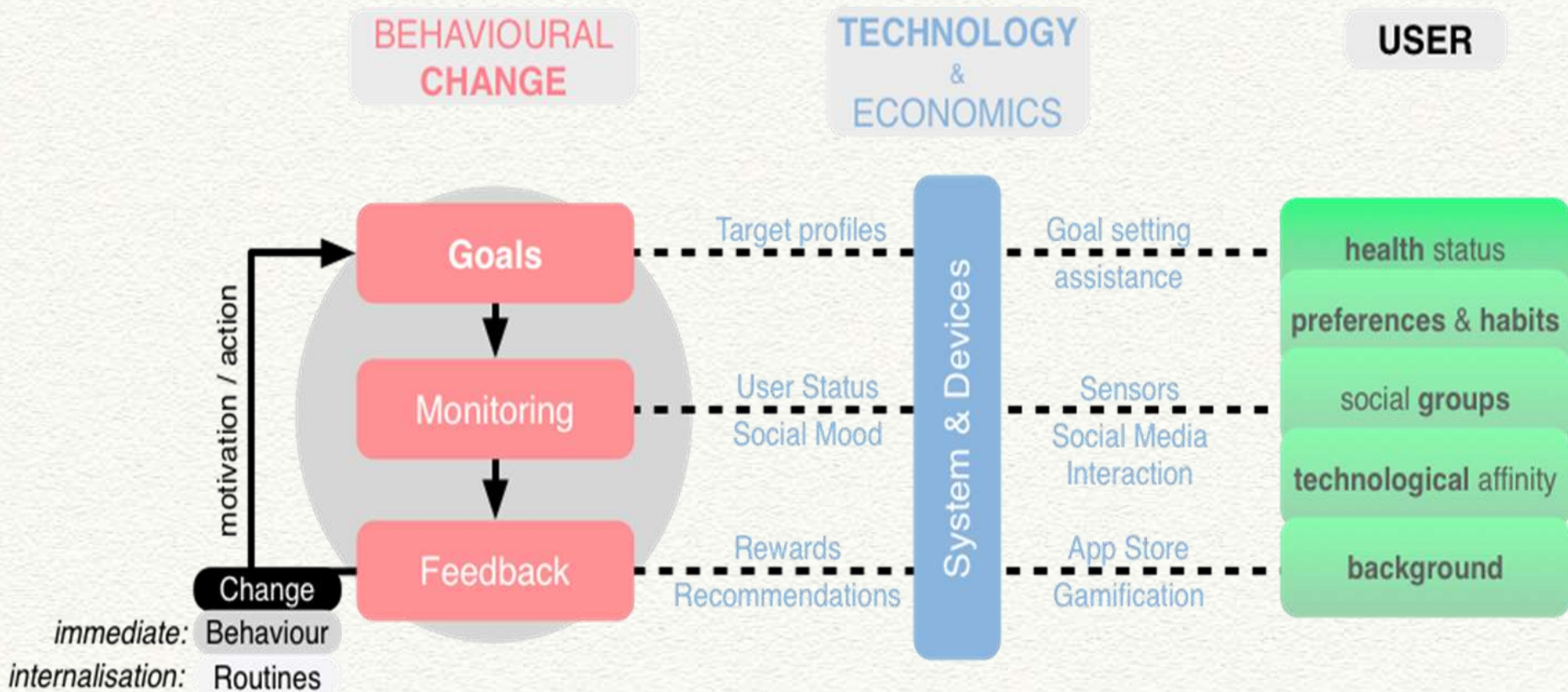
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# PRECIOUS Project

- PREventive Care Infrastructure based On Ubiquitous Sensing (PRECIOUS) project aims to develop a preventive care system that combine
  - transparent sensors for monitoring user context and health indicators (food intake, sleep and activity) that deliver ambient data
  - users are represented by virtual individual models (VIM), which infer data and suggest behavioural changes
  - motivational and behaviour change techniques (BCTs) combined with gamification principles to trigger a set of feedback tools to change the user's habits toward more healthy behaviour.

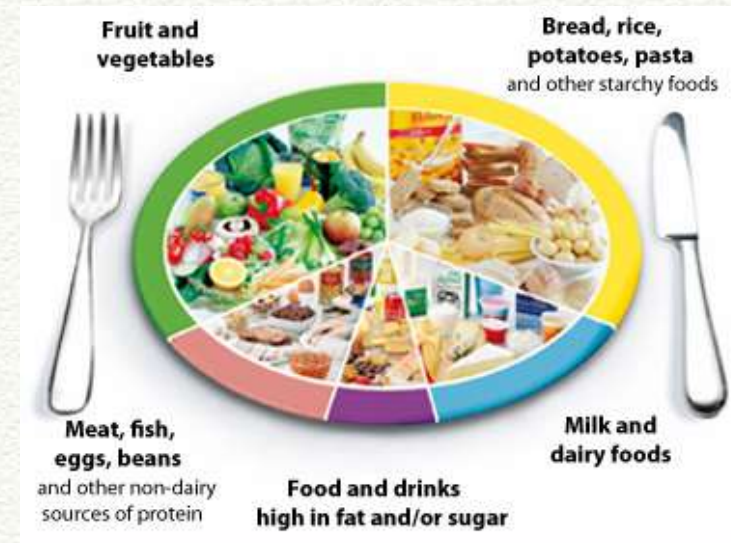


# PRECIOUS Model



# PRECIOUS sensing – Food factor

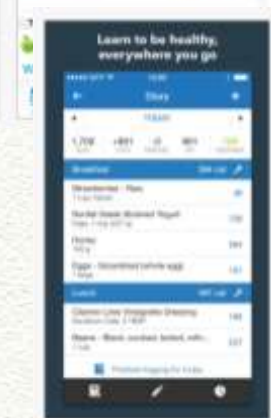
- Diet strongly linked to health
  - In particular obesity and related complications
- Factors
  - Total energy intake
  - Balance of nutrients / food types
  - Energy density
  - Portion size





# PRECIOUS sensing – Food monitoring

- Self monitoring recommended to improve dietary habits
- Current methods
  - Mostly diary / food log & barcode scanning
  - Burdensome for user
  - Relies on quality of data (in and out)
  - Majority don't motivate
  - Lack personalised advice
  - Not all information useful / relevant





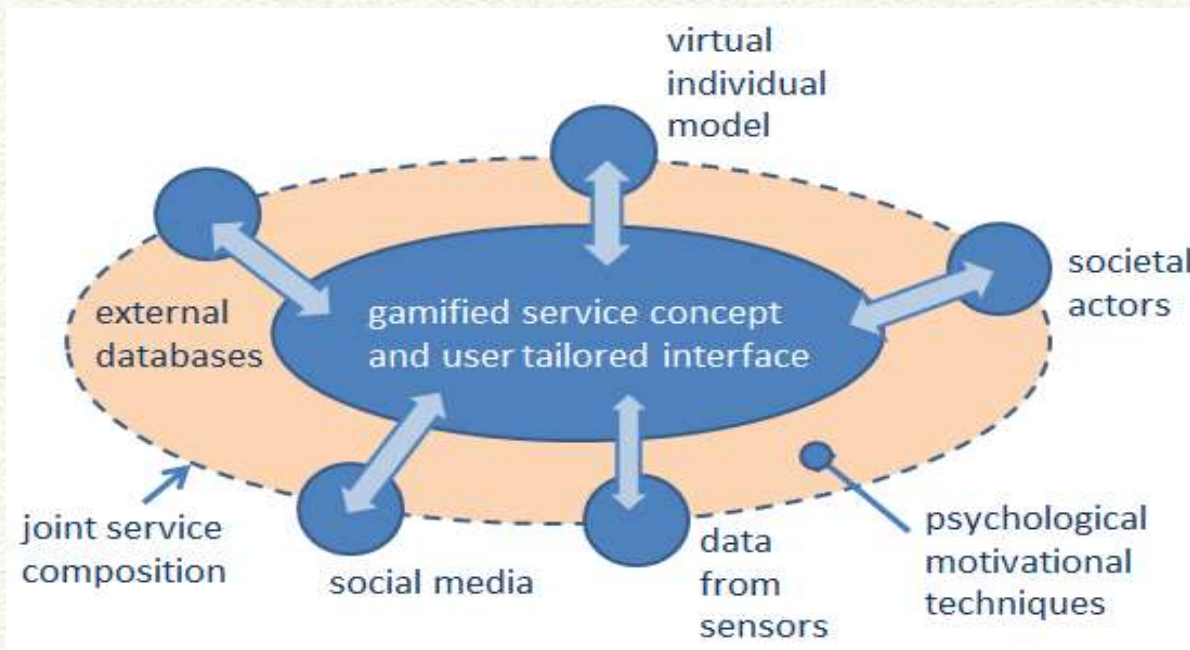
# PRECIOUS sensing – Food sensor

- Portable and transparent
  - On-the-go monitoring
- Connected
  - Rapid dissemination of information
  - Links with health professionals
- Based on capturing images
  - Camera + accelerometer & gyroscope
  - Digital image processing to identify food type
  - Complemented with user input



# PRECIOUS – HEALTH GAME

- Major reason for failure in any health treatment is loose of motivation in patients to follow the required therapy and behavioural change.
- PRECIOUS approach is that preventive health care needs to be fun and motivational as suggested by the gamification paradigm





# PRECIOUS – HEALTH GAME

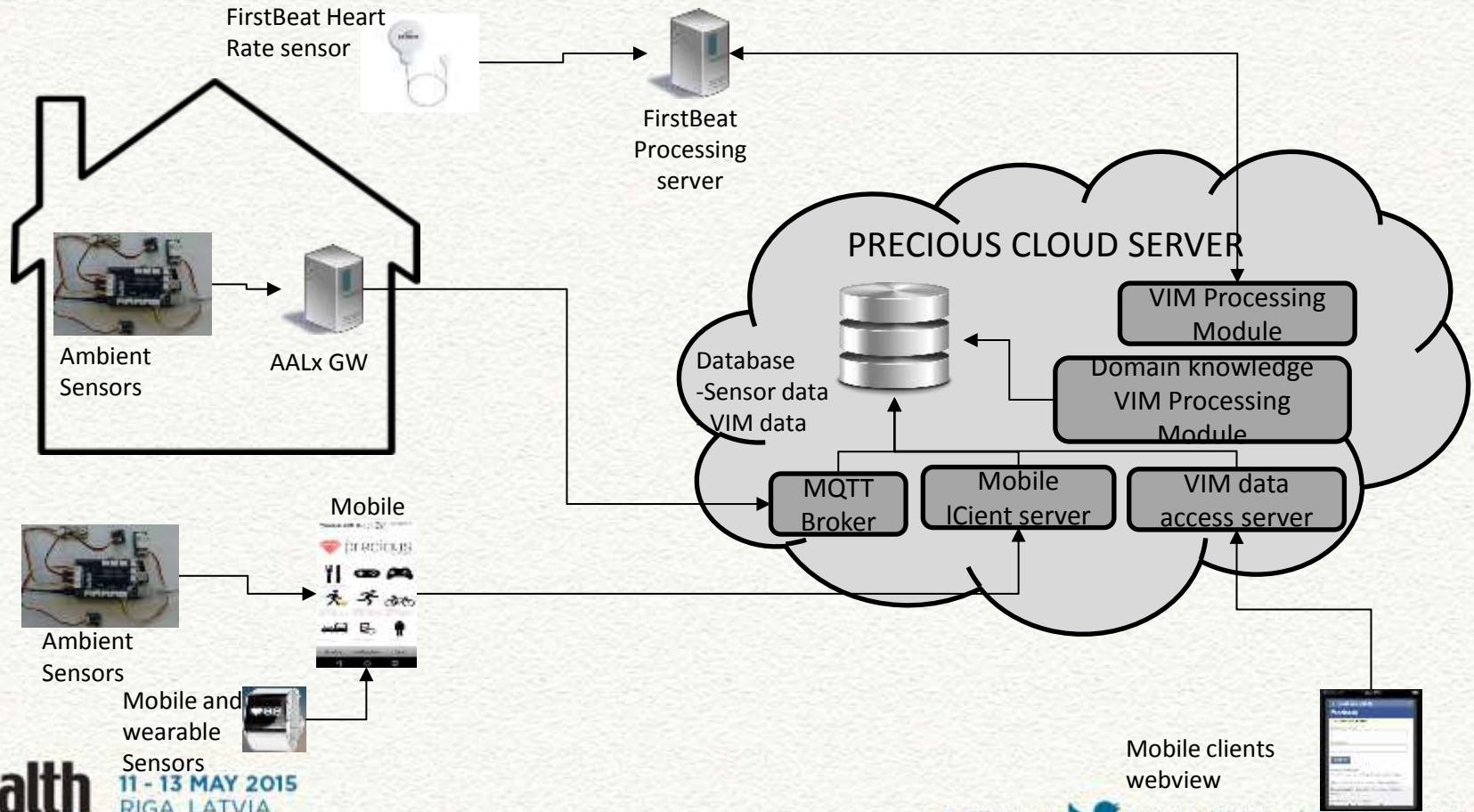


- PRECIOUS is designing and developing the mobile user interface of the proposed solution following state of the art HCI requirements.
- The application integrates gamification aspects together with social networks and entertainment to provide an extremely useful approach for long term motivation of end users to implement the required behavioural change.
- The application would be tested in smart phones, tablets and PCs because they all offer a different user experience that can effect to effectiveness of service design



# PRECIOUS - SYSTEM

- System being completed to start trial with end users next.







# USER BENEFITS

- The user should enjoy being healthy!!!
- The system should help in preventing diabetes disease by improving food intake habits, exercise
- User should maintain persistent usage through games, motivational feedback, etc.

# www.thepreciousproject.eu

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## Healthier Food Choices & Food Intake Measurement

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### Welcome to PRECIOUS

Healthier lifestyles – including more exercise, a better diet and reduced stress – are associated with the reduced risk of diseases such as type 2 diabetes and cardiovascular diseases. However, adopting healthier behaviours is a challenge! Advances in technology have made it easier for individuals to monitor lifestyle attributes (e.g. through smart phone applications and wearable technology), however, one of the main challenges is motivating people to make lifestyle changes before risk factors develop into life threatening and expensive diseases.

### Recent News

[2nd Plenary Meeting @ Campden BRI April 14, 2014](#)

[1st Plenary Meeting @ AALTO University April 14, 2014](#)

[PREventive Care Infrastructure based On Ubiquitous Sensing December 4, 2013](#)



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# THANK YOU

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