Personalized ICT Support Services for Independent Living and Active Aging

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Background

• Demographic ageing is a global trend.
  – In the European Union, the number of people aged 65+ will almost double over the next 50 years, from 85 million in 2008 to 151 million in 2060.

• Frailty is highly prevalent and constitutes a major health problem.
  – Prevalence of frailty and pre-frailty in 10 European countries ranges between 5-27.3% and between 35-51% of the population, respectively.

• Preventing frailty by focusing on early detection of functional decline and support older adults to improve and work pro-actively on their health
Support elderly in their self management were possible by using technology.
Challenge

Community Service

UNIVERSITY OF TWENTE.
Objective

What is PERSSILAA?

PERSSILAA
- develops and validates a new service model for older people, to screen for and prevent functional decline.
- This multimodal service model
  - focuses on nutrition, physical and cognitive function,
  - is supported by an interoperable ICT service infrastructure,
  - utilising intelligent decision support systems and gamification.
- PERSSILAA, offered to older adults (> 65 years) through local community service, will be seamlessly integrated with health care services.

Overall goals we want to achieve with PERSSILAA

• Improve quality of life for older adults
• Increase every day functioning of older adults
• Increase awareness about physical & cognitive functioning and nutrition
• Decrease the risk on adverse health outcomes
Overall Concept
Service organisation

GP
Municipality
Elderly Patient
Home care
Sports association
Hospital

Huisarts
Oudere/ Patient
Thuiszorg
Sportverenigingen
Gemeente
Buurthuis
Ziekenhuis
Ideal service model
Modules

Screening  Monitoring  Training  Profesionally Supported care

Multimodal focus by its attention on physical, cognitive and nutrition aspects
An online questionnaire consisting of a set of validated questionnaire focusing on frailty, nutrition, cognitive and physical functioning.
Hoofd draaien

Uitvoering
- Ga staan of zitten en kijk recht vooruit
- Draai langzaam uw hoofd zo ver als u kunt naar rechts
- Draai vervolgens uw hoofd zo ver als u kunt naar links

Aantal herhalingen
Herhaal deze oefening voor iedere kant 5 keer.
Interoperable infrastructure with an intelligent core and a gamification layer
Infrastructure
Intelligent core: Personal recommender system

Starting from ontology, expert settings/recommendations recommender system based on use data

PhD: Hossein Nassabi
Infrastructure
Gamification layer

• Adherence to healthy behavior/exercising/eHealth applications is low and decreases over time (people lose interest) → adherence is very important for positive health outcomes

• Gamification is considered a strategy to increase and maintain adherence

• Concept:
  – The use of a virtual map, in which the player can move and access different functionalities
  – Unlockable content, (virtual) collectables, mini-games, discovering new areas
  – Connecting to local tourism/cultural agenda
Service validation
Service validation

- 350 Elderly will enroll the study and use the Perssillaa services
- First elderly are already enrolled
- Outcome assessment will be the same in Italy and the Netherlands and will be performed every 3 months
  - Health status
  - Every day functioning
  - Awareness
  - Satisfaction with the service
  - Risk on frailty
  - Costs
- Sustainable business models will be developed for implementation after the project
## Consortium

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<th>Partner main expertise</th>
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<td>Cognitive functioning</td>
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<td>In and outpatient rehabilitation, care</td>
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### Validation regions:
Campania region, Region Enschede

### End users representatives:
UNIE KBO, Caritas
@Perssilaa

www.perssilaa.eu