



# PEGASO Fit for Future

Promoting healthy lifestyles and nutritional awareness among teenagers through mobile games and technologies

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## PEGASO Fit for Future: WHY



- The rapidly increasing prevalence of overweight and obesity among children and adolescents reflects a global 'epidemic' worldwide.
- Due to the associated serious medical conditions, it is estimated that obesity already accounts for up to 7% of healthcare costs in the EU.
- Obesity in younger age groups has been recognized as an alarming key predictor for obesity in adulthood.



## An emerging problem



Centers for Disease Control and Prevention  
CDC 24/7: Saving Lives. Protecting People.™

Target

### Childhood Obesity Facts

- Childhood obesity has more than doubled in children and quadrupled in adolescents in the past 30 years.<sup>1, 2</sup>

Page last reviewed: December 11, 2014





# A WHO recognized priority



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## Global Strategy on Diet, Physical Activity and Health

Global Strategy on Diet, Physical Activity and Health

Development of the Global Strategy

Childhood overweight and obesity

Documents and publications

Related links

### Commission on Ending Childhood Obesity



iStockphoto

May 2014 -- To gather the best possible advice on dealing with the crisis of childhood obesity, WHO's Director-General has established a high-level Commission on Ending Childhood Obesity. Tackling childhood obesity now represents an important opportunity to reduce the impact of heart disease, diabetes and other serious diseases in future – while immediately improving the health of children.



Read more about the Commission on Ending Childhood Obesity

Diet and physical activity

Commission on Ending Childhood Obesity

Diet and physical activity: a public health priority





## PEGASO Fit for Future: HOW

- Challenging teenagers in the context of their own areas of interest, Pegaso – Fit 4 Future - aims to promote **sustainable behaviours** geared towards achieving healthy lifestyles.
- Old habits are difficult to break even when we know that they may be harmful in the long run.
- Behaviour-change techniques are applied as a preventative measure to accomplish positive behaviour change outcomes.




- A **behaviour change platform** targetting teen agers in **preventing obesity** and related comorbidities



- Teenager
  - Aged 11-17 yrs
  - Rebel generation
  - Digital generation
  - Education needs

Prevention starts here...

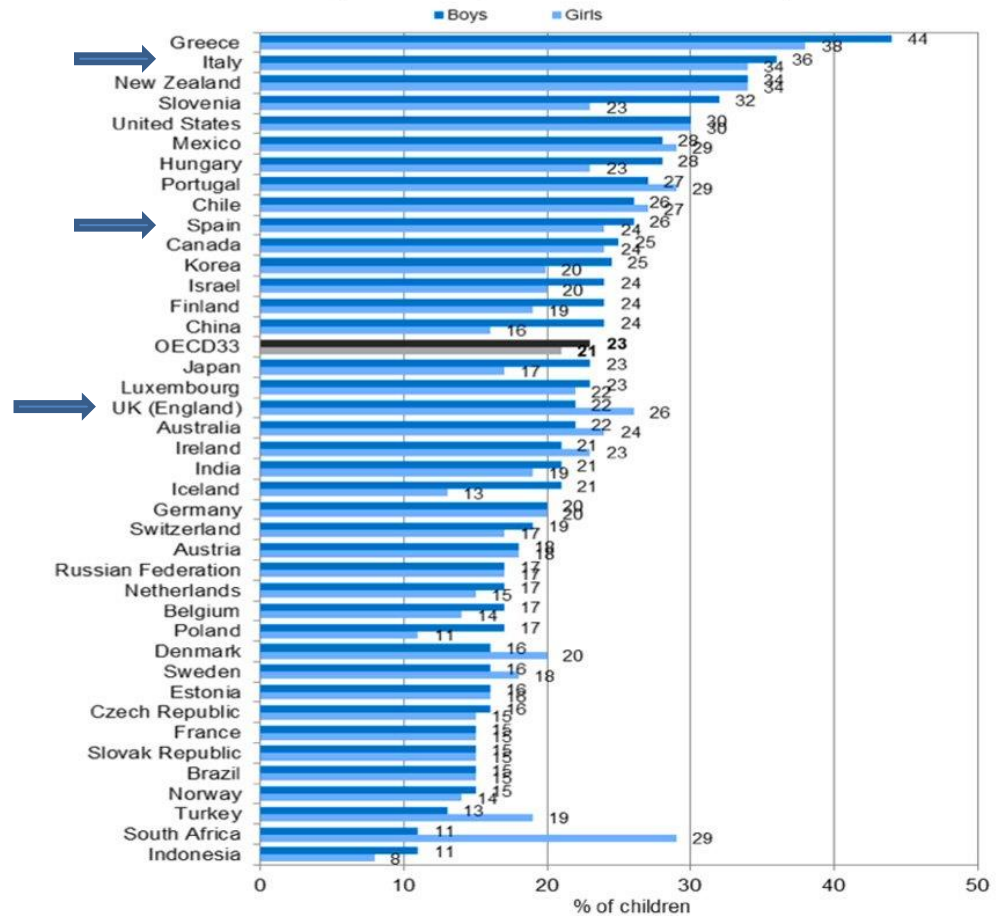
In the WHO European Region

**1 in 3** 11-year-olds is 

**overweight**  
or  
**obese**

© WHO 03/2014

### Measured overweight (including obesity) among children aged 5-17, 2010 or nearest year



Source: International Association for the Study of Obesity, 2013; Bös et al. (2004), Universität Karlsruhe and Ministère de l'Éducation nationale et de la Santé for Luxembourg; and KNHANES 2011 for Korea.



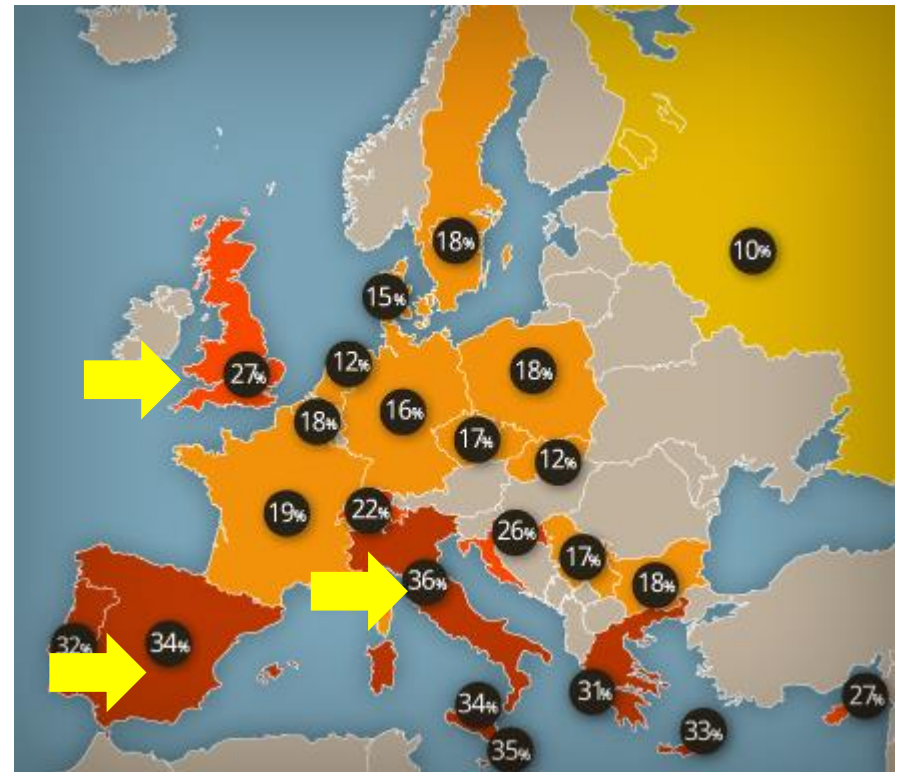


The map below shows the prevalence of overweight children aged 7-11 years in different EU countries. ([www.who.int/dietphysicalactivity/country\\_profiles](http://www.who.int/dietphysicalactivity/country_profiles), [http://www.project-earlynutrition.eu/html/en/public/obesity\\_childhood.html](http://www.project-earlynutrition.eu/html/en/public/obesity_childhood.html))

EU Countries for pilot tests:

- UK
- Italy
- Spain

The ones with higher prevalence of overweight children





## There's One Thing You Should Never Tell Overweight Teens

By JOSEPHINE MARCOTTY, Star Tribune

If you want your overweight teenagers to slim down, whatever you do, don't tell them to go on a diet. That most likely will make matters worse

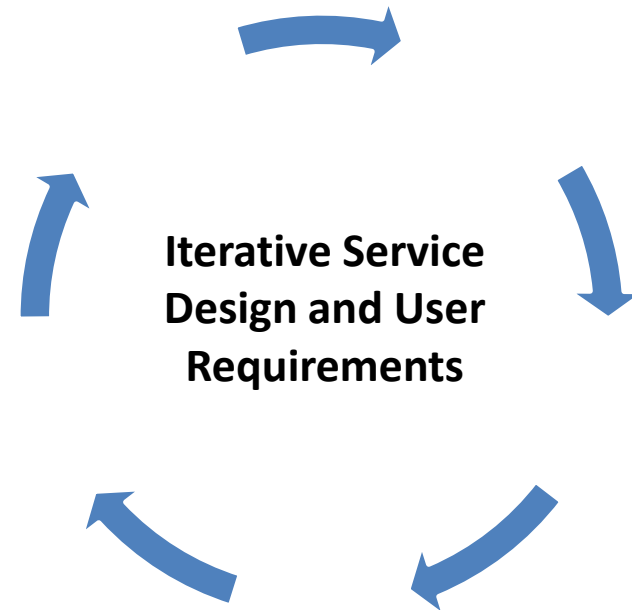
PEGASO always starts with a positive approach/message. This is the only winning strategy with teenagers.

Above all in prevention and not pathology!!!

Engagement and gaming strategies are confirmed by UCD methods in FG

(WP3 results)

Participation has demonstrated a powerfull strategy (FG, Events,...)







- PEGASO

A positive message and tool dedicated to teenagers, for improving their lives through 4 pillars:

- move → active lifestyle
- play → serious game, engagement
- eat → food education and pleasure
- share → social technology and approach

*Building your Life Compass*

Application:  
Prevention of overweight and obesity



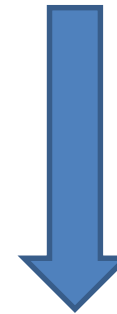


- PEGASO

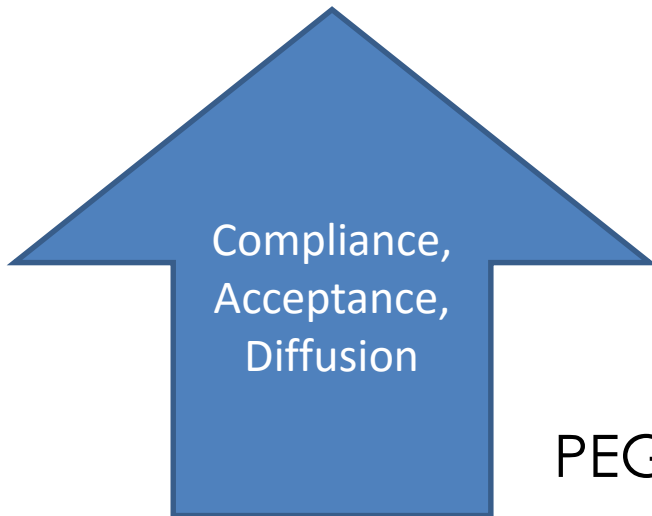
share → social technology and approach



Smartphone as convergence platform



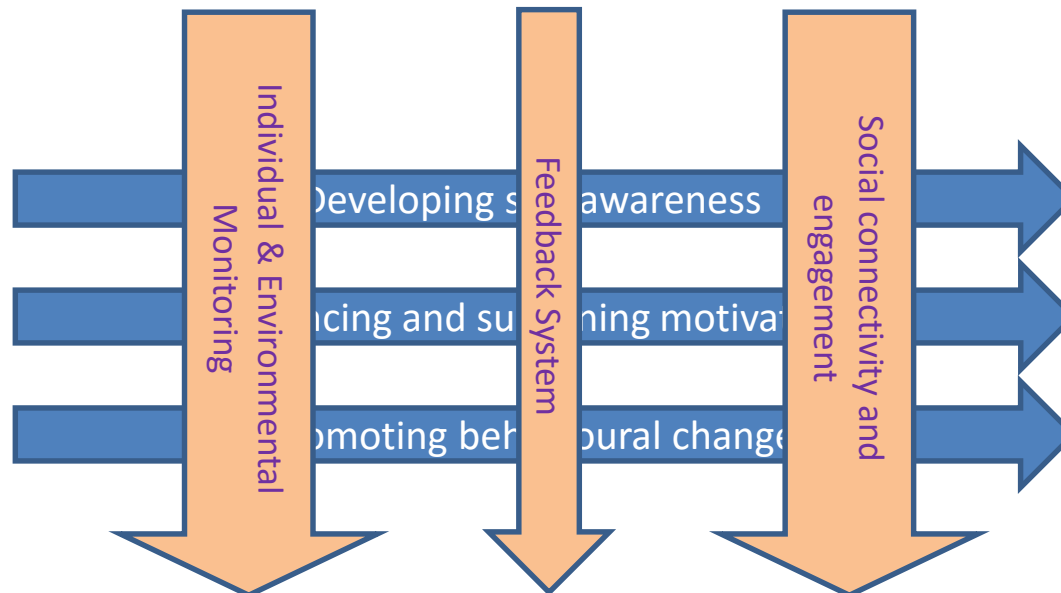
User-Centred- Design and Co-Design  
strategy for development



PEGASO Results



“Challenging teen-agers in their own fields and areas of interest, PEGASO – Fit 4 Future - aims at promoting a sustainable change towards healthy lifestyles, with an holistic and multidisciplinary approach. PEGASO is a multi-dimensional and cross-disciplinary ICT-based system that exploiting sophisticated and engaging game mechanics will motivate behavioural changes towards healthy lifestyles thus preventing overweight and obesity in the younger population.”





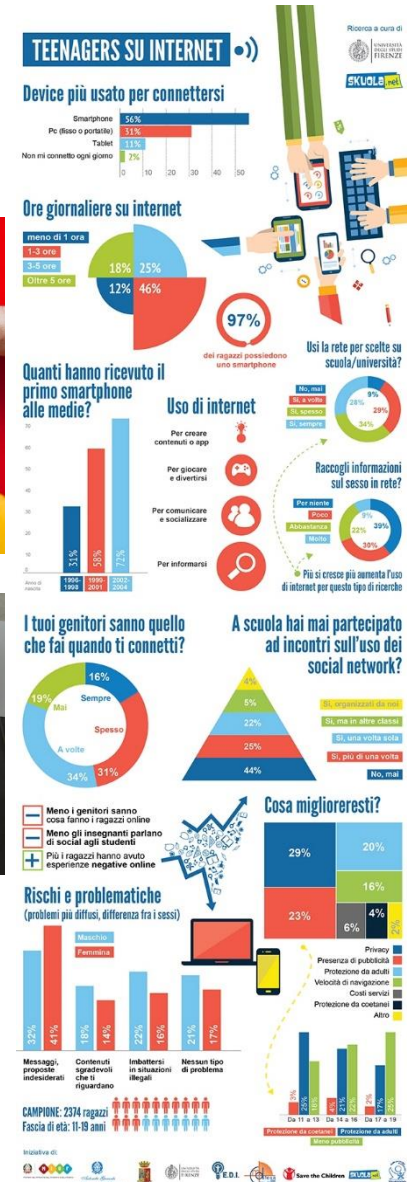
- Technological platform: the smartphone.

The User Requirements defined through user participation confirms the almost 100% diffusion and the willingness to use this device as service platform.

Smartphone has become even more important than outfit ([www.wired.it](http://www.wired.it), from NYT, Aug. 2014).



Safer Internet Center in Italy  
Survey on 8.000 students,  
aged 11-13:  
95% mobile/smartphone  
coverage.  
Feb. 11, 2015





**Wearable system** for non intrusive monitoring are the emerging trend technology.

Accepted by end-user and teenager in particular.

Wearables for teens are nothing like the boring calorie counters marketed to adults. Instead, a whole new breed of wearable tech is emerging that that is targeted at helping young people do the things they want to do, like **play, game, and relate.** Tapping into and extending imagination, and engaging social behavior, wearable technology for teens could have a huge impact on the teen-focused **gaming and entertainment** industries.

**Serious Games** are becoming and diffusing as a new tool for learning, training and improvement. Also this choice seems to be winning.

February 27, 2015

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Libretto rosso Quattroporte ed.2014: profilo 3, Bologna. Assicurazione: prima di sottoscrivere leggi il fascicolo informativo su Genereggi.it.

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### Betting On Teens In Wearable Tech

Posted: 07/21/2014 6:13 pm EDT | Updated: 09/30/2014 5:59 am EDT

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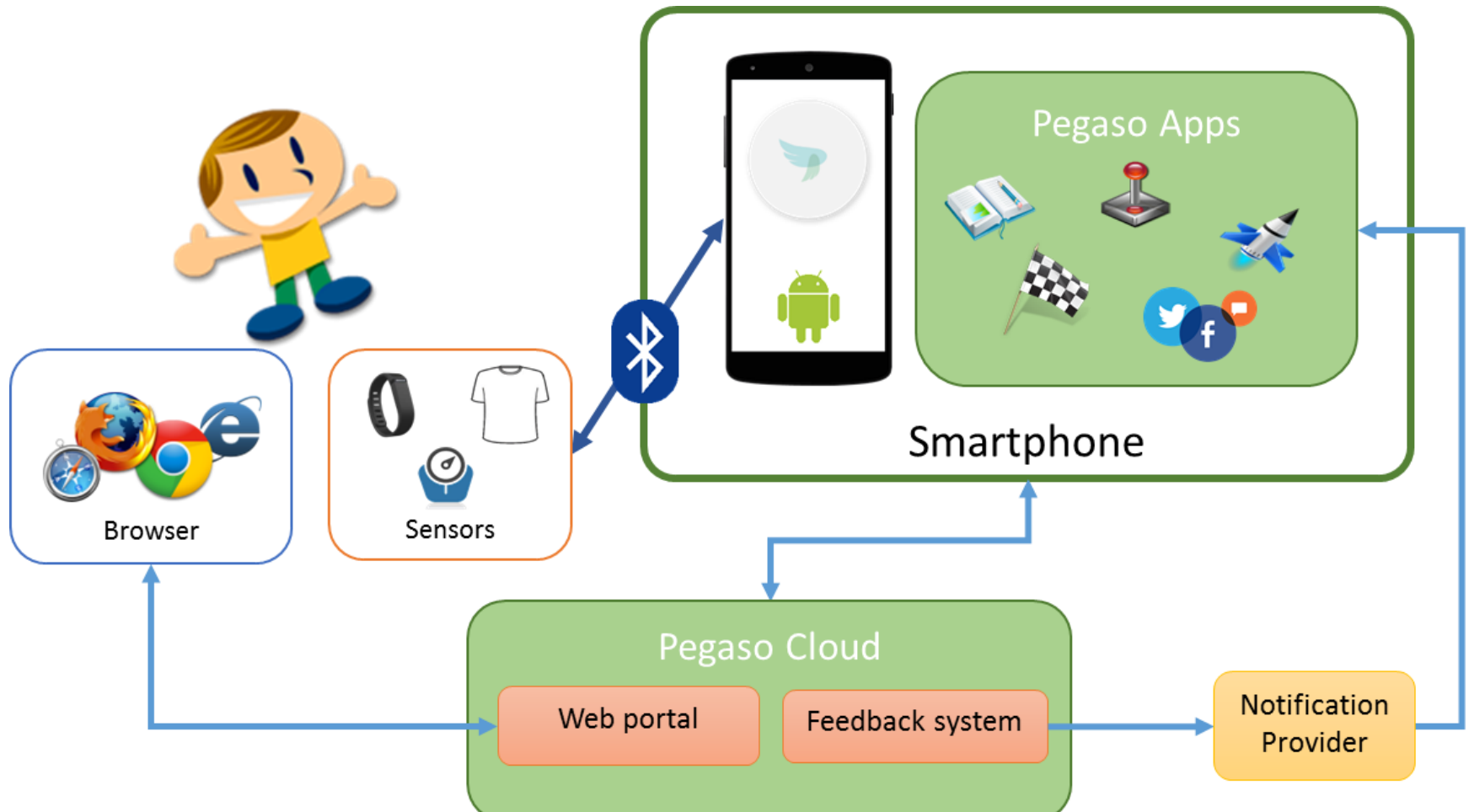
Disney, Mattel, Xbox, and PlayStation take note; wearables for teens are here, and they are about to disrupt your business.

Wearables for teens are nothing like the boring calorie counters marketed to adults. Instead, a whole new breed of wearable tech is emerging that that is targeted at helping young people do the things they want to do, like play, game, and relate. Tapping into and extending imagination, and engaging social behavior, wearable technology for teens could have a huge impact on the teen-focused gaming and entertainment industries.



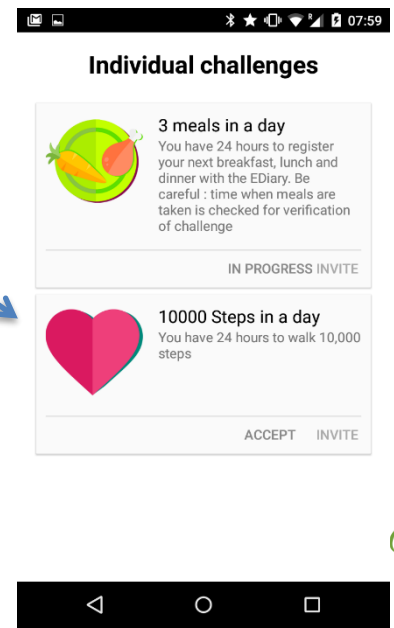
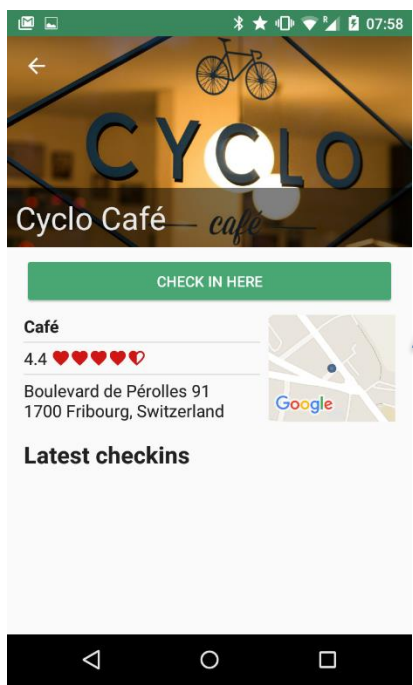
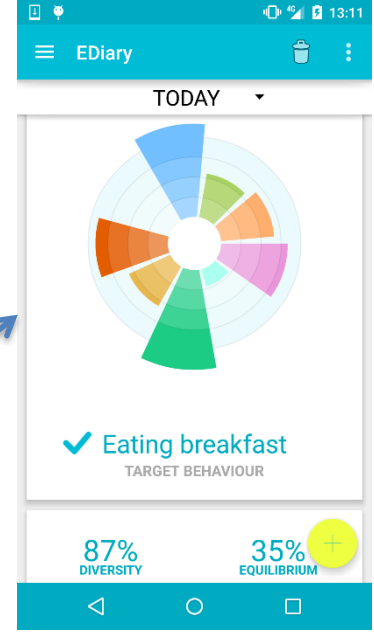
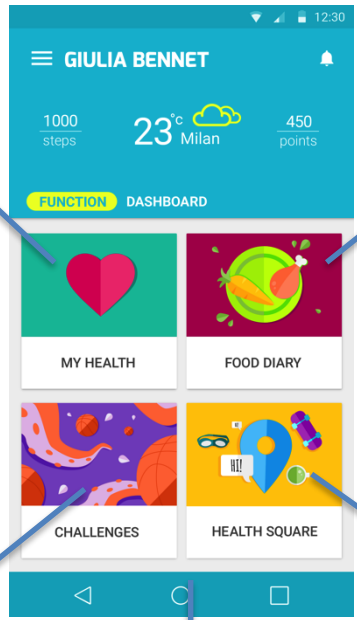
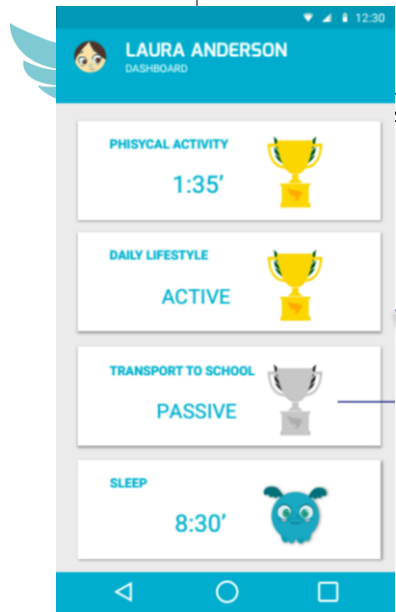


## PEGASO Fit for Future: System Architecture



5.1 – Grant Agreement n°610727

ff.eu





## PEGASO Fit for Future: Front-end

- **PEGASO COMPANION > APPS AND SERVICES**
- E-DIARY: This app enables the user to **track their food intake**, providing initial graphical feedback.
- PEGASO PLACES: This app allows the user to **discover places** that offer services related to the Pegaso cosmos (swimming pools, restaurants, etc.)
- HEALTH-SQUARE: This app allows teenagers to **rate eateries** (restaurants, cafes, etc.) according to their healthiness. A rewards system is associated to the app, encouraging users to adopt healthier behaviours.
  
- **PEGASO MOBILE GAME**
- A game with both real and virtual tasks and missions to be accomplished.  
In particular, the main aim of this tool is to **increase the physical activeness** of teenagers, reducing sedentary behaviours.





## PEGASO Fit for Future: Conclusions

The PEGASO framework will be validated by secondary school students.

**4 validation pilots** will be carried out in **Italy** (Lombardy), **Spain** (Catalonia) and **United Kingdom** (England/Scotland), involving about 400 students.

The validation will assess the following factors:

- System and Technology acceptance, usability and long-term use, together with motivation and engagement;
- Reliability in assessing the teen-agers lifestyles and their changes (with focus on the eating habits and on physical activities), that is strictly related to the efficacy of the sensors' network;
- Efficacy of the system in encouraging lifestyle change, that is the final impact for prevention.



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**PEGASO**

**FIT FOR FUTURE**

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