



#### Gamification for Healthy Life The GOAL platform

Aristodemos Pnevmatikakis Multimodal Signal Analytics Athens Information Technology Athens, 19<sup>th</sup> Sept. 2017





 Help people, especially the elderly, to stay motivated into leading socially engaged, physically and cognitively active lifestyles

Scope

- Provide games and apps that gamify aspects of life
- Involve peers and families organized in circles
- Quantify achievements in all three aspects of healthy lifestyle by a currency, exchangeable for
  - benefits in apps, and
  - favours from circles









- Have you been playing Sudoku or other puzzle games?
- Have you been trying to jog your memory with memorybased cognitive games?
- Have you thought of keeping track of your progress in any of these games?
  - In a unified way across all cognitive games you are playing
- How about a single award system across them all?
  - Based on your profile, GOAL acts as a personal digital Coach
    - motivates you into serious gaming for exercising your brain
    - keeps track of your performance, and
    - awards you in GOAL Coins, a single currency across all games







- Have you ever been stuck in a Sudoku game trying to solve one of the higher difficulty levels? How about getting out of deadlocks in all these games?
  - This is one of the reasons you might want to spend your accumulated GOAL Coins
- Bored with the available puzzles or card decks?
  - Buy more with your GOAL Coins
- Are you also playing games for fun? Do you have a favorite empire or city building social game?
  - Spend some GOAL Coins to get instant access to this building that takes forever to build







- Apart from your mind, you should be exercising your body
- Do you go out for walks?
- Do you use a pedometer on your phone, or an activity band to count steps?
  - These apps reward you with badges for community recognition
- Now you can quantify these rewards into earned GOAL Coins!
  - Do some physical activity and get
    GOAL Coins to spend in your games







- Did you try fitness applications and find them not suitable or too difficult for you?
- GOAL Coins are awarded for physical activity in consultation with your personal digital Coach
  - The Coach considers you and your past achievements to set your personalized goals that dictate how physical activity turns into GOAL Coins
  - Personalized motivations urge you towards a physically healthier lifestyle



## Social GOAL



- Are you going for walks or play online with your friends?
  - How about setting your own challenges for them, on top of those the Coach sets?
- GOAL features the Social Marketplace where you can set challenges for others, find challenges others set, and try to fulfil them
  - These challenges can involve successes in any game, or physical activity feats
  - They can also involve real small things in your life
    - have a friend bring over the newspaper, or a grandson visit you
- Are your grandchildren not exercising enough?
  - You can create contests for them or any of your circles of people
  - Award the winner with some of your GOAL Coins

	Create	
Туре	Eligibility	
Description	Timeframe	Generate new ta
Task info	Status	Action
	Ongoing	
Grandchildren competition	Ongoing	
Grandchildren competition Lars' evening walk	Completed	Award 20 coins
		Award 20 coins Award 50 coins



#### GOAL at a glance







# Main GOAL app



### • Entry point for users

- Web and mobile versions
- Provides access to their profiles & info
  - Dashboards for coins, tasks, activities & achievements
- Provides motivational notifications
  - Avatar
- Provides access to other parts of the system
  - Social marketplace, GOAL app marketplace, activity tracking, games
  - Either GOAL, or 3<sup>rd</sup> party





## Physical activity app



#### • Steps

- Indoors & outdoors
- Model for distance, rate for speed
- GPS: Position, speed, elevation
  - Outdoors
- Altitude climbed
  - Indoors & outdoors
  - Pressure-based
  - GPS-based for outdoors accuracy
- Weight-normalized energy expenditure: MET-minutes
  - Speed-based, assuming walking or running
- Acceleration
- Activity levels and durations
  - Personalized thresholds on current MET
  - Total minutes in 6 activity levels



Light Moderate Heavy Very heavy Extreme



## **Cognitive game**



- Memory-based cognitive game with cards
  - Find pairs
  - Different grid sizes, card decks that fix difficulty
  - Scoring based on difficulty and mistakes
  - Mobile, Web & Desktop versions
- Scoring
  - Selected grid size and deck difficulty dictate max score
  - Mistakes subtract from max score
- GOAL integration via the API
- Coin generator
  - Based on score and user profile
- Coin spender
  - Cheat: Brief glimpse at remaining cards
  - Buy decks







- Why should a gaming company be interested in GOAL?
  - GOAL facilitates penetration into a new market, with many users at least in Europe: the tech-aware elderly
  - Benefit from new funding schemes
    - Real money offered in exchange for spent GOAL coins
    - Not just come from the player (traditional source)
    - But also from local authorities and health insurance systems (public and private companies)
- What does GOAL do to facilitate the work of developers in the interested companies?
  - Clear way to integrate to GOAL via its API and documentation
  - Automated extraction of the info GOAL needs to handle the scores of the game



## Thank you!







http://www.goal-h2020.eu/ @GOAL\_H2020



http://www.ait.gr @Apnevmatikakis apne@ait.gr