Gamifying Health Data Collection Process

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AIM
• Provide accurate data and feedback to researchers, doctors and pharmaceutical companies so that they can find the best solutions to common health problems.
• Build a framework to improve participation in recording recurring data by incorporating an addictive game that will use the data gathering in a way that rewards the player.
• Create a system where our application will measure the user’s gait patterns, and provide medical information on a daily basis.
• Have user’s dedicate a short amount of time daily to answer survey questions, a system where people will enjoy the process, and record accurate data.

TOPICS WE LOOKED INTO
• related works in recurring data collection
• how to conduct online surveys
• measuring happiness and health
• gait pattern analysis
• gamification
• building a successful game
• use of accelerometer data
• android game engines

FIELDS OF RESEARCH
Our research combines aspects of the following.
Crowdsourcing: The practice of obtaining ideas, content or data by contributions from the online community, rather than from traditional employees or suppliers.
Gait pattern analysis: The recognition of psychological and physical disorders from analysis of gait patterns.
Android game designing: Creating android games with high ‘play again’ factor

PROBLEM AT HAND
The process of recording data and answering survey questions is a mundane task that individuals may not contribute to the data collection process altogether

SOLUTION
• Incorporating currently built personalized model for abnormal gait detection with android game to facilitate data collection process.
• Android game will require the user to walk so that his or her movements can be recorded and analyzed using an accelerometer.
• This game will engage users to come back and play at a regular basis.
• This data analysis will give us information about the user’s current health condition, which can be used to diagnose physical and psychological disorders.

GAIT PROJECT
• Gait is specified as walking patterns of human, reflecting different health statuses.
• Recognizing different gait patterns using the inbuilt accelerometers of android phones.
• Developing an automatic system for health monitoring, using gait analysis with mobile devices which can continuously track health status.

GAMIFICATION
Photo Identification Game
• Related project: GWAP (Game With A Purpose)
• Allows participants to interpret certain texts, and pictures or generate a message for a number of different social information types such as deception or sarcasm.
• Creates a database with annotated messages.
• Aims to improve search engines and extracting certain information.
• OUR GOAL: Developing our game server based on this model.

FUTURE GOALS
Summer 2013
• Publish research paper
• Development of android game application
• Testing and validating hypothesis

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