

Software Architecture, Advance Master Units for IT44

Science and Engineering Faculty

Queensland University of Technology

Health Activity Challenges

By

Davit Sanpote ID: n8940215

Project Supervisor

Dr Dhaval Vyas

Date Submitted: March 27th,2015

Title

Health Activity Challenges is in a category of game application to motivate people to use smart devices to record accuracy health data from their activity in daily life based on strategies of social health awareness instead of using others tool which can be discontinuing record data.

Introduction

Technology has become a part of people's life day to day. People do more works and the have less time to relax meanwhile, their health is under control. According to less time to take care of health, developers aim to create health applications to support people daily life by recording their behavior such as exercising, eating and relaxing. On the other hand, there is several health applications have been published to a public with the same features by collecting data of user's behavior or activity to summarize into graph. Obviously, methodology to collect data is sensitively and complexity. There are some people stumbles upon these tools after they start to collect data shortly. They figure it out and switch to another application which on their expectation to be easier to use. For example, people have compared tools between health application and Google spread sheet. It seems to be simplify to use Google spread sheet to record an actual data but then when people need to record their activities which will take times then they will lost their chance to collect data and stop improving their health. This becomes a main problem to identify personal behavior information. According to user behavior with health application, it has been explored the idea to create the health application which will be interacted with a smart watch to motivate people by using a strategies of social health awareness. This project focuses on people who have less experience of technology to record their personal informatics in a complexity form. The application will automated record data by using a system driven when user invite another person to do a challenge activity. Lastly, this project is in a field of research how to use technology to promoting health challenge application and keep people of long term use of recording their personal informatics.

Purpose and aims

This project will focus on social sharing health information to friend list. Users aim to invite friend to complete health activity challenges such as walking a hundred steps within one day or eating good foods by taking a photo and post to friend list invitation to challenge to another person. In today's technology, social network become more powerful of sharing data, people can post their activity such as image or statement to their friends list and listen to a feedback. Social activity is an essential methodology to motivate people to continuing use the application. Move to the next point, the main parameter is a number of calories burning. The application will use this data to analyze how often people interact with their health activity, at the end of a stage the data will convert into a score to show every day ranking. Lastly, the application aim to use a strategy of system driven to motivate people of collecting data and support them to answer themselves about health questions and also keep people use an application longer by using social sharing and game strategy to make an application to be more simple to use.

Significance

Currently, previous health applications that published online, there are several applications which does not generate appropriate information needs. After that people decide to begin with another tool and face another problem with a different data format. This project expects to develop a distinction of health application that already provided in public. Create a simple interface for user to collect data in long term use. When data are collected properly so that the system will be able to generate appropriate information needs for user and use social sharing to interact more people to complete a daily challenges with an accuracy real time data.

Project approach or design

Health information needs are important variable to predict and help people day to day. This can be called “self-knowledge”. Health application will be effective and powerful collector tools in a future as a part of human daily life.

Specific data requires:

There are two main data to collect, calories burning and time. These two data will collect at the same while people start the activity challenge application will calculate calories burning depend on what type of physical activity they are prefer. At the same time, the application will collect a time whenever people start the activity. In terms of Calories burning , the application will display current calories burning up to date every day and also it will provides a ranking of friend list to see who reach a top rank. This tool is simple to understand, it can motivate people to complete a challenge to keep exercising and stay healthy. In time record, the application can generate a graph to analyses how long people will take to complete this challenge and how much calories burning per day.

Participants require:

This project will focuses two types of personal behavior. Firstly, healthy people will be volunteers to test an application with their daily exercise. The expectation of health people is to focus on their estimation burning calories. Secondly, working people will be another group volunteer to test this application. The objective is to motivate working people to start to take care of their health after they leave their job.

There are several previous research documents and paper related to this topic, it shows about user information needs, significance variable to achieve and risk management in within the broader disciplinary field. These are essential information needs to prepare before and learn before implement a first prototype application.

According to an ethical impact to this project, this project is a positive perspective thinking, being healthy and self-knowledge. The main purpose is to help people stay healthy. This is less ethical impact than other application that relevant sensitive information such as short cut to earn money, inappropriate images and game addiction. In addition, this prototype can be developed in the future by adding more useful feature related to user information to export data as information needs.

Project Plan

Tools and Environment Setup

Tools:

Android studio version 1.0

Hosting server

Devices:

Mobile phones with an android operation system not lower version 4.4.2 API 21

Smart watch Motorola 360

Programming skills required:

Java, PHP, parsing XML, HTML, SQLite and MySQL

Essential Methodology

This project will be used the questionnaire to collect data of users. Questionnaire is the tools to help developer to analyze data to improve current features or create a new feature in the future plan. In addition, it will help writing on a report. For example, graph is created by an accuracy data and then data come from an effective questionnaire. Graph is a simple module to present data clearly.

Week1	Week2	Week3	Week4	Week5	Week6	Week7	Week8	Week9	Week10	Week11	Week12	Week13	Week14
Discuss with supervisor to identify main target users and goals of the project approach. After that start writing a project plan													
			Submit Project Plan										
				Implementation Application									
								Unit Testing					
										Start to collect data from volunteers to record their feedback. Use their feedback to analyze then start writing a report			
											Start to prepare for an oral presentation 2 nd and 4 th June. Submit a report at 23 rd June		

Risk Assessment

There are risks that can be occurring during a project progress. Firstly, the system may be unclear and confused a volunteer who will use this application. To solve this problem, the application will add a feature of basic tutorial for a new user to learn a system step by step. Secondly, this survey is long term process to complete. To collect data it may takes a week to succeed so that some volunteers may abandon from these observations during a process. This problem can be solved by arrange a meeting twice a week to see the improvement during an observation. Moreover, the open-end questionnaire will be a part of tools to collect a specific data from a volunteer to support and prove on a report at the last stage of this project. Lastly, the system may show an inaccuracy data that is an opposite of a realistic that user face in each situation. According to this problematic, the agile strategies will be included through the implementation part such as create a story board to find appropriate features to include to an application after that to ensure the system will provide an accuracy data by using several test cases to detect a particular failure that will rise up when people use.

Communication

The tools to use to contact the research projects supervisor will be an email. According to an email, the more details inside can be issues that occur during implementation process, new plan to change or a new feature to add. Moreover, details in an email are a brief of topic to discuss with a supervisor at a meeting.

References

- Fritz,T.,Hyang,E.M.,Murphy,G.C.,&Zimmermann,T.(2014). METHOD AND PARTICIPANTS. *Persuasive Technology in the Real World: A Study of Long-Term Use*,489.10.1145/2556288.2557383
- Li,I., Dey,A., & Forlizzi, J.(2010). STAGE AND BARRIER. *A Stage-Based Model of Personal Informatics System*,4,560-562.10.1145/1753326.1753409
- Maitland,J. & Siek,K.A. (2009).Share Activity Awareness Application. *Technological Approach to Promoting Physical Activity*,4,277-278. 10.1145/1738826.1738873