Automatic health tracker

HCI Project Report

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Introduction

With the emerging technologies and ever speedy growth in human lifestyle, we tend to deviate from some of the basic life constraints about keeping ourselves healthy and fit enough to live a good life for a longer period of time. There are workaholics’ everywhere, we have become smart, intelligent, and we cannot afford our time for yoga classes, gym and fitness. This has serious effects on our body and makes us vulnerable to various diseases diabetes, heart diseases etc. We need to loose extra calories and toxic substances from our body by doing some physical work. We have busy schedule and we need a smart solution to address such problems and also monitor our daily consumption.

Smart Mobile App – A smart solution!

Smartphones, being pervasive devices, are ideal to support and contribute to a large group of people to regulate their physical routines. Apps for all purposes have turned the phone to a multi-functional device. The current generation of smartphones with their wealth of sensing, communication, and computing capabilities represents an ideal platform for replicating the services of personal trainers in a way that is accessible to and affordable for virtually everyone.

Features

We are introducing an application which can feature the following:

- GUI: Facilitates user friendly graphical interface which is compatible with novice users.
- User Profiles: Facilitates an individual to create his own personal record and get medical prescriptions and training routines accordingly.
- Database maintained and updated by authorised medical staffs and fitness expertise.
- Intelligent scheduling to have easy time between work and exercises.
- Facilitates gradual level by level advancement.
- Provides video links for further advanced training.

System Design

- Creates user profiles
- Calculates body mass index.
- Tracks calorie intake and expenditure data.
- Tracks physical activity.
- Show caloric balance.
- Daily reminder prompts via SMS and E-mails.
Client’s Interview questions:

Question 1:

Sir/Madam, would you like to tell me about your daily routine? Tell me about your culture towards health.

Question 2:

So, according to you how and up to which extent can you adjust your schedule for the Will to have a good health?

Question 3: So concerning with your routine what do you expect about the application usability? I mean how it is supposed to work for you?

Question 4: In our application we are developing a GPS supporting technology, so what other aspects you need to suggest to work the application as per comfort?

(If you might have experienced the current existing mobile application then could you figure out the failings?)

Our daily body-weight only workout routines combine cardio and strength training in intervals, to achieve maximum results in a short amount of time. Each exercise targets specific muscle groups to help you strengthen your core, tone your abs, chest, back, arms, and legs, and melt away excess fat. With no need for gyms or fancy equipment, every workout can be done in the smallest of spaces and in practically any location.

This is the perfect fitness app for people who want to get in to seriously great shape, lose weight, and gain strength without breaking the bank

- Exercise comes with a detailed text description on the muscle group worked, how to perform each movement of the exercise, and even contains a video of a real person performing the exercise so you can always ensure your form is right.
- Every video is downloaded to your device so you can view them at any time, regardless of internet or cell connection.
- Also we are giving you user profile platform to compare and share your achievements with your friends
Question 5:

So considering the above workings: Functionality, Mobile Ecosystem, Performance, and Security - are there any areas that take precedence over others, or are they all equally important to you when using this mobile exercise coach app?

Client’s View and Summary (Social and Technical Context Research Result):

- My client (Prof. Dittrich) used to wake up at 6 am daily and tries to give her best for half an hour exercise like swimming, yoga. About culture, she said people are more conscious towards health and they have regular eating habits too.
- She refused to have a daily morning jog, she hates it! but sometimes she use bicycle but it becomes problematic during snowing or rainy season.
- Her daily routine get disturbed while taking mini-sabbatical, or while she is out of town for few days.
- She suggested that the application should also match with workaholics people and depending upon profession, dynamic cultures the application should fit.
- The application should work via grouping the different types of people (discrimination according to age, sex, profession, culture etc.). In fact, it should possess good intelligence about people kind.
- She wished to have application along with the Bluetooth supporting measurement devices.
- She need a one scheduled exercise for a month such that she need not to update/change the settings frequently. Means she need simple user interface.
- About the quality priority, she recommended that she need security at the top such that she should only be the authorised person to share/communicate the data. She prefer not to
share it on FB! After that she needs functionality (mainly the intelligence) and according to her, she is not so conscious about the mobile ecosystem

**Conclusion of the Research on other apps:**

- The other applications are having lack of lots of security problems like wished by Yvonne.
- If we take an example of Gorilla workout, it is based on few 40 exercises distributed into 4 levels and its very uncomfortable for person like Yvonne who is conscious about the application intelligence

**Links for currently existing mobile applications:**

**iPhone Workout App**

http://www.youtube.com/watch?v=YSEUgsT0D68

http://www.youtube.com/watch?v=pdPjVmVnn4k

**Noom Weight Loss Coach Intro**

http://www.youtube.com/watch?feature=endscreen&NR=1&v=bDhsyl0qeWY

**Usability Issues raised via interview**

- Consumes considerable amount of battery power.
- Application need internet access for its proper function, hence won't work properly in remote areas
- Portability across platforms. Presently featuring only smartphones.
- Limitations on adding advanced exercises due to limitation on memory size.
- Smaller screen size of the smartphone limits its effective usage.
Solutions

- Using a high power battery or closing the irrelevant processes while using our app.
- Access a network which is available through remote areas. And if not possible, update the software regularly in 15 days.
- We are working on making it compatible across all platforms.
- We are working on compressing the database size by efficient mapping functions. Also the database is stored in external memory, so the user can expand the memory size easily.
- We are working on adding a projector function to our app which will project the display onto a large screen with good resolution.