FitApp

Project Proposal

Team 6, CS473/673 SW-ENG Term Project Proposal



## Signatures:

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| --- | --- | --- | --- |
| **Name** | **Role(s)** | **Signature** | **Date** |
| Genevieve LaFrance | Project Manager, Document Control, Utility Developer |  |  |
| Amal Kadi | Backup Project Manager, Meeting Minutes (& Communication) Coordinator, QA Leader, Utility Developer |  |  |
| Jiachen Huang | Lead front-end developer, Data Analytics Leader, Utility Developer |  |  |
| Rasha Altamimi | Design & Usability Leader, Requirements Leader, Utility Developer |  |  |
| Ian Holgate | Lead back-end developer, Utility Developer |  |  |
| Will Dunn | Technical Writer, Security Advisor, Utility Developer |  |  |
| Professor Czik | Customer Representative |  |  |

## Version Control

|  |  |  |  |
| --- | --- | --- | --- |
| **Revision** | **Editor** | **Date** | **Change** |
| A | G. LaFrance | 9/26/2015 | Document creation |
| B | W. Dunn | 9/28/2015 | Reassigned roles of resigning team member to new member Will Dunn |
|  |  |  |  |

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## Project Overview/Business Case

As computers evolve into smaller and cheaper packages, companies are successfully marketing wearable devices to the fitness and medical communities, evidenced by Fitbit’s large IPO in Spring 2015, with over 21 million Fitbit devices sold[[1]](#footnote-0). Devices like Fitbit, Jawbone UP, and even recent smart watches allow humans to track sleep and pedometer data. Other fitness devices include smart scales and heart rate monitors. Medical devices include insulin pumps and nutrition trackers. A large gap in the adoption of these devices is in the specialization, and uneven distribution of features across applications. A user can get pedometer data from one application, nutrition feedback from a second application, and heart rate monitoring from a third application.

This project will deliver a website that allows users to input data from multiple types of fitness trackers and use a single dashboard to determine full-body wellness trends. The data captured by the site will be valuable to the individual, to related medical professionals, and to the hardware company, as the company can use data that is not captured by the specific hardware to further tune fitness and health recommendations.

## Related Work

|  |  |  |
| --- | --- | --- |
| **Project** | **Site** | **Description** |
| Fitbit | https://www.fitbit.com/ | Connects to a hardware wearable device to track step count, motion, and sleep. Available via phone app. |
| Cyclemeter | https://abvio.com/cyclemeter/ | Tracks bicycle speed and distance, tracks walks, runs. Available via phone/tablet app. |
| WellnessTracker | https://tracker.facingus.org/ | Can track medical symptoms, lifestyle and medication via website to support mental health treatments. |

## Requirements Overview

\*A full list of requirements will be submitted during phase 0 (Planning: requirements analysis)

|  |  |
| --- | --- |
| **Category** | **Requirement** |
| General | The site will be easy to navigate |
| Usability | The site will be complete, and each hyperlink and button will lead to a tested event. |
| Usability | The site must allow for blank input, to support the case where the user chooses not to share a category of fitness/wellness data. |
| Usability | The site will adhere to the “3 click” rule, where each the sitemap is 3 or fewer layers |
| Functional | The site will input fitness and wellness data |
| Functional | The site will track and display fitness data over time via graphs |
| Security | The site will keep user data secure by requiring a username and password |

## Management Plan

### Process Model:

This project will follow a modified waterfall model. The project will be defined and requirements will be gathered in the first stage of this project, and implementation will take place in two phases, and at the end of each phase a working iteration of the site will be presented.

Phase 0: Planning

* Requirements Gathering
* Page Mockups and Presentation
* Database design
* Risk Analysis

Phase 1: Implement a website skeleton

* Develop a skeleton for the website, including a title bar, page structures, and a home page.
* Set up the technology (PHP server, database, page header/footer php files)
* Set up the user profile/login capability
* If time, implement some features
  + A sample input field
  + A sample trend graph

Phase 2: Full Feature Implementation

* Implement forms for full data capture and storage
* Implement graphs for data trend analysis
* QA testing for all website features
* Usability testing and evaluation

### Communication:

will be achieved via weekly in-class meetings, and virtually via Gmail and a WhatsApp group. All documentation and code will be version controlled and stored online in an accessible location (GitHub and B.U. Blackboard). The weekly meetings will focus on progress since the last meeting to ensure that objectives and features are on schedule, and to mitigate any delays through reassignment of resources.

### Objectives and Priorities:

The objective of this project is to create a wellness monitoring website in by December 7, 2015 with a budget of $0.

Customer input and technical simplicity are the priorities for this project – the list of data point categories will be suggested by the development team, but ultimately approved by the customer. The architecture of the website will remain open enough to facilitate additional fields desired by the customer after phase 1 implementation is presented.

### Risk Management:

A risk management plan will be developed during phase 0 and maintained for the duration of the project, with identified risks and plans for mitigation or avoidance for each risk. This document will be reviewed at each in-class meeting.

### Monitoring and Controlling:

Project Tracking: at each in-class meeting, the schedule will be reviewed, and resources reallocated to meet deadlines. The project will be monitored via website (either Trello or pivotalTracker), and will be monitored by the customer (Professor Czik) via weekly individual and group report submissions.

Version Control: Achieved using GitHub repository

Communication of change: achieved during in-class sessions and via Gmail.

### Schedule and Deadlines:

|  |  |
| --- | --- |
| **Event** | **Due Date** |
| Project Kickoff & Concept Development | September 26, 2015 |
| Charter Presentation & Approval | September 28, 2015 |
| Requirements Review | September 28, 2015 |
| Design Review | October 5, 2015 |
| Phase 1 Review – website skeleton is reviewed by the customer. Login, homepage, and title bar should be complete. | October 19, 2015 |
| Phase 2 Review – website is reviewed by the customer, with input and trend analysis functions. | November 16, 2015 |
| Website Implementation Complete. | November 23, 2015 |
| Operational Readiness Review Complete. | December 6, 2015 |
| Project Acceptance Review | December 7, 2015 |

## Quality Assurance (QA) Plan

### Software Quality Metrics

The QA leader is responsible for tracking metrics:

* Bug count (& priorities)
* Fix rate (how long is each ticket open)
* Compliance with requirements
* Customer satisfaction
* Development priority (what % of development time is spent on bug fixes?)

### Defects Tracking

Defects tracking will be implemented via online free tool. Tools are currently being considered, with Axosoft, Trello and Pivotal Tracker as contenders. Defects will be categorized by priority by the lead developers and the project manager during in-class meetings, and assigned to developers to fix over the next week.

### Inspection/Review Process and Testing (QA)

All developers are expected to test their own code prior to check-in and after check-in. If bugs are discovered each team member is expected to document the bug via bug tracking software. The project manager and the lead developers will review the bug tracker at each in-class meeting to determine allocation of resources for debugging.

The front-end and back-end developers are expected to check out the code on a weekly basis and run checks (black box and code analysis) on all new commits and new features. They will monitor the bug log

The QA leader is responsible for managing black-box testing, and ensuring (through exploration of the site) that each link is functioning and the site is orderly with correct strings. The QA leader will work with the requirements leader to ensure that the site meets all stated requirements that were communicated to the customer.

## Configuration Management (CM) Plan

### Configuration Tools

Configuration Management will be controlled through Git repository. Each document will contain a version log (with editor, date and revision bump). Each software commit will be documented in Git and in a release notes (readme file) format.

### Change Management

In addition to version control through Git, the project will contain a “README” file, which documents each commit and the reason for each change/addition. Each team member will check out code from the main branch, and commit back to the main branch a working update. The lead front end developer will check every week that the code in the main line branch runs successfully, and is in charge of debugging (or having the project manager assign debugging) to correct the code base. All commits will be reviewed by the lead front-end and lead back-end developers.

## Project Charter

(adapted from template developed by V. Kanabar of Boston University)

|  |  |
| --- | --- |
| **Project Title:** | **FitApp** |
| **Organization** | CS673-SW ENG Team 6 (FitApp Team) |
| **Start Date** | 9/26/2015 |
| **End Date** | 12/7/2015 |
| **Project Champion** | Team 6 Collective. Focus will be directed by the project manager and by the customer (the customer is represented by Professor Czik). |
| **Concept, Description** | SWENG Team 6 is creating a website which will input health and fitness data, and will provide a means for tracking and analytics of that data. The site is intended to complement fitness hardware (including Fitbit, jawbone pedometers) and fitness planning for general use. The goal is to provide a platform to input data points from multiple sources (heart rate, sleep rate, weight, diet, pedometer measurements) and output a comprehensive picture of overall health and wellness change over time. |
| **Business Case Overview / Project Justification:** | This site will provide a useful interface for future wellness hardware development, and will allow single-focus companies (like a pedometer manufacturer) access to total-body data points to increase the effectiveness of prediction algorithms and device interaction with the device wearer. |
| **High Level Requirements** | A website that allows a user to:   * create a profile * input wellness data points * Display change over time of the wellness input data points.   A website that allows a company to:   * See data points from multiple wellness sources and develop tailored recommendations to increase fitness. |
| **Success Criteria & Who Measures** | 1. Clear website design that is easy to use. Measured by project manager, customer review, QA representative and usability tests. 2. Website has the fields for input from multiple types of sources (user reporting, hardware reporting). Measured by QA representative. 3. Website provides platform for data analysis. Success measured by a class presentation/Professor and stakeholder input. |
| **Stakeholder List** | Executive stakeholder: Prof. Czik  Stakeholders:  PM Genevieve LaFrance:  Jiachen Huang:  Rasha Altamimi:  Amal Kadi:  Ian Holgate:  Will Dunn: |
| **Project Budget** | $0  Resource Allocation: 6 part time developers ($0 labor costs due to student developer hours) over 11 weeks. |
| **Milestones** | |  |  | | --- | --- | | **Milestone Description** | **Due Date** | | Project Kickoff & Concept Development | September 26, 2015 | | Charter Presentation & Approval | September 28, 2015 | | Requirements Review | September 28, 2015 | | Design Review | October 5, 2015 | | Phase 1 Review | October 19, 2015 | | Phase 2 Review | November 16, 2015 | | Website Implementation Complete. | November 23, 2015 | | Operational Readiness Review Complete. | December 6, 2015 | | Project Acceptance Review | December 7, 2015 | |
| **Deliverables** | * Project Charter * Requirements Document * Wireframes for Review * Completed Website * Website Presentation on Dec 7, 2015 |
| **Scope Overview** | Create a wellness monitoring website due 12/7/2015 with a budget of $0. |
| **Risks** | * Complete data IT security may be outside the development knowledge base & capabilities of team 6. The development team may need to rely on outside pre-written web security examples. * Communication in-person may be limited. This risk will be mitigated through establishment of communication tools (email, GIT, blackboard, WhatsApp group) |
| **Assumptions** | * The customer will accept use of a web application framework (Twitter Bootstrap or Zurb Foundation) to support display on desktop and mobile browsers. * The project team 6 will rely on class time for the majority of in-person communication. Software design and implementation decisions will be validated via majority vote after discussion. |
| **Assigned Project Manager, Responsibility and Authority Level** | PM: Genevieve LaFrance  Responsibility: Activity and resource planning, schedule development, risk analysis and management, progress reporting via weekly quad reports, quality review.  Authority: project manager will submit quad reports on behalf of Team 6, incorporating updates and feedback from each team member. The project manager will reassign team roles if development schedule is overrun to allocate development hours to areas of implementation. The project manager will also report changes to the priorities of feature implementation at the beginning of each phase. |
| **Signatures** | *Primary Stakeholder*  Professor Czik:  *Team 6 Stakeholders*  PM Genevieve LaFrance:  Jiachen Huang:  Rasha Altamimi:  Amal Kadi:  Ian Holgate:  Will Dunn: |

1. http://money.cnn.com/2015/06/17/investing/fitbit-ipo/ [↑](#footnote-ref-0)