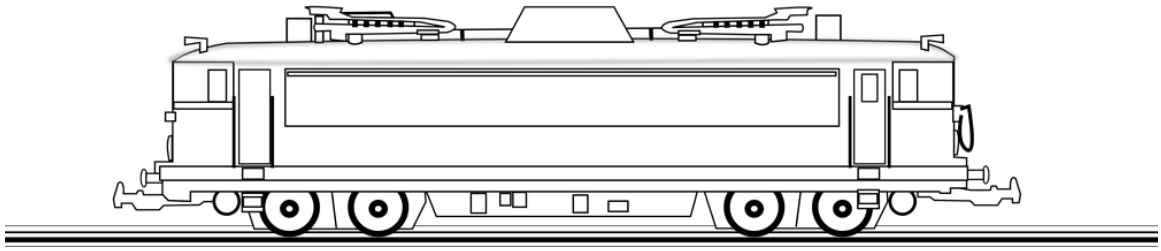
Locomotion Software



Software Engineering
Software Requirements Specification (SRS) Document

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http://www.radford.edu/~softeng16/
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Revisions

Version	Primary Author(s)	Description of Version	Date Completed
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Review & Approval

Requirements Document Approval History

Approving Party	Version Approved	Signature	Date
Project Manager	1.0	Nicholas A. Seamans	3/26/2014
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Requirements Document Review History

Reviewer	Version Reviewed	Signature	Date
Group Member	1.0	Kayla Evans	3/26/2014
Group Member	1.0	Dai Kim	3/26/2014
Group Member	1.0	Joey Robbins	3/26/2014
Group Member	1.0	Ben Zepp	3/26/2014

Contents

1. Introduction

1.1 Purpose of this document

The purpose of this document is to outline the requirements of the RU Fit app. The app is being created for those who exercise on a regular basis and to to keep notes on their progression. The intended audience of this document is anyone who has a need for a calender based note taking application for their exercise regimen.

1.2 Scope of this document

Describes the scope of this requirements definition effort. Introduces the requirements elicitation team, including users, customers, system engineers, and developers. This section also details any constraints that were placed upon the requirements elicitation process, such as schedules, costs, or the software engineering environment used to develop requirements.

The requirements election team for this document are Nicholas A. Seamans and Joey Robbins (Project and assistant project manager). The system engineers and developers will consists of the same individuals and include all team members (including Ben Zepp, Kayla Evans, and Dai Kim). The users and customer base will consist of the same group and will mainly be Radford university students with the possibility for several users outside the university.

There are no real occurring monetary costs associated with the project. The project is expected to be delivered by the end of

1.3 Overview

The RU Fit application will function as a note taking application based on a monthly and daily calender. It will allow the user to choose a month, day of the week, and hour to record data about their intended exercise regimen. The system will also have a simple calculator built in that will output the data for the expected amount of burned calories for each exercise.

1.4 Business Context

Ru Fit will be Sponsored by Radford University. Radford University

2. General Description

2.1 Product Functions

The RU Fit app will take notes based on the 365 day calender and will allow users to calculate the amount of calories burned with each exercise

2.2 Similar System Information

There are no apparent systems with the same functionality as RU Fit, however there are several systems that contain similar elements.

GAIN Fitness: allows users to set and schedule routines with or without weights and equipment. It allows users to target specific body areas or get other kinds of workouts. It's work out recording system is more robust than our planed system but it does not have the calender features of our application. It is also only available on Iphone or through the

web.

Map My Fitness: This application keeps track of several metrics pertaining to exercise including pace, elevation, and the amount of time the exercise has been performed. It's feature set deals strictly with what the user is experiencing. It again does not include a calender and does not have the ability to record anything based in the future or provide alarm services for the user. It is also a paid service, charging $5.99 a month and $29.99 a year.

One of the most prevalent categories is applications based on recording running and cycling data. These applications include Strava Cycling, Runmeter PRO, Nike+. Each of these apps records distances and keeps metrics on the performed exercises. Each has the feature to record the amount of calories burned but lacks almost every other feature planned for Ru Fit.

2.3 User Characteristics

Describes the features of the user community, including their expected expertise with software systems and the application domain.

The Expected user base is Radford university students and staff with the need for a calendar to record exercises. Each user will already be adapt with how to use a calender and the features of their phone which RU Fit will not extend past. RU Fit is expected to have limited use beyond the Radford campus even though it will be available to the general public.

2.4 User Problem Statement

This section describes the essential problem(s) currently confronted by the user community that creates a need for your system.

There are not many systems available to record workout data currently. This is causing users to have to write down everything into a notebook and to rely on themselves to adhere to the written schedule. Also doing this does not allow users to calculate the amount of potential calories burnt to be calculated easily without additional resources.

2.5 User Objectives

This section describes the set of objectives and requirements for the system from the user's perspective. It may include a "wish list" of desirable characteristics, along with more feasible solutions that are in line with the business objectives.

Each user will require that the application keeps an accurate schedule of their intended exercise routines with a simple and reliable calorie tracking system. The user will also expect the application to accurately track the time of the exercise and to provide an alarm if requested. The application must also be simple and fast to use for the user and not bury them in metrics and menus.

2.6 General Constraints

The application will perform the calculations needed without notice of slowdown to any user. It must be designed to documented standards of any development environment used including Java, Phonegap, Html5, and an api's that may incur use with those environments.

RU Fit will support Android platforms provided in the last 4 years and ideally will be lightweight enough to be handled by any system.

3. Functional Requirements

This section lists the functional requirements. Functional requirements describes the possible effects of a software system, in other words, *what* the system must accomplish. Other kinds of requirements (such as interface requirements, performance requirements, or reliability requirements) describe *how* the system accomplishes its functional requirements. Each functional requirement should be specified in a format similar to the following:
<<include some type of criticality scale: i.e. 1= Low to 5=High or green=Low to red=High>>

1. **The RU fit application will be able to record exercises and repetitions.**
    1. **Description**
       RU fit will have a calendar layout that the user will be able to click on a specific day where they will be able to access an exercise and fill in how many repetitions with a certain weight they accomplished that day.
    2. **Criticality**
       This is the most important requirement for RU Fit. This is the main reason people will use the application.
    3. **Technical issues *****
       After the user inputs the numbers, the system may not save the users information.
    4. **Risks**
       The device memory might be at capacity, which would not allow the application to save the workout information. The device can have alerts when memory is almost full as well as have the option to reserve portion of the phone memory to the application.
    5. **Dependencies with other requirements**
       This requirement will depend on the calendar portion of the application. If the calendar does not work, the user will not be able to record the data.

2. **RU Fit will have an alarm alert system.**
    1. **Description**
       RU Fit will have an alarm system that the user will be able to set to be notified when they should go to the gym and also when they plan on eating.
    2. **Criticality**
       This requirement is important because people want to have a schedule time when they want to go to the gym and also when they want to eat to maximize outcomes of working out.
    3. **Technical issues**
       The phone may not have alarm sounds enabled. The phone may have alarm sounds on low so the user would not be able to hear it.
    4. **Risks**
       Daylight savings time could affect when the alarm would normally go off. This can be reduced by having the application give out a notice that daylight savings will affect the time of the next alarm.
    5. **Dependencies with other requirements**
       The alarm alert system will depend on the android clock system.

3. **RU fit will have an overview "look" to see the improvement they have made.**
    1. **Description**
       The user will be able to click overview button on an exercise and they will see their past performances for that exercise.
    2. **Criticality**
       This feature is important because it will allow users to see their improvement
    3. **Technical issues**
       The calendar as well as the recording part of the application has to be in working order to be able to look at the overall view of the users work in the gym.
    4. **Risks**
       If the user is saving the information incorrectly the overview will be incorrect and not be accurate. The user can make sure the information they are entering is correct.
    5. **Dependencies with other requirements**
       This requirement will depend on the recordings made by the user.

4. Interface Requirements

4.1 User Interfaces

The opening scene of the application will have options like calendar, notes, overview, and alarm. The user will then be able to touch calendar to access the days of the month. From here the user will click a certain day and fill in what exercises they have done that day and also how many repetitions as well as weight used. The notes part of the application will have a place for the user to add notes dealing with their workouts and what they will like to do in the future or that day. The alarm system will allow the user to set alarms to know when they want to go to the gym and also when they should eat their next meal.

4.2 Hardware Interfaces

The application will be accessible through the touch screen on an Android device. The alarm portion of the application will access the android clock and alarm system already in the device.

4.3 Communications Interfaces

This application will not communicate with other users using the same application. This app however will communicate with the android device in ways like the alarm and time.

This application will not communicate with other users using the same application. This app however will communicate with the android device in ways like the alarm and time.

5. Performance Requirements

• Response Time – The RU Fit app should take approximately 10-15 seconds to load. Once an icon is clicked it should take about 5 seconds to

• Workload – Installs will be 10,000,000-50,000,000 bytes.

• Scalability – Updates will be available as the app grows in popularity for

every increment of 10,000. This will allow for more memory and fixes that need to be made.

• Platform – RU Fit will be for software android versions 2.2 and up.

6. Other non-functional attributes

6.1 Security

The System shall not disclose and personal information about the costumers.
The Application shall not grant Access to an unauthorized user.
The Application shall not communicate with any other devices or servers while in use by the user.

6.2 Reliability

The Application Shall not crash or close under any circumstances.
The Application shall be able to recover in the event of a system failure in at least the time it takes to close the application and restart.
The Application shall recover after a system crash in no longer than 5 minutes.

The Application Shall always be available to be used by the user.

6.3 Maintainability

The Application Shall Be maintained by the developers in unison with System or hardware updates.
The Application shall be modified by the Developers if the application is found to have a flaw or bug.
If the Application is to be changed, The Application shall go through detailed testing to determine the Reliability and Security of the Application.

6.4 Portability

This Application and its data should not be transferred to any other devices.
The Application shall be available for download onto any android system via the android app store.
The application shall not share the same data from and system to any other system by any means or data transfer.
The Application shall be able to be downloaded and shall perform without error in the presence of other android applications.

6.5 Extensibility

The Application Shall be modified with only minor changes to previous code.

The Application Shall not be modified during run time or execution of the application.

6.6 Reusability

This Application shall provide instructions on how to use the application.
This Application shall be available for download on Android devices running software version 2.3.3 or above.

6.7 Application Affinity/Compatibility

This Software Shall be compatible with any Android powered device running Android version 2.3.3 or above.
This Application should only ever use 50mb of RAM while running.
This Application shall only require 15mb of RAM to run with full functionality and speed.
This Application shall not exceed a window size of 10 inches
This Application shall not support a pixel density of more than 200 DPI

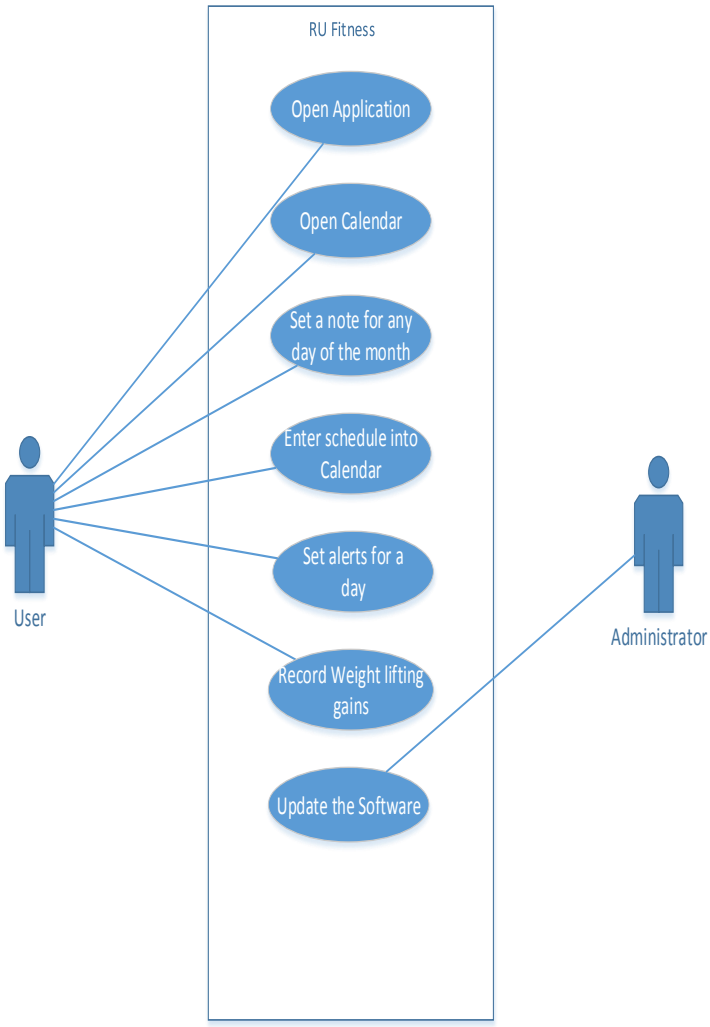
7. Operational Scenarios

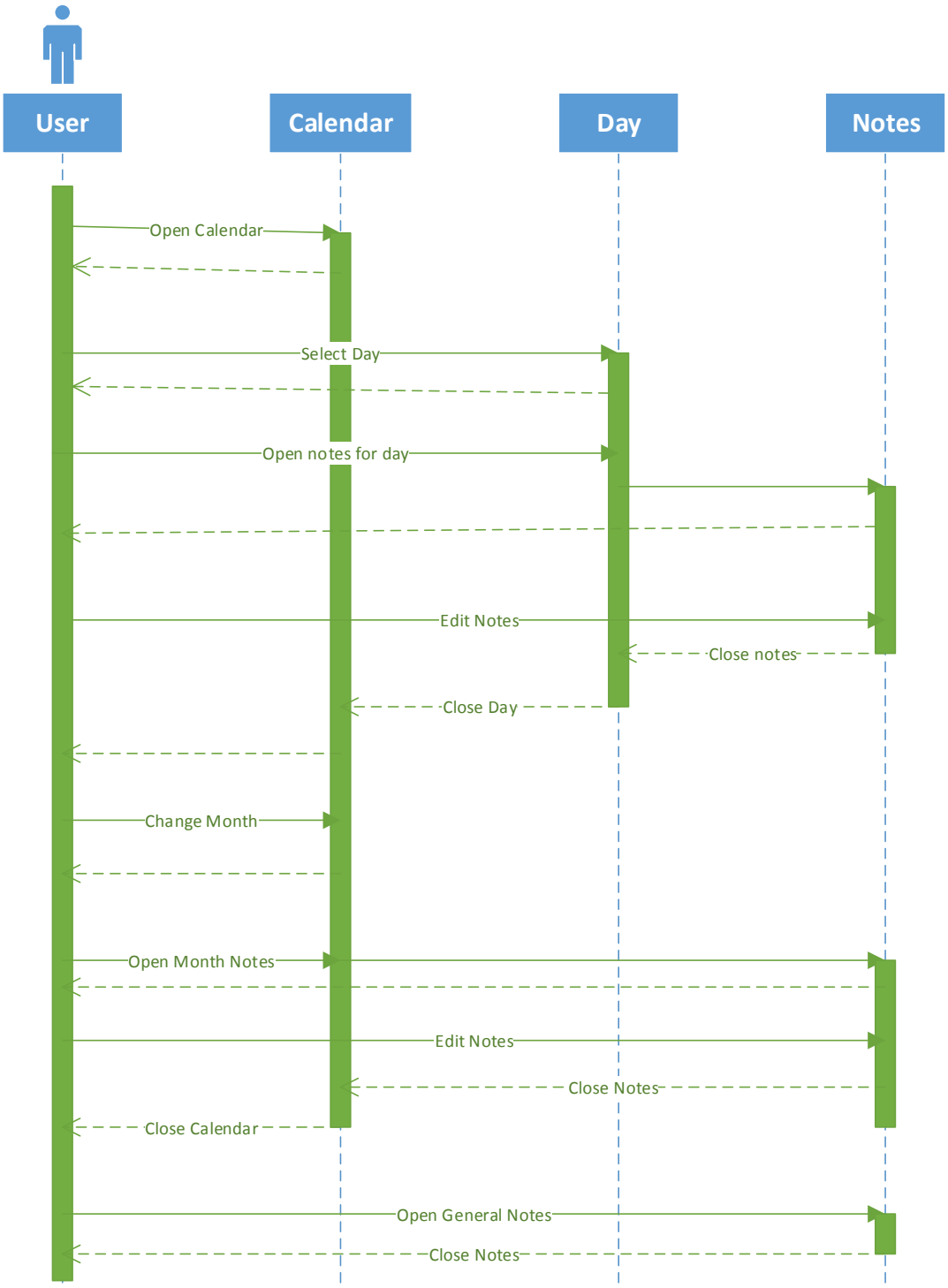
Scenario 1:
User opens the Application
User Selects the calendar
User selects a day of the current month shown
User Selects to set a not for the selected day
User types a workout routine in the notes
User selects to set an alarm
User enters in a time for the alarm
User presses enter
User exits day window
User exits Calendar
User Closes the Application

Scenario 2:
User opens the Application
User Views notes for the current date
User closes Application

Scenario 3:
User opens the Application
User Selects the calendar
User Selects a previous month (change calendar year)
User selects a day
User views the note for that day
User exits Calendar
User closes Application

8. Preliminary Use Case Models and Sequence Diagrams


RU Fitness
Open Application
Open Calendar
Set a note for any day of the month
Enter schedule into Calendar
Set alerts for a day
Record Weight lifting gains
Update the Software
User
Administrator


User
Calendar
Day
Notes
Open Calendar
Select Day
Open notes for day
Edit Notes
Close notes
Close Day
Change Month
Open Month Notes
Edit Notes
Close Notes
Close Calendar
Open General Notes
Close Notes

9. Updated Schedule

This section provides an up-to-date version of your team's project plan, including the major tasks to be accomplished, their dependencies, and their tentative start/stop dates. The plan also includes information on hardware, software, and resource requirements.

The project plan should be accompanied by one or more PERT or GANTT charts.

10. Appendices

10.1 Definitions, Acronyms, Abbreviations

Provides definitions of unfamiliar definitions, terms, and acronyms.

RAM- Random-Access Memory: A form of computer data storage.

DPI- Dots Per Inch: measure of the number of pixels that can be displayed in a line within one inch.

11.2 References

Provides complete citations to all documents and meetings referenced or used in the preparation of this document.

Foresquare. (2014). Retrieved March 25, 2014 from Google play: https://play.google.com/store/apps/details?id=com.joelapenna.foursquared