Software Requirements Specification

for

Collaborator

Version 1.0

Prepared by

Group Name: Team Collaborator

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Date: October 25, 2019

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Revisions

Version	Primary Author(s)	Description of Version	Date Completed
Version 1.0	Brian Koga Kyle Trimbo	Initial Version	10/25/19

1 Introduction

Collaborator is a web application that helps find team members for software developers and hobbyists. It has features that cultivate this idea such as profile pages for users, project pages to help present ideas, as well as an advertisement section to help find projects or team members. In this section of the document you will find the purpose, scope, intended audience as well as terminology used later in the document that will aid the reader.

1.1 Document Purpose

This document provides the functionality and scope of Collaborator version 1.0. The document includes information about the software such as users, hardware and software interfaces, and design constraints. Also included is a list of the features that will be available to the user as well as requirements of the web application, divided into functional and nonfunctional sections. This is a living document and is subject to change according to the progress of the application as well as the revision number. This is currently release number 1.0.

1.2 Product Scope

Collaborator is a web application with features that helps software hobbyists or developers find team members to complete projects. It can be difficult to find team members with differing skills and values to complete a team, so Collaborator attempts to fulfill this need. It purposefully aims for developers that are not looking for a job but rather projects that would interest them in their free time as not every project and team will be able to compensate them with monetary value.

The goal of the web application is to create a hub for software developers to find others who have similar interests and to be able to collaborate and finish software projects. However, since there are plenty of other websites focused on finding jobs in the industry, this is more focused on personal studies and presenting one’s work to find potential collaborators.

1.3 Intended Audience and Document Overview

This document is intended for the developers involved with the project, the client or prospective investor as well as the professor for this course. To get a good overview of the project, it is best to start with sections 2.1 and 2.2. These sections describe the functionality as well as the perspective of the project.

1.4 Definitions, Acronyms and Abbreviations

AJAX: Asynchronous Javascript and XML, allows web pages to exchange data with a server without reloading the page

1.5 Document Conventions

In general this document follows the IEEE formatting requirements. Throughout the entire document it uses Arial font size 11 except for section titles. For section titles use Arial, bold, size 18 to easily distinguish sections. For the subsection titles use the same format for section titles but at size 17 to make it less prominent than the section titles. The margins are 1" and the document text should always be single spaced. Always have each title section start on a new page to keep them in an organized manner.

1.6 References and Acknowledgments

This section is not applicable as no other documents or web sources are referenced here.

2 Overall Description

2.1 Product Perspective

Collaborator is a self contained product. The user will be the primary environment that will interact with the software; figure 1 shows the interconnections between them.

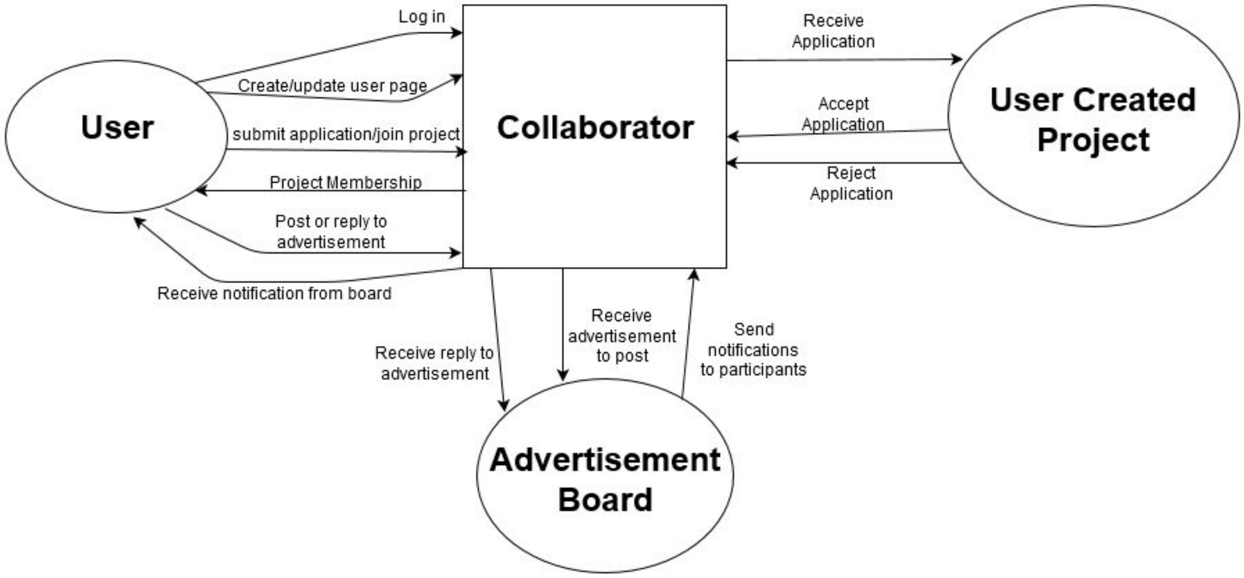

Log in
Create/update user page
submit application/join project
Project Membership
Post or reply to advertisement
Receive notification from board
User
Collaborator
Receive Application
Accept Application
Reject Application
User Created Project
Receive reply to advertisement
Receive advertisement to post
Send notifications to participants
Advertisement Board

Figure 1: Context diagram showing the different subsystems and the environment.

2.2 Product Functionality

- User login and user authentication.
- Create user and user page.
- Customizable user page with various inputs
    - Proficiencies, skills, name, image and experience.
    - Ability to have a showcase of projects they are currently contributing to.
    - Peer reviews
        - Users may leave reviews if they are part of the same project.
        - Three different ratings
            - Inept: this user had poor skills and contributed very little.
            - Proficient: this user contributed well and exhibited good skills.
            - Outstanding: this user went above and beyond and contributed greatly as well as exhibited great skills.
- Advertisement board
    - Allows users to advertise themselves or their project.

  - Users with good ratings will show up higher on the board.
- Project pages that present the scope, ideas, and goals of it as well as shows the current active team members.
  - Customizable section with design documents
    - Ability to have private and public files.
  - Users may "upvote" projects. Most popular projects are showcased on landing page.
  - Application system.
    - Private projects
      - Applications are required and must be accepted to be a part of a project.
      - Files uploaded are automatically set to private.
    - Public projects
      - Anyone can join, no need for applications.
      - Files uploaded are automatically set to public.

2.3 Users and Characteristics

The typical user would be one familiar with programming and computers in general. There may be some users who are graphic designers or have other skill sets but they would not be the average user. All of the functions of the site would cater to the software hobbyist or developer to foster good teams. Corporations may even have a use for the site as a potential hiring ground but that is not the primary purpose of the site and would not necessarily cater to them unless there is high enough demand.

2.4 Operating Environment

As it is a web application, it will be developed primarily for the most popular web browsers. The operating system will not be a hindrance due to this, however, having a layout for mobile as well as desktop browsers to have the most friendly user interface would be desired if time allows it. The minimum requirements would be having a modern internet browser.

2.5 Design and Implementation Constraints

The largest constraint will be the framework the developers utilize as their experience is limited. Taking the time to learn java script along with a framework will consume the most time as well as learning database systems if time allows. Security considerations would be imperative if this project goes in to the long term, however, the focus will be on creating the functions and features to make the web application work. For programming standards, we will use ESLint with a preconfigured configuration file such as the airbnb one.

2.6 User Documentation

There will not be any user-manuals developed, however, there will be help fields programmed in to the web application if features are not straight forward enough. The developers will be utilizing the react.js framework so the documentation for that will be used sufficiently.

2.7 Assumptions and Dependencies

Developing a web application will cause some problems with the user interface across different platforms and web browsers. Utilizing cross platform standards for programming should alleviate most of this, however, it will not always be perfect. Developing for the most popular browser will be the most imperative and if time allows fixing those cross platform issues will come second.

- If the web application is accessed from a mobile device, present a different view to the user that is more user friendly.
- The deadline for development for this project is a little over a month.
    - This may cause the web application to suffer by not being able to have full functionality that is presented in this document.
- The primary dependency for this application will be the web browser used.
- The web application will be developed for the most popular web browsers.
    - This may have cross platform issues if not using cross platform programming standards.

3 Specific Requirements

3.1 External Interface Requirements

3.1.1 User Interfaces

The main interface of the application will be the product advertisement board. That page is where users can browse advertisements/projects posted by other users, and a way to create their own posts. As the system will need to tell the difference between users, it is necessary to have a profile interface where new users can create profiles and all users can change information about them such as projects they've worked on and skills they have.

3.1.2 Hardware Interfaces

Since this is a web application it does not have any hardware interfaces. It will be interacting with the web browser rather than the hardware directly.

3.1.3 Software Interfaces

As this is a web application that is focused on connecting people rather than downloading files, there won't be very much interaction with the operating systems. The only interactions might be uploading files and that interaction with the operating system will be handled by the web browser.

3.1.4 Communications Interfaces

Since users will need to be able to interact with each other, it will be necessary to have network connectivity. Additionally, to be able to load and save data, the application will need to communicate with a server using some protocol. The current plan is to use AJAX for communication with the server. For the account login verification it would be ideal to have some form of security, though at this point all that will be done is hashing passwords.

3.2 Functional Requirements

3.2.1 User Requirements

3.2.1.1 The system shall provide the user the ability to login to their account using a personal password.

3.2.1.2 The system shall provide new users the ability to create accounts including username and password.

3.2.1.3 The system shall provide users the ability to customize their profile page, including sections related to skills and experience, and projects they have worked on or are currently working on.

3.2.1.4 The system should allow users to leave reviews about other users only if they worked on a project together.

3.2.1.5 The system shall allow users to create new projects to be posted to others with fields like description, progress and what they are looking for.

3.2.1.6 The system shall allow users to view specific projects created by other users.

3.2.1.7 The system shall have some way for users to comment on a project/message a user about a project they are interested in working on.

3.2.2 Advertisement Board Requirements

3.2.2.1 The system shall display recently posted projects that display the name, username of project creator, project rating, and who they are looking for.

3.2.2.2 The system should allow sorting/filtering of the data based on date posted, user rating or project rating.

3.2.2.3 The system shall have a way for users to upvote created projects that they like, even if they are not working on them.

3.2.2.4 The system shall provide a way for users to click on specific postings to view more details about the project.

3.2.3 Project Page Requirements

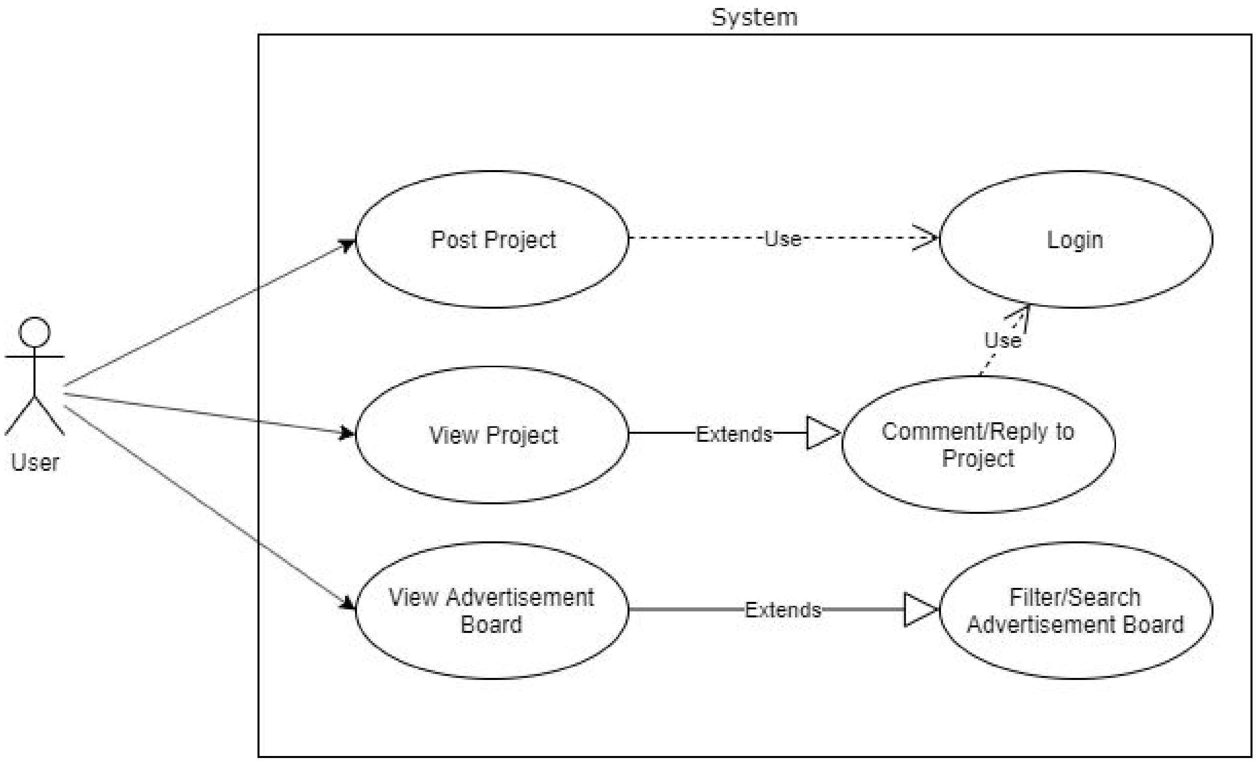
3.2.3.1 The system shall display information that was provided when the project was created, including a description, progress made, what the poster is looking for collaborators and information about the poster.

3.2.3.2 The system shall provide a way for users viewing the page to indicate they are interested in collaborating on the project.

3.2.3.3 The system should have a way for users viewing the project page to leave feedback about the project.

3.3 Behaviour Requirements

3.3.1 Use Case View



Users: Anyone who views the web page, could be registered users or first time visitors.

Login: Allows the user to enter their username and password which are verified.

Post Project: Users create projects that they are looking for collaborators on.

View Project: Users can view specific project pages created by others (or themselves).

Comment/Reply to Project: Extends view project so users viewing projects made by others can comment on the project or indicate that they would like to collaborate.

View Advertisement Board: Allows users to view projects created by other users.

Filter/Search Advertisement Board: Extends view advertisement board and allows users to view a subset of the advertisements based on filter parameters.

4 Other Non-functional Requirements

4.1 Performance Requirements

4.1.1 When the advertisement board is being updated (change in filters/search) it should not take more than 2 seconds to load.

4.1.2 The create account/sign in buttons shall be prominent and always present on the view, even if scrolling down on the advertisement board.

4.1.3 When creating an account all of the necessary fields should be presented on one page.

4.1.4 The create a project page should have clear instructions about what kind of information goes in each field.

4.1.5 Each field on the create project page will have an info button that when hovered over explains more about the field and maybe provides an example.

4.1.6 When going back from viewing a project to viewing the advertisement board, the filter/search conditions should be maintained.

4.2 Safety and Security Requirements

The system does not really deal with any private information and the purpose of the application is to advertise yourself or your project so the majority of the information is meant to be public. There are however, a few security requirements:

- Users should not be allowed to log into an account unless they have the correct password.
- Users should not be able to edit a project unless they are the one who created it.
- Users should not be allowed to rate other users unless they worked with them on a project.
- Certain user data that is provided when creating an account, but not needed to be seen by other users should not be accessible.

4.3 Software Quality Attributes

4.3.1 Reliability

4.3.1.1 The search/filter function of the advertisement board should return correct results 99% or the time.

4.3.1.2 When going to a project page from the advertisement board, the correct project should be displayed 100% of the time.

4.3.1.3 When someone indicates they would like to collaborate on a project, that information is sent to/displayed for the user who created the project 100% of the time.

4.3.2 Availability

4.3.2.1 The web application should be available for view/use 98% of the time.

4.3.3 Maintainability

4.3.3.1 The application should be designed and implemented in a way that makes it easy to extend and add more functionality.

4.3.3.2 The application should be designed in a modular way so that there is no need for redundant changes.

4.3.4 Portability

4.3.4.1 The application shall work correctly for the google chrome browser.

4.3.4.2 The application should work correctly for the other major web browsers.

4.3.4.3 The application will be designed and implemented in a way that changes how it is presented if viewed on a mobile browser.

Appendix A - Group Log

October 10: Initial group meeting, introduced ourselves and talked about what experience we had. Decided to come to the next meeting with project ideas.

October 15: Different project ideas were presented, eventually we settled on the one detailed in this document. We talked about what kind of functionality it could have, how difficult implementing some of those functionalities might be, etc. Decided to spend the next 2 days further thinking on details of the project.

October 17: Finalized the plan for the project, specifically deciding which functionality we definitely wanted so we could implement those first incase we ran out of time.

October 22: Decided what the SRS should look like in general and how we were going to split up the sections.

October 22-24: No in-person meetings, but work continued on the SRS (in google docs) with communication about which sections looked good and which needed a bit more explaining.

Note: The final SRS was committed to GitHub, but the actual creation of the document was done on google docs to allow concurrent editing.