WASHINGTON STATE UNIVERSITY
VANCOUVER

SOFTWARE REQUIREMENTS SPECIFICATION

for

Group Calendar

Version 1.0

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Revision History

Name	Date	Reason For Changes	Version
Joseph, Jakob	10/16/19	Title Page	0.01
Joseph, Jakob	10/25/19	Requirement Specs	1.0

1. Introduction

1.1. Purpose

The purpose of this System Requirements Specification document is to provide a complete and thorough definition of the Group Calendar web application. This includes the purpose of the application, its usage, and general features. It will also detail the constraints, limitations, and intended audience of the application.

1.2. Project Scope

This software is a web application that allows groups of Users to quickly and easily view a calendar displaying shared availability. Its primary use will be for groups of Users to plan meetings and events around multiple busy schedules, minimizing reschedules and rain-checks.
By highlighting only available time, it will be easy to find appropriate time blocks, even with large groups of busy individuals.

1.3. Intended Audience and Reading Suggestions

This document is intended for our professor, developers on the project, and future customers interested in the product (Not end Users). Developers should read sequentially with a focus on the requirements in chapters three and four. The professor should focus on chapter two and the use case diagrams. Interested customers should also focus on chapter two and dig in to the later chapters for more detail on the specific requirements that this product meets.

1.4. Definitions Acronyms and Abbreviations

- .ical - A standardized calendar file format used by the system.

- User - A person accessing the calendar with the intent to use its features.

- Group - A collection of Users, grouped together for the purpose of viewing a Group Calendar.

- Group Calendar - A calendar displaying group-wide common unscheduled time blocks.

- Group Member - A User who is a member of a group, but not that group owner.

- Group Owner - The User who created a given group.

- Admin - A person related to development and maintenance of the web application.

- WSUV - Washington State University, Vancouver campus.

1.5. Document Conventions

In this document, requirements with "shall" are assumed to be of higher priority than requirements that are written as "should". Additionally, the User types outlined in the "Users and Characteristics" section of this document will appear capitalized.

1.6. References

"iCalendar.org - iCalendar Resources, Specifications and Tools," iCalendar.org - iCalendar Resources, Specifications and Tools. [Online]. Available: https://icalendar.org/. [Accessed: 26-Oct-2019].

2. Overall Description

2.1. Product Perspective

The Group Calendar web application is a stand-alone web app. It consists of a web interface allowing Users to see commonly unscheduled time blocks between Users in Groups, and a database which stores the information. The database is broken into 2 categories:

- Users
  - Individual Calendars
  - User Information
  - Groups

- Groups
  - Members
  - Group Calendar

2.2. Product Functionality

- Register / log-in functionality - Allow User to create a profile, or log into an existing profile, where User data will be stored.

- Import calendar files - Users import existing .ical files, which are stored in database for creation of Group Calendars.

- Manage Group membership - Users can view, create, or leave Groups. Group admins may invite Users to existing Groups.

- View Group-wide common availability - Group members are presented with a common calendar, showing time blocks where none of the selected Users have events scheduled.

- Filter Users from consideration - Users may narrow the selection of Users being considered when creating and displaying the Group availability calendar.

- Select time scale - User can change the calendar view to differing time scales, for example monthly or weekly view.

- Select Group view - Users that are members of multiple Groups can select which Group Calendar they wish to see.

2.3. Users and Characteristics

- Non-User – A potential future User who has not yet crated an account.

- User – This User has signed up for an account. They have access to all the basic functionality of creating and managing calendar Groupings.

- Group Member – Is registered. Accepted an invite to a Group.

- Group Owner – Is registered. Created a Group. Can manage Group members.

- Admin – Must have special permission and/or access to the database. Performs maintenance on the database.

Registered Users are more important than guest Users and admins.

2.4. Operating Environment

The operating environment for this application is an in-browser application. The application is intended to run on a desktop web browser, so mobile usability is not a priority. Due to the in-browser usage of the application, operating system and platform should not affect usability.
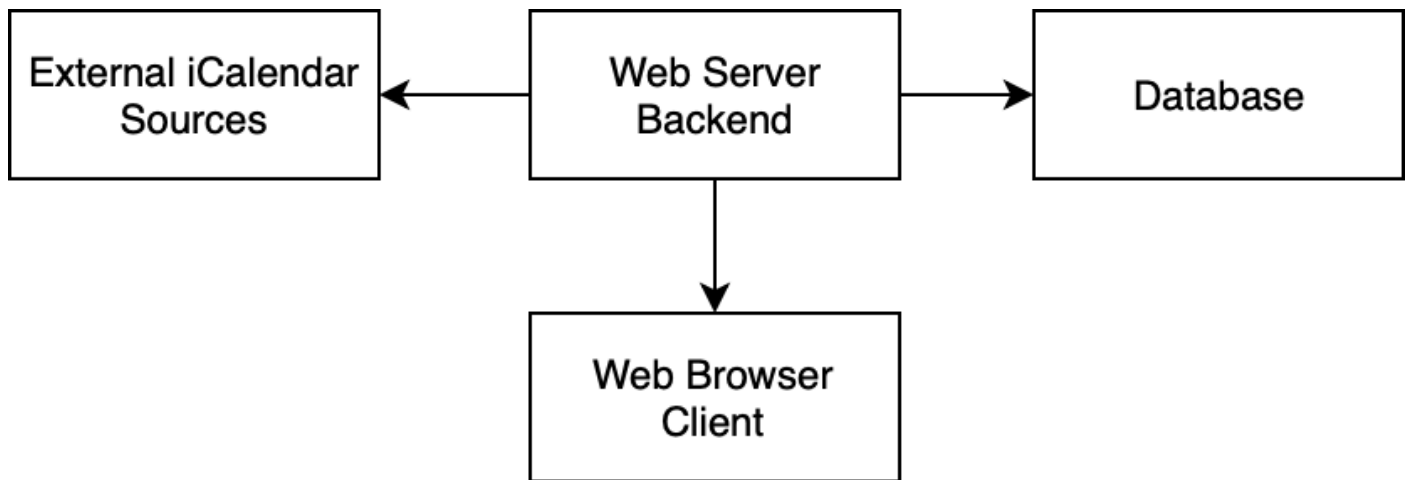

Figure 2.1.: Environment Diagram

2.5. Design and Implementation Constraints

For this system, our max performance and implementation is constrained by what can be accomplished on the WSUV lab computers. As they are our targeted minimum, going beyond their capabilities is not an option. We are also limited by our user interface. As loading times are a priority in order to maximise usability, our interface cannot be taxing to load on a moderate internet connection.

2.6. User Documentation

For the purpose of this application, a complete user manual is unnecessary. Given the limited number of actions available to each User and simplicity of the interface,the application should be able to be used by the User immediately, provided the User is familiar with the scope of the application. For this reason, a landing page with a brief description of the application, and an FAQ page will be the extent of the User manual.

2.7. Assumptions and Dependencies

1. The system will rely on the .ical standardized calendar file format to be imported from a preexisting calendar.

2. It is assumed a given Group will not exceed 50 members.

3. It is assumed a given User will not be a member of more than 50 Groups.

3. Specific Requirements

3.1. External Interface Requirements

For the primary user interface, the User will be presented with a calendar view. The calendar can be presented in either a monthly or weekly view. Along the left edge of the calendar will be clickable tabs representing the different Groups the User is a member of, which by clicking, the User can change which Group focus they are interested in viewing. Along the right side will be similar tabs representing the various Users and sub-Groups that are members of the same Group that is selected. These tabs can be selected to filter out selected Users from consideration. At the top right, the User can find links to manage their settings and profile.

3.2. Functional Requirements

3.2.1. User Management System

1. The system shall allow non-Users to create accounts using a Username and password.

2. The system shall allow Users to log in with their Username and password

3. The system should allow Users to change their password

4. The system should allow Users to change their Username

5. The system should allow Users to delete their account

3.2.2. Calendar Import System

1. The system shall support importing calendars from Apple's implementation of the iCalendar format.

2. The system shall support importing calendars from Google's implementation of the iCalendar format.

3. The system should support importing calendars from arbitrary implementations of the iCalendar format.

4. The system shall list the name and URL of the User's previously imported calendars

5. The system shall allow the User to remove a calendar from their profile

6. The system should allow the User to manually refresh their calendars.

7. The system will allow refreshing of calendars automatically as changes become available

3.2.3. The Groups System

1. The system shall allow Users to create Groups with a name and password.

2. The system shall allow Group owners to issue invitations by a link.

3. Non-Users who click an invite link will be directed to the registration page.

4. After registering for an account through an invitation link, the system shall add the User to the Group.

5. The system shall allow Users to join Groups by clicking an invitation link.

6. The system shall allow Group owners to remove members from the Group.

7. The system should allow Group owners to change the Group name and password.

8. The system shall allow Group owners to delete a Group.

9. The system will allow Group owners to leave a Group.

10. The system shall not allow Group members to remove other members.

11. The system shall allow Group members to leave a Group.

3.2.4. The Calendar System

1. The system shall allow the User to view time blocks that are available on a week-style view.

2. When in week mode, the system shall allow the User to change the selected week forward or backward.

3. The system shall allow the User to view time blocks that are available on a month-style view.

4. When in month mode, the system shall allow the User to change the selected week forward or backward.

5. The system shall allow the User to view time blocks that are available by selecting specific Users.

6. The system will allow the User to view an aggregate set of time blocks from a selection Users and calendars.

7. The system should treat events that are not marked 'busy' as nonexistent and should consider them available.

3.3. Behavior Requirements

- Create Account - A New User without an account can create one.

- Accept Group Invite - A User can accept a group invite from a Group Owner and be placed into a Group. a New User will first be prompted to create an account.

- Log in - A User with an account will be required to enter log-in information to acces the application.

- Manage Account - A User can import and manage calendar files, view their Group memberships, and delete their account.

- Manage Calendar Feeds - A Group Member may select which Group they wish to view, and which Group Members they wish to filter out.

- View Shared Availability - A Group Member can view shared availability on the main calendar feed for a selected Group they are a member of.

- Manage Group - A Group Owner can change a Group name and password, invite Users and New Users to the Group, and remove Group members from the Group.
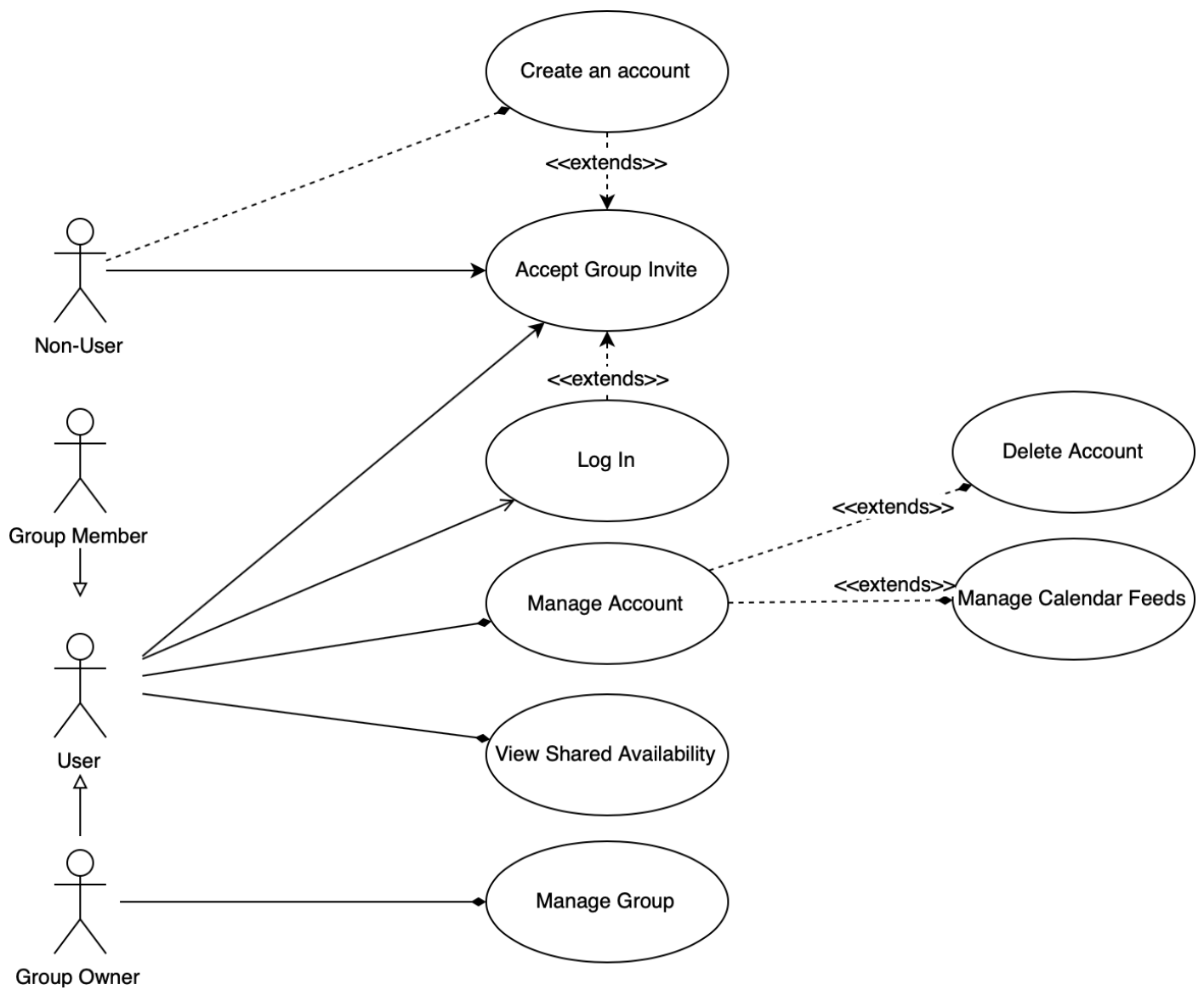
Figure 3.1.: Use Case Diagram

4. Nonfunctional Requirements

4.1. Performance Requirements

1. Any action should not take more than 10 seconds to perform, assuming User has a healthy internet connection.

2. The system should clearly identify when it is loading or processing information with a loading indicator.

3. The system shall run without issue on Washington State University Vancouver lab computers.

4.2. Safety and Security Requirements

1. The system shall not access a User's calendar event names or descriptions, only the dates and times of individual events.

2. The system shall not make any changes to a User's original calendar import, only copy relevant information from the file into a simplified form.

3. The system shall not store a User's calendar file in any way, and shall keep it only until the simplified file is created.

4.3. Software Quality Attributes

4.3.1. Reliability

1. The system should be available 24/7 to the User, outside of scheduled maintenance down times.

2. The system should be able to handle many concurrent Users without experiencing usage interruptions.

3. Each Group should maintain full performance with 50 or less members.

4.3.2. Portability

1. The system shall be fully usable on a desktop computer in a Google Chrome browser.

2. The system should be usable on a desktop computer in other common browsers such as Safari and Firefox.

3. The system will not support mobile accessibility.

4.3.3. Usability

1. Most User functions should be accessible from the main page of the application, without having to navigate through several pages.

2. The system should perform most of it's loading upon initial log-in, to allow switching pages quickly without experiencing loading delays.

4.3.4. Interoperability

1. The system shall accept calendar imports from the WSUV Blackboard calendar format.

2. The system should accept calendar imports from other common calendar applications.

5. Other Requirements

The system will require use of a relatively small database. This database will be responsible for storing User profiles and Groups. The calendar files imported by the system will be highly condensed, so very little storage space will be needed.

The web application will conform to GDPR by allowing Users to delete their account and all their stored information from their profile screen.

A. Group Log

Theme	Hours
Brainstorming	1 hour
Interface outlining	1 hour
Use Case diagram	1 hour
Initial Document prep	0.5 hours
Some Individual Document Sections	3 hours
Finish Document	6 hours