PolitiMap:
Software Requirements Specification
version 4.0

CPE 307 Group 5
California Polytechnic State University
San Luis Obispo, CA USA

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Contents

Credits

Name	**Date**	**Role**	**Version**
Alanna Buss, Andrea Savage, Kevin Pham, Frank Poole, Michael Lenz, and Dat Tran	October 5, 2015	Authors of template document	1.0
Yash Mehra	October 6, 2016	Document Owner and Author	1.1
Andrew Gilbert	October 6, 2016	Author	1.1
Jason Yoon	October 6, 2016	Author	1.1
Devon Grove	October 6, 2016	Author	1.1
Matt Goodrich	October 6, 2016	Author	1.1

Revision History

Name	**Date**	**Reason for Changes**	**Version**
Alanna Buss	October 13, 2016	Initial format for requirements document	1.0
Yash Mehra	October 13, 2016	Added introduction content and updated formatting	2.0
Jason Yoon	October 13, 2016	Added Use Cases	2.1
Jason Yoon and Matt Goodrich	October 14, 2016	Added Flowchart	2.2
Yash Mehra	October 14, 2016	Added System Requirements	2.3
Yash Mehra	October 14, 2016	Added Non-Functional Requirements and External Interface Requirements	2.4
Yash Mehra	October 14, 2016	Fixed Use Cases formatting	3.0
Jason Yoon	October 14, 2016	Fixed External Interface Requirements and UI Requirements	3.1
Andrew Gilbert	October 14, 2016	Added my use case and tweak formatting	3.2
Andrew Gilbert	October 14, 2016	Proofreading and corrections.	3.3
Andrew Gilbert	October 15, 2016	Spelling, grammar, and structure review. Final check for submission.	4.0
Devon Grove	October 15, 2016	Customer Segment improvements and additional proofreading.	4.1

1 Introduction

1.1 Purpose

This Software Requirements Specification describes the functional and nonfunctional software requirements for an application that brings local, regional and national political information to a user's mobile device. This document is intended to be used by the members of the project team who will implement and verify the correct functionality of the system. This document will also be viewed by our professor, Dr. Clark Turner.

1.2 Intended Audience and Reading Suggestions

1.2.1 Software Development Engineers

Developers will primarily reference the functional and nonfunctional requirements. These requirements correspond to the features to be implemented. For the purposes of implementation, it may also be helpful to reference use cases.

Suggested Reading Sequence:

1. Overall Description
2. System Features
3. Use Cases
4. External Interface Requirements
5. Other Nonfunctional Requirements

1.2.2 Software Product Owners and Customers

The user segment served by this project is the citizen and legislator population of the City of San Luis Obispo, California. Within this user segment exists two primary demographics: a user base between the ages of 35 and 50 (middle-aged), and a user base between the ages of 18 and 22 (college students at California Polytechnic State University.

1.3 Project Scope

Initially, the application's only function will be to view current bills in the San Luis Obispo City Council.

Following a successful initial release, following releases are expected to add the ability to display current bills in the San Luis Obispo County Supervisors, followed by the California State Legislature and the US Congress. Push notifications will be added to

notify users when a new bill is introduced. Further expansion to cover more geographical locations would be possible.

1.4 References

1. Vision and Scope
   `https://docs.google.com/document/d/1hyrRutAoTPR2VO-z9vAM3607bGrHKqxODCZUUu3c8WM/edit`

2 Overall Description

2.1 Product Perspective

The application will provide local, regional and national political information based on the address provided by the user. The information will be displayed in an uncluttered, readable, and simple format. User-preferred locations will be able to be saved, edited, and deleted.

2.2 Product Features

2.3 User Classes and Characteristics

User Class	**Description**
Local voters	View bills that may affect them and when such bills will be up for vote. View bills at different levels of government.
Local activist groups	Make bills affecting their causes more widely known. Finding and supporting politicians who support their position.
Local government officials	Will likely receive more calls from voters if the application succeeds. Not direct users of the application, but directly affected by the popularity of the application. In later versions of the application, may be able to notify users of requests for public comment.

2.4 Operating Environment

This project will produce an iPhone mobile application aimed at users across the United States. Since our initial target audience is limited to a domestic one, the geographic distribution will not be such that servers at multiple locations will be necessary. Instead, the application will request relevant information using REST calls to a backend that provides the information in JSON format.

All information will be stored in JSON files since the data is static and read-only. Given the scope of this project, a secure database is unnecessary and setting one up is a waste of resources. Should the application evolve into an interactive one, a database should not be difficult to retrofit, as our backend will be serving JSON via HTTP GET calls, which can be generated from a database just as easily.

At this stage, we have not explored revenue streams for our business model besides advertising. At present, allowing user access for free reduces our obligation to users, avoiding some of the potential consequences of a major service outage. We do not anticipate server load to be unbearable, as we expect PolitiMap to be accessed only once or twice a day per user.

2.5 Design and Implementation Constraints

1. The initial version of the mobile application will be ported to the iPhone App Store only, as it will be written in Swift.

2. The initial backend data will exist as static JSON files served from a web server.

2.6 User Documentation

TBD

2.7 Assumptions and Dependencies

2.7.1 Assumptions

1. Voter involvement with local politics is poor.

2. Increased involvement with local politics is beneficial.

3. Voters lack information in order to be more involved with local politics.

4. The rationale for poor voter turnout is local political ignorance.

2.7.2 Dependencies

1. Ability to get data on bills in a machine-parsable format (even if that is initially plaintext with custom code to parse it)

3 Use Cases

3.1 User Stories

Case ID	Description
??	As a frequent traveler, I want to be able to save multiple locations within the app so I can easily access the information on where I travel the most.
??	As a Cal Poly student, I want to be able to view policy positions of local politicians so I can become encouraged to participate in local politics and make informed decisions in local elections.
??	As a new voter, I want to be able to view previously-passed bills, so I can understand how politics have evolved and develop context for future bills.
??	As an international student who is not familiar with US politics, I want to be able to pinpoint bills that influence me, so I can be aware of my political position.
??	As a Cal Poly student, I want to be able to find the agenda for the city council meeting tonight so I can make my voice heard.

Use Case ID	1
Use Case Name	Save Locations
Created By	Yash Mehra
Last Updated By	Andrew Gilbert
Date Created	2016-10-06
Date Last Updated	2016-10-15
Actors	The PolitiMap App
Description	Save multiple locations on the home page of the application

Preconditions	1. The location is currently supported by the app 2. The app is open 3. The app is on the home page
Postconditions	1. The app shows the saved location on the home page. 2. The app should be able to access the location and show its political information when tapped
Normal Flow	1. The user opens app 2. (Alternative flow 1) 3. The app loads locations saved by the user 4. The user views saved locations
Alternative Flows	Alternative flow 1 1. The user searches a new locations 2. The user chooses to save the location
Priority	High
Special Requirements	
Assumptions	All locations can be found

Use Case ID	2
Use Case Name	Display Policy Positions
Created By	Devon Grove
Last Updated By	Andrew Gilbert
Date Created	2016-10-07
Date Last Updated	2016-10-15
Actors	The PolitiMap App
Description	View policy summary of given local politician on active issues

Preconditions	1. The user's location is currently supported by the app 2. The user has chosen the city council member to evaluate 3. The user has selected "Policy Positions" from menu options
Postconditions	1. The app displays a summarized list of policy positions on active local legislation, and lists a "position not available" message if position is indeterminate
Normal Flow	1. The user opens the app 2. The user specifies their location, or a cached location is processed 3. The user selects "Politicians" from the lower UI menu 4. The user selects their chosen politician from the "Your Representatives" list 5. The user navigates to "Policy Positions" using the UI menu
Priority	Medium
Special Requirements	None
Assumptions	Policy positions will be available publicly through government or council member's website

Use Case ID	3
Use Case Name	View Federal Bills
Created By	Matthew Goodrich
Last Updated By	Andrew Gilbert
Date Created	October 6, 2016
Date Last Updated	October 15, 2016
Actors	1. The Application User 2. The PolitiMap App 3. The Backend Server

Description	The application shall display a list of federal bills and further information about each upon selection.
Preconditions	1. The device is connected to the internet. 2. The backend is loaded with the organized data. 3. The device has the application downloaded, updated, and open to the home screen. 4. The backend server is running, whether it be an AWS component or EC2 instance.
Postconditions	1. A list of federal bills will be shown and likely scrolled-down, or the details of a specific bill will be showing. 2. A request will have been made to the AWS component or EC2 instance. 3. TBD - The federal bills may be cached in the user's device.
Normal Flow	1. The user chooses to view the list of bills relating to their local, state, and federal governments. 2. A GET request is made to the web server while the user sees a loading animation. 3. The user selects to filter the list of bills to show only federal bills. 4. The user scrolls through the bills and notices an interesting one. 5. The interesting bill is selected and the user reads related information, including a summary, associated representatives, and links to related external documentation.
Alternative Flow	1. The user selects a federal bills list instead of filtering a combined list. 2. The bills are loaded upon opening the application and only refreshed manually. 3. The bill information does not include associated representatives. 4. The bill shows dynamic data, such as votes and comments.

Exceptions	1. Unable to load the bills through the lack of an internet connection.
Includes	1. An external library to make the GET request.
Priority	High - One of the core functions of the application.
Frequency of Use	Depends on the number of users and other variables.
Business Rules	None
Special Requirements	1. The application requests the data asynchronously. 2. The device is an iPhone 5 or newer. 3. Specific bill information is loaded with a GET request after a bill is selected.
Assumptions	1. Viewable federal bills exist in the backend. 2. Representatives have been linked to associated bills. 3. Documentation links have been added to associated bills.
Notes and Issues	None

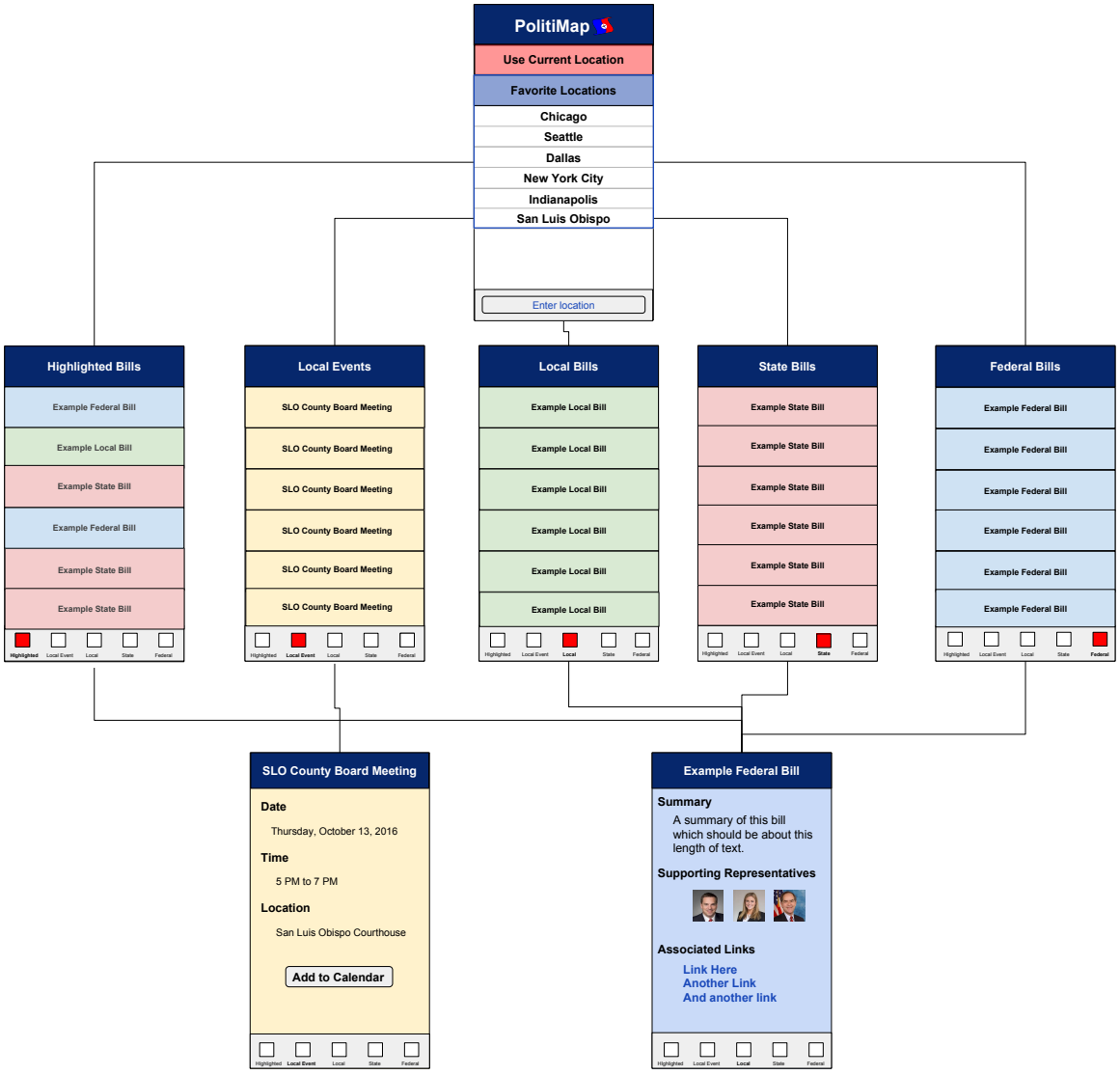
Use Case ID	4
Use Case Name	View bills that influence foreign students
Created By	Jason Yoon
Last Updated By	Andrew Gilbert
Date Created	October 6, 2016
Date Last Updated	October 15, 2016
Actors	1. The Politimap App 2. The Backend Server
Preconditions	1. The device is connected to the internet and the app is downloaded. 2. The app is opened showing the main page.

Postconditions	1. One of the menus should direct the user to a new page. 2. The page will contain bills that are related to foreign students.
Normal Flow	1. The user opens the app 2. The user navigates to the menu where it says "foreign students" 3. The user is able to scroll through the list of bills and save them in the bookmark
Alternative Flow	None
Special Requirements	None
Priority	Low

Use Case ID	5
Use Case Name	Display Agenda
Created By	Andrew Gilbert
Last Updated By	Andrew Gilbert
Date Created	2016-10-06
Date Last Updated	2016-10-15
Actors	The PolitiMap App
Description	Display the agenda for the next City Council meeting
Preconditions	1. The user has chosen a location which has a city council 2. The location is currently supported by the app 3. The app is open 4. The user has chosen "City Council Meeting" from the list of events.
Postconditions	1. The app shows the agenda for the next City Council meeting for the selected location.

Normal Flow	1. The user opens app 2. The app requests data from server 3. (Alternative flow 1) 4. The app displays a list of upcoming events 5. The user chooses the City Council item
Alternative Flows	Alternative flow 1 1. Read data from cache
Priority	High
Special Requirements	None
Assumptions	Council meeting agendas will be available for all supported locations
Notes and Issues	None

4 Flowchart


PolitiMap
Use Current Location
Favorite Locations
Chicago
Seattle
Dallas
New York City
Indianapolis
San Luis Obispo
Enter location
Highlighted Bills
Example Federal Bill
Example Local Bill
Example State Bill
Example Federal Bill
Example State Bill
Example State Bill
Local Events
SLO County Board Meeting
SLO County Board Meeting
SLO County Board Meeting
SLO County Board Meeting
SLO County Board Meeting
SLO County Board Meeting
Local Bills
Example Local Bill
Example Local Bill
Example Local Bill
Example Local Bill
Example Local Bill
Example Local Bill
State Bills
Example State Bill
Example State Bill
Example State Bill
Example State Bill
Example State Bill
Example State Bill
Federal Bills
Example Federal Bill
Example Federal Bill
Example Federal Bill
Example Federal Bill
Example Federal Bill
Example Federal Bill
SLO County Board Meeting
Date
Thursday, October 13, 2016
Time
5 PM to 7 PM
Location
San Luis Obispo Courthouse
Add to Calendar
Example Federal Bill
Summary
A summary of this bill which should be about this length of text.
Supporting Representatives
Associated Links
Link Here
Another Link
And another link

5 System Features

5.1 Data Transmission

5.1.1 Description and Priority

The data format must be standardized for each location level: local, regional, and national. Data must be available to the system every time a call is made.

5.1.2 Stimulus/Response Sequences

Stimulus	Once a location has been provided and the user has accessed it, the application will make a REST API call to the back end framework.
Response	The system will provide the data in the specified JSON format as a response to the REST API call.

5.1.3 Functional Requirements

Requirement ID	Description
FR-1	The system shall load data in the JSON format specified in an appendix (TBD).
FR-2	The system shall fetch the data using REST.
FR-3	The system shall only load JSON data for the locations selected by the user.
FR-4	The data on politicians shall be verifiable and completely accurate.

5.2 Address Setting

5.2.1 Description and Priority

The system will store the saved and preferred locations on the user's device. The address of the location and information about its associated governmental levels will be stored. The address information stored can be manipulated by the user.

5.2.2 Stimulus/Response Sequences

Stimulus	The application is on the home page and the user searches for a new address.
Response	The application verifies location, queries the server for associated governmental levels, and stores the new information.

5.2.3 Functional Requirements

Requirement ID	Description
FR-5	The system shall have local storage mechanisms for stored user locations.
FR-6	The system shall be able to read and write new data to the local storage mechanism according to the user's preference.

5.3 Address editing

5.3.1 Description and Priority

The user information is under the user's full control. The user should be able to add, edit and delete any user information. Users will not be able to edit the requested data from saved locations, only the addresses of saved locations.

5.3.2 Stimulus/Response Sequences

Stimulus	User chooses to edit address.
Response	Option to change address or delete it completely from the application.

5.3.3 Functional Requirements

Requirement ID	Description
FR-7	The system shall store user locations only on the user's device.
FR-8	The system shall not allow the users to edit the information received from the server about bills.

FR-9	The system shall not allow the users to edit the information stored on the server about bills.

6 External Interface Requirements

6.1 User Interfaces

For additional information about user interfaces, refer to the flowchart above.

UI Requirement	Description
UI-1	The homepage will display a list of favorite locations and a search bar. It will also display a menu to search based on the current location.
UI-2	The "Highlighted Bills" page will display a list of highlighted bills at the Local, State, and Federal levels of government. At the bottom of the page, it will display tabs that link to other pages. It will also indicate the current page.
UI-3	The "Local Events" page will display a list of local events. At the bottom of the page, it will display tabs that link to other pages. It will also indicate the current page.
UI-4	The "Local Bills" page will display a list of local bills. At the bottom of the page, it will display tabs that link to other pages. It will also indicate the current page.
UI-5	The "State Bills" page will display a list of state bills. At the bottom of the page, it will display tabs that link to other pages. It will also indicate the current page.
UI-6	The "Federal Bills" page will display a list of federal bills. At the bottom of the page, it will display tabs that link to other pages. It will also indicate the current page.
UI-7	The "Description" page will display the details of the selected item. It will also display tabs that link to other pages.

6.2 Hardware Interfaces

The only hardware interface requirement is induced by the software interface requirements:

HI Requirement	Description
HI-1	The user device must be an iPhone 5 or newer.

6.3 Software Interfaces

SI Requirement	Description
SI-1	The user OS must be iOS.
SI-2	The user system shall have access to the Apple App Store.
SI-3	The application shall be updated through the Apple App Store.
SI-4	The application shall be written in Swift.

7 Other Nonfunctional Requirements

7.1 Performance Requirements

PR-1	The system shall load each page in under 2 seconds.
PR-2	The system shall have zero memory leaks.
PR-3	All bills will be updated within 1 day of receiving new information.

7.2 Security Requirements

CR-1	User location information shall be secure.

7.3 Software Quality Attributes

SQ-1	The system tests shall be repeatable