

Customer Requirements

Shumoku 種目

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Problem Statement

Design a website that allows users to find and post local events. Due to Google Map licensing constraint, this website must be public facing. Event goers will search for events in a given geographical area. They will have the ability to filter events according to their preferences. When viewing a listing of events, event goers will see both a textual listing and a map displaying the location of listed events. Google Maps will provide hosting for the map display. Event organizers will be able to add events. They will provide location, time and other event information. Shumoku must provide storage and display of this information to event goers.

Methods

Team Shumoku's goal for this assignment was to get in the head of the customer's. Our development team first started the requirements process by pretending we were the customers. Through the use of Google Docs, we brainstormed requirements that we would like Shumoku to have. Since we have more than one person writing at once, we were able to get requirements down very quickly. Some requirements were inspired by brainstorming sessions from class workshops. After getting requirements down, we prioritized and analyzed the risks of those requirements.

One workshop causes us to analyze the domain of our system. We looked at the essential parts of Shumoku and what their attributes were. The result of our domain analysis can be seen in the Domain Model section of this document.

Finally, we asked the customers themselves what they would look for in a program like Shumoku. This was done through an anonymous online survey. We sent the survey to friends and family, but kept our survey anonymous to try to minimize the risk of bias answers. To host the survey, we used a free online surveying tool called SurveyMonkey. The survey resulted in more risk analysis and new requirements we did not even think of. The results of this survey can be seen in the Survey Results section of this document.

Survey Results

Thirty surveys were completed. Below are five questions we asked and some their results:

1. What is your age group?

The majority of the people were surveyed were in the 20-24 and 25-30 age group (90.7%). This may be biased by the fact that our team and many of our friends are in that age range. However, we also consider these age groups to be our target demographic since they are more likely to be looking for events to go to.

2. Have you ever used an event finding service from any of the following online social networks? (Facebook, MySpace, Friendster, Orkut, LinkedIn, Craigslist).

Results:

Facebook	95.8%
Craigslist	33.3%
MySpace	20.8%
Orkut	20.8%
LinkedIn	16.7%

Looking at the results, it seems some people may have just selected the sites that they use, but do not necessarily use for finding events. However, we did not ask a follow-up question to confirm this.

From our survey, Facebook had a significant amount of users among our participants. This is making us lean toward making a Facebook application to interface with our website. This would take advantage of Facebook's popularity about our demographic.

3. What can be done to improve on those services?

This question led to many new requirements and support for existing requirements we had thought of. For example, one participant thought it would be nice to sync events from our website with an electronic calendar like Outlook. Another person suggested a recommendation based event finding system. Please see the Requirements section for a more complete analysis of this question.

4. When searching for an event, what criteria do you usually look for?

Some event attributes that of significance were:

Category(sports, music, etc.)	75%
Location/Venue	75%

This supported some of the required fields that we had in our prototype requirements.

5. What are some features that you would find helpful in an event finder?

Some features with significant support were:

View pictures or videos of the event	74.2%
See who's going	58.1%
Customizable maps	51.6%
Read feedback on the event	51.6%

We were surprised that viewing pictures and videos of the event was the highest on the list. We had mentioned it in a previous brainstorming, but did not feel it was worthy of a requirement at first. We now have it as an additional requirement and hope to implement if time permits.

Seeing who's going to the event was brought up in class by Bill and others. Although we originally did not want users because Shumoku was not meant to be a social network, we now hope to either make a simple user system or leverage Facebook through an application.

We actually did not mention to our survey participants that we were leveraging Google Maps, but it was nice to see that the feature is something users want. Feedback was also a feature that we had written down in our original requirements brainstorm. Our survey supported having this requirement.

Requirements

This section lists the requirements for Project Shumoku. We have divided requirements up into three subsections: Prototype Requirements will list requirements need for our initial prototype, which will have just limited functionality: adding and viewing events; Basic Requirements will list requirements needed for building a usable product; Additional Requirements are requirements needed for enhancements or extensions of our product, but may or may not be developed until future versions. The risks of additional requirements will be evaluated per iteration to decide whether it is recommended to be included in development. We have provided use cases for each requirement. We also provided rationale for requirements whose rationale may not be intuitive.

Prototype Requirements

Requirement 1. Shumoku should allow users to search for events on the site and have them displayed on the view page.

Search fields: Event name, Zip code or Address, City, State.

Rationale 1: The user may want to search for a specific event or events in different neighbourhoods.

Use Case 1: A user goes on the Shumoku web page. She enters zip code or an address and clicks on the "Search Event" button. Map of event location with event listing is displayed. The user selects the event(s) she is interested in.

Requirement 2. Shumoku should allow users to add events to the site and have them displayed on the view page.

Use Case 2. A user goes on the Shumoku web page. She clicks on the "Add Event" link. A form is displayed with the fields: Event Name, Time, Category and Location. The user fills out all required fields and submits the form. A verification page is displayed next with a preview of the user's input. The user clicks the OK button to verify her entry.

Requirement 3. Shumoku will require the following fields when adding an event: Event Name, Time, Location and Category.

User Case 3: A user goes on Shumoku web page. She clicks on the "Add Event" link. A form is displayed with the fields: Event Name, Time, Category and Location (other optional fields may also be displayed). The user fills in all fields, but leaves Event Name blank. She submits the page. A pop-up message displays saying that she must fill out the Event Name field.

Risk Analysis

- Our initial prototype will be very basic and probably won't be usable to actual event seekers and organizers. However, this is simply for presentation and a tool to help us with product design and usability testing.
- This is our first attempt at writing code for the prototype. We will be using tools like PDT that not all of us are familiar with. Also, the Google Maps API uses Javascript, which can be difficult to debug. This is a main reason why we kept requirements in this section to a minimum.
- We would like to have this initial prototype done by the end of Week 5. Therefore, time is also a risk.

Basic Requirements

Requirement 1. Shumoku should allow users to sort events that are found using the search engine and categorize them and display events on map and list events.

Sort results by: Distance, Event name, Time, Location, Category

Rationale 1: The user may want to sort listed events by Event name, Distance, Location, and Category (Sports, Music, Tech-Talks, Political discussions, academics, cultural, Town-hall meetings).

Use Case 1: A user goes on the Shumoku web page and searches for events. The search result is displayed in list with column names (Event name, Time, Location, Category, and Distance). She clicks on column name to sort the results.

Requirement 2. Shumoku should allow users to email/text message the selected events to maximum 5 destinations (email addresses or phone numbers).

Rationale 2: The user may want to email/text message selected event details to their mobile devices or friends. Most of the participants of our survey said they would be interested in this feature.

Use Case 2: A user goes on Shumoku web page and searches for events. She selects few events to attend and wants email/text message the event details to herself or friends. The listing of the events will have check-box next to each event and she can select at most 5 events and send them to 5 destinations.

Requirement 3. Shumoku should provide panning and zooming on the map.

Rationale 3: The user may want to see surrounding streets or events next to the event she is viewing.

Use Case 3: A user is viewing a list of all events in Pacific Beach on Tuesday night. She is looking at Taco Tuesday at PB Bar & Grill. She sees that its on Garnet Ave. She also sees that it is next to Mission Blvd. She also sees that the Tavern is also having Taco Tuesday, which she is also interested in.

Requirement 4. Shumoku will provide an optional Recommended Age field for events.

Rationale 4: Many events may be geared towards people of a certain age. For example, a German Ocktoberfest may be for people 21 and over. For parental convenience and to promote public safety, we will provide this field.

Use Case 4a: A user goes to the Shumoku website. She searches for events in her neighborhood, University City. Shumoku displays all the events in her area. She is 18, so she only wants the under-21 events. She filters out all pages that are 21 and over. A new display of events appears with all 21 and over events (such as events located at bars) filtered out.

Use Case 4b: A user goes to the Shumoku website and clicks on the "Add Event" link. A form is displayed with the fields: Event Name, Time, Category, Location and Recommended Age. She is a bar promoter wishing to promote a St. Patrick's Day

celebration at Callahan's Bar. She fills out all required fields. In the Recommended Age field, she enters 21 or over. She submits the form and verifies the entry.

Requirement 5. Shumoku should only display current and future events.

Use Case 5: A user goes on Shumoku web page and looks for events she can attend.

Requirement 6. Shumoku shouldn't allow users to create events in past.

Rationale 6: Users cannot attend past events.

Use Case 6: A user goes on Shumoku web page. She clicks on the "Add Event" link. A form is displayed with the fields: Event Name, Time, Category and Location. The user fills out all required fields and submits the form. A verification page is displayed next with a preview of the user's input. The user clicks OK button to verify her entry. The System will display an error message about that invalid time. Past events cannot be added.

Requirement 7. Shumoku should allow the user to specify the time-frame for the event search.

Rationale 7: Our survey results supported the fact that many users would benefit from being able to specify the timeframe for the events they are attending.

Use Case 7. A user is planning a vacation to San Diego in July and wants to see what events are going on during that time. On the search page, she clicks on the "Calendar" button and highlights the week July 20-27. Shumoku returns a list of events for that week. She sees that "San Diego Comic-Con" is during that week and clicks on the link to comic-con.org to buy her tickets online.

Requirement 8. Shumoku should display an error page when an action to the database fails.

Rationale 8. To combat the risk of database failure, we need to display something useful to the user.

Use Case 8. A user attempts to add an event. Upon submitting the request, the database does not accept the insert. Shumoku displays an error page to the user with useful information and a link back to the Shumoku home page.

Risk Analysis

- For Requirement 2, no one in our group has written a script to send messages to a cell phone before. This is a new technology, so time frame for this feature will need to be evaluated.
- Our database server is hosted by a third-party. If the database fails, we need to provide an error page. This is satisfied by Requirement 8.
- For this stage in the implementation, we will begin to incorporate more advanced features of the Google Maps API. Therefore, more Javascript debugging will be required.
- Once our basic requirements have been met, we will make Shumoku open to the public. This will help identify usability issues but also poses a risk that users' needs

are not satisfied. Also, this exposes Shumoku to malicious users that may try to exploit any bugs in the system.

- With higher traffic, Google Maps and our database will experience more stress. This may cause them to slow down or fail. Google will provide more service to handle additional volume upon request. As for our database, we may need to upgrade our server. Before our public release, performance and load testing need to be done.
- Requirement 2 gives users ability to send emails/text messages to friends. As Shumoku gains more users, people may use our site to spam people. We are already limiting the number of messages sent to combat this risk. In the future, we will add Captcha and other security features to prevent our site from being used maliciously (see Requirement 5 of Additional Requirements).

Additional Requirements

Requirement 1. Shumoku should allow users to provide latitude and longitude in addition to address for more precise location.

Rationale 1: Over 50% of our survey participants said they would like "more customizable maps" than those currently offered by most existing event search engines.

Use Case 1a: A user goes on Shumoku web page. She clicks on the "Add Event" link. A form is displayed with the fields: Event Name, Time, Category and Location. The user clicks on the "Enter Lat/Long" link next to the Location field. Addition fields for Latitude and Longitude appear under the field for Location. Links to help page on how to figure out latitude and longitude is also provided. The user enters the latitude and longitude. The user fills out all other required fields and submits the form. A verification page is displayed next with a preview of the user's input. The preview page includes a Google Map with a marker for the event. The user clicks OK button to verify her entry.

Use Case 1b: A user is creating an event and is specifying the location by address. Google Maps doesn't have the correct location for her address yet and she always ends up giving her friends her own directions. However, she notices that she can specify the latitude and longitude for her location. She follows the directions on the help page to find the correct location for her event. She's satisfied with the preview and posts the event.

Use Case 1c: A user wants her map to show the exact location of a building on campus, but it's not located near a street that Google Maps knows about. Shumoku allows her to specify the precise location using latitude and longitude.

Requirement 2. Shumoku should allow users to sign up for event reminders sent to their cell phone.

Use Case 2. A user notices a button labeled "Receive event reminders on your cell phone" and thinks that would be pretty useful. She clicks on the button and fills out a short form with her cell phone number. After submitting the form, Shumoku displays a verification page to make sure it has the correct number and event. The user clicks the OK button to verify her entry. Alternatively, the user can also have reminders sent to their email.

Requirement 3. Shumoku should provide additional event recommendations for users based on their interests.

Rationale 3: Several of our survey participants suggested that a recommendation system would be a desirable feature not currently in most existing event search applications.

Use Case 3a. A user has just finished searching for music-related events in her area. She sees a button labeled "Let Shumoku recommend an event for you". Intrigued, she clicks on it and Shumoku displays a list of events related to the events she previously selected but not necessarily about music. She clicks on a few of these events, which get added to her list/map.

Use Case 3b. A casual user brings up the Shumoku website but doesn't have any specific event or category in mind. She enters her zip code and clicks on the recommendation button, which brings up a list of popular events in her area. She sees an event that sparks her interest and decides to go to it.

Requirement 4. Shumoku should allow the user to plan a trip by providing directions to and from each event.

Use Case 4. A user has just finished selecting several events, which happen to be on the same day. She clicks a button that reads "Get Directions". Shumoku returns a page with a map and a list of directions that go to each event location in chronological order. The user can add additional locations (ex. starting address, friend's address) and drag/drop them in between the events locations. Shumoku automatically updates the directions to include these new locations. Then the user clicks on a conveniently located "Print" button.

Requirement 5. Shumoku should prevent users from generating fake events and spamming others.

Rationale 5: Several of our survey participants expressed concern with maintaining privacy. It is important that Shumoku address this issue, not just to satisfy its users but to protect the integrity of the system as well.

Use Case 5a. A user thinks it would be funny to post a bunch of fake events to confuse other users. After creating one fake event, she notices that Shumoku uses image-based captchas, which prevents her from using computer generated events. When she tries to create more fake events, she finds that Shumoku limits the number of events that she can post per day. She gives up and tries to play her prank on another site.

Use Case 5b. A user wants to spam a person she doesn't like by signing them up for event reminders. However, she can only send a limited number of reminders. When the other person notices these spam messages, she follows the link back to Shumoku and permanently unregisters her number to prevent future unwanted messages. If she wants to sign up for Shumoku event reminders in the future, she will have to verify her ownership of the cell number/email.

Requirement 6: Shumoku should set boundaries on the neighborhood for listings and map purposes.

Rationale 6: Since the events are displayed by neighborhood, Shumoku should not allow listing of events to be outside of a given neighborhood.

Use Case 6: A user goes on the Shumoku web page and views the San Diego Gaslamp district. She clicks on the "Add Event" link. A form is displayed with the fields: Event Name, Time, Category and Location. In the Location field, the user enters an address or latitude/longitude outside of an area's boundary like Downtown La Jolla. The user submits the form. An error page is displayed with a message conveying that the user has entered a location outside of the Gaslamp district. She will be given the option to switch to that neighborhood.

Requirement 7: Shumoku should set boundaries on the neighborhood for map panning and zooming.

Rationale 7: When viewing a neighborhood, it would not be useful for the user to wonder off the map to areas that would not have events.

User Case 7: A user goes on the Shumoku web page and views the UCSD main campus. She zooms out, but the zoom control is limited to three levels higher than the default zoom. She grabs the map and drags it up (north), but at a certain point, the map will stay in place.

Requirement 8: Shumoku should provide functionality to create recurring events.

Rationale 8: Event organizers may want to create weekly/monthly activities.

Use Case 8: A user goes on Shumoku web page to add a recurring event. She clicks on the "Add Event" link. A form is displayed with the fields: Event Name, Time, Category and Location. There is a button to make an event recurring event(weekly or monthly). The user fills out all required fields and submits the form. A verification page is displayed next with a preview of the user's input. The user clicks the OK button to verify her entry. The System will display an error message() that invalid time. Past events cannot be added.

Requirement 9: Shumoku should remove information about past events. (A database script will remove past events everyday).

Rationale 9: Users cannot attend past events.

Use Case 9: A user goes on the Shumoku web page and looks for events. Only current and future events will be displayed.

Requirement 10: Shumoku should provide caption dialog on the map to display important information about the event.

Use Case 10: A user searches for events in her neighborhood. She finds one close to her house and clicks the marker of that event. A dialog displays on the map with important information about the event such as address, time and a short description.

Requirement 11: Shumoku should provide user accounts that contain preferences and other information.

Rationale 11: User accounts will give users a more personal searching experience such as personal preferences and the ability to see if other users (their friends) will also be at the event.

Use Case 11: A user goes to the Shumoku website. Before searching, she logs into her personal Shumoku account. Shumoku will provide her with a list of recommended events based on past event-going history and personal preferences. Upon looking at information about one event, the user sees that some of her friends have confirmed that they will be attending. The user also decides to confirm that she is going, so other users (her friends) will know that she is going.

Requirement 12: Shumoku should provide way to sync selected event details to an electronic calender, Google Calendar or Outlook.

Rationale 12: Users may want add event details to their Outlook calender or PDA to get the event reminders.

Use Case 12: A user goes to the Shumoku website and selects events to attend. Shumoku will provide an option to add/sync the events to users' Outlook calendar.

Requirement 13: Shumoku should provide carpool information to the event goers.

Rationale 13: Users may want to share ride with friends to go the events.

Use Case 13: A user goes to the Shumoku website and selects events to attend. Shumoku will display which friends of the user are going to the event. Also, it will display carpool information of friends to share ride and/or split the gas cost.

Requirement 14: Shumoku should allow its users to upload pictures and videos of events they have attended.

Rationale 14: Over 70% of our survey participants expressed interest in being able to view media from the event. This feature would allow potential event goers to decide if an event is worth going to. Event organizers could use photos from the past (if it is a recurring or on-going event) to help promote their event.

Use Case 14: A user has just attended an event on Shumoku and took some awesome photos. She uploads some of her photos to the event's Shumoku page which other users browsing that event can view. After seeing her pictures, several people decide to go as well.

Requirement 15: Shumoku should allow its users to select different themes or styles when adding an event.

Rationale 15: From our survey, some participants expressed interest in being able to personalize the page for their event. By providing themes and styles, Shumoku users would be able to customize the look of the page to suit their tastes.

Use Case 15: A user is creating an event for a birthday party. She selects the "birthday theme" for her page to set the mood.

Requirement 16: Shumoku should provide "fuzzy search" for event look up.

Rationale 16: From our survey, some participants expressed interest in being able to search for events with misspelled event names and Shumoku will suggest correct event names.

Use Case 16: A user is searching for an event with partial/incorrect event name. Shumoku will return results to your criteria even if it is slightly misspelled.

Risk Analysis

- Additional requirements will take more time to develop. Risks for each requirement will be evaluated on an iterative basis. Project Shumoku hopes to implement as many of these requirements (and possibly more) depending on the time allotted.
- For Requirement 3, consumer research will need to be done to match what events should be recommended to the user.
- For Requirement 11, adding users and/or groups will take time to develop. Security features, such as the use of SSL or encrypted passwords, may be considered. To prevent problems to users not wanting other users to see her activities or confirmation, policies must also be implemented to allow only certain members to see their information. All these issues will spawn more requirements of their own. However, if we choose to implement Shumoku as a Facebook application, we would be able to use an existing user base as our own. This would simplify the task of providing security features, since we could use the existing user authentication provided Facebook.
- For Requirement 12, there is a technology risk in figuring out how to interface with electronic calendar software like Outlook, Google Calendar and PDA calendars.
- For Requirement 14, we will need to implement a way of storing media such as videos and picture. We could store it ourselves or have users provide links from third-party sites.

Domain Model

