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Bar Hopper 2
1.0 Introduction

This document defines the requirements for BarHopper. BarHopper is an Android application that will provide users with a simple, yet convenient way to view the details of bars in a particular area. The application will involve a community of users that work together to let other BarHopper users know about deals and events currently happening at different bars on any given day. Users will be able to create an account or login using Facebook. From there the user will be able to add their favorite bars to their “My Bars” tab, where they can view details and community feedback on all of their favorite places. The home screen of this application will be a live feed, where users can view and post comments about the bars in the area. If users are connected through Facebook, then they will be able to check-in to bars, as well as view where their friends are.

1.1 Goals and objectives

BarHopper’s main goal is to allow users to be able to view the details of a bar for any given day. The details of the bar will include deals and drinks at the bar, as well as a live feed of people posting what is happening at the bar. These posts may contain information about the bar to let other users know whether it seems like a good place to attend at that moment. Users will also be able to check-in to the bars, which will allow the application to give push notifications on when deals are beginning or expiring or if one of their friends has just checked-in to the same place within the day.

1.2 Statement of scope

BarHopper is a mobile application designed for Android devices that aims for saving money and time of the users. The inputs for the application will be limited to Android compatibilities. There will be many inputs available to the user, beginning with first logging-in to the application. From there they will have several options, such as creating or viewing a post, checking-in to a bar, adding bars to their “My Bars” tab, or viewing the details of any bar. Users will be able to customize parts of the application, such as whether they want to receive push notifications and the frequency of such notifications.

1.3 Software context

BarHopper will be a free application for any person that wants to view the details of a bar conveniently with real-time feedback. The application will only be available to users using an Android phone. The target audience for BarHopper will be people who often
attend bars or night clubs and want to save money when they go out, are looking to connect with others they know, or to find out where they would like to go. This audience is limited and the major parts of the application will only work when they are connected to the internet. There are marketing possibilities for this application, especially to bar owners who want to have advertisements on this application, as it would be the target audience for that such advertising.

1.4 Major constraints

The main constraint of the application is that users will need to have access to an Android device, as well as one that has access to the internet in order to use major parts. In order for users to have the ability to check-in to a bar, they will need to give permission to the application to enable the GPS or will manually enter location on their Android device. Users will need a small amount of available space on their device in order to download BarHopper, but most of the information involving their account and bar details will be stored on a server. Users will also need to have a Facebook if they want to have the feature to view where their friends are.

2.0 Usage Scenario

2.1 User profiles

The users of the BarHopper application will create a profile or use their Facebook account and include location information to show local bars to receive information about as well as the user's favorite bars. The users will be able to check in and post information in a social feed to show what is going on in the bars around the town and where the good deals are located. BarHopper will also supply the option to separate profiles for the Bars which will be handled by each Bar's management if they choose to. Bar accounts will not be able to post to the bar feed page of its bar or any other.

2.2 Use-cases

All use-cases for the software are presented.
2.2.1 Login/ Create Account

Upon first use, the user will be presented with both username and password fields as well as a button that says "Create an Account". The user can login or choose to create a new account. If the user needs to create a new account, the options of Facebook login or create a new account are presented. To login using Facebook the user will enter both the email address and password for their Facebook account.

To create a new account, the user will fill in fields to complete a registration form. The fields will consist username, password, and the option to include email. Lastly there will be a terms of service agreement that must be accepted. After registration, the user will be prompted the option to include their location. The user may enter the location or skip this step. The user will then be directed to the home screen.

2.2.2 Post to bar feed

The user will choose “Post” from the home screen button or on a specific bar page. From there the user will be prompted to enter a message, enter a bar, and use tags if desired. This post will then be visible to all others either nearby, connected to the user, or who have the bar listed as a favorite.

2.2.3 Checking in

The user can check-in to a bar at a certain location allowing your friends to see that you are there and join you. Checking in describes the act of broadcasting to
the users group members and other that they are physically in the bar that is selected. GPS or user input manually is required for check-in.

2.2.4 Add to My Bars
The user can create a list of bars they want to keep track of. A user will be able to search through a list of bars and add a bar if they want to see more feedback or deals from that bar.

2.2.5 Report a problem
The user will be able to report misconduct, bugs, misinformation, or abuse found in or on the application. An email will be sent with the report to an administrator account.

2.2.5 Delete account
The user will be able to delete his or her account at any time. This will include disconnecting their Facebook account from BarHopper if it has been connected. All account info will be erased from BarHopper when this happens.

2.2.6 Add deals
Bar user profiles will be able to add or remove deals for their bars for given days and times.

2.3 Special usage considerations
Requirements for BarHopper include the use of Android device, internet connection, GPS functionality recommended, and the option for the user to have an account.

3.0 Data Model and Description

3.1 Data Description
Data objects are represented in this application in terms of Users, Bars, My Bars, Deals, Check-ins, Locations, Tags, Bar Feed, Comments, and Posts.
3.1.1 Data objects

<table>
<thead>
<tr>
<th>User</th>
<th>My Bars</th>
<th>Bars</th>
<th>Deals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td>Bars</td>
<td>Name</td>
<td>Bar Page</td>
</tr>
<tr>
<td>Facebook Account</td>
<td>Location</td>
<td>Description</td>
<td>Time</td>
</tr>
<tr>
<td>Password</td>
<td>Time</td>
<td>Website</td>
<td>Current deals</td>
</tr>
<tr>
<td>Check-ins</td>
<td>Deals</td>
<td>Bar Feed</td>
<td></td>
</tr>
<tr>
<td>Posts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>My Bars</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bar feed</th>
<th>Post</th>
<th>Comment</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posts</td>
<td>User</td>
<td>User</td>
<td>Name</td>
</tr>
<tr>
<td></td>
<td>Message</td>
<td>Message</td>
<td>Latitude</td>
</tr>
<tr>
<td></td>
<td>Timestamp</td>
<td>Timestamp</td>
<td>Longitude</td>
</tr>
<tr>
<td></td>
<td>Comments</td>
<td></td>
<td>Altitude</td>
</tr>
</tbody>
</table>

3.1.2 Relationships

Relationships among data objects are described using an ERD-like form. No attempt is made to provide detail at this stage.

3.1.3 Complete data model
3.1.4 Data dictionary
A reference to the data dictionary is provided. The dictionary is maintained in electronic form.

4.0 Functional Model and Description

4.1. Function Descriptions

4.1.1 Function Narratives

User authentication

4.1.1.1 Authenticate
The Authentication function will log the user into the application after checking that they provide the correct username and password. This may require the app to check Facebook credentials.

4.1.1.2 Sign-up

The Sign-up function allows the user to create a new account on the application. There is also the option for the user to login with Facebook or Twitter.

**Home Screen**

4.1.1.3 Post to Bar Feed

Create a Post function allows the user to upload a new post containing text to the Bar feed

4.1.1.4 View a Post

The View Post function allows the user to view more details such as time and location to a post by clicking on the post.

4.1.1.5 Create a Tag

The Create Tag function allows the user to tag a bar in a post so that other users can see the post on the bar’s page.

**My Bars**

4.1.1.6 Add Bar

The Add Bar function allows users to add a bar to their “My Bars” tab so they will have easy access to that bar’s details.

4.1.1.7 Remove Bar

The Remove Bar function allows users to remove a bar from their “My Bars” tab.

4.1.1.8 View Bar

The View Bar function allows users to view a bar’s page to view more details.

**Deals**

4.1.1.9 View Bar Deal

The View Bar Deal function allows users to have an easy view of the deals a bar is offering on that particular day.

4.1.1.10 Add Deal

The Add Deal function allows users to add a deal to a bar’s page that they received if it has not yet been added.
Check-ins
4.1.1.11 Check-in to a Bar
The Check-in to a Bar function allows bar users to check-in at places so that bar can send push notifications to them about current deals.

4.1.1.12 View Friend Check-ins
The View Friend Check-ins function allows users to view if and where their friends have been that day.

4.1.1.13 Change Location
The Change Location function allows users to change their location allowing them to see nearby bars for another location.

Users
4.1.1.14 Logout
The Logout function allows users to logout of the application, meaning that they will be asked to login the next time they launch the application.

4.1.2 Performance Issues
Special performance required for the subsystem is specified.

4.1.3 Design Constraints
Any design constraints that will impact the subsystem are noted.

4.2 Software Interface Description
The BarHopper application will be run only on Android devices, and will have only one interface. The application will be designed to run with the most recent version of Android 4.0.

4.2.1 External System Interfaces
The application will work Facebook in order to connect its users. Users will be able to login through both of these social networking sites.

4.2.2 Human Interface
The user interface for BarHopper will be an application hosted on an Android mobile device. The interface will be very user friendly allowing for users to navigate easily between tabs. Bar owners will have the option of adding information to their particular bar on the application by logging in.
4.3 Control Flow Description

The control flow for BarHopper will begin with the user opening the application for the first time. They will then create an account or connect using Facebook. They will then be taken to a home screen containing a live feed of bars in their area. At the bottom will be tabs for viewing “My Bars” or “Deals.” At the top they will have a side menu that will open giving them more options. The control flow is described in more detail in the following sections.

5.0 Behavioral Model and Description

A description of the behavior of the software is presented.

5.1 Description for software behavior

5.1.1 User Events

5.1.1.1 Incorrect Email or Password
An incorrect or blank field given for the email or username box will result in the page being re-displayed with notification of failed login attempt.

5.1.1.2 Correct Email and Password
A valid entry for email with the corresponding password will give access of app’s functionality and account-based customizations.

5.1.1.3 Access Level
Customers of the app will have the same access level. User accounts will be able to use Bar feed and My Bars tab. There will be a Bar account that can post deals for the respective bar attached to their account. Bar owner accounts will not be able to post to the community.

5.1.1.4 Menu
The menu button will not be the traditional three horizontal lines of contemporary apps, positioned in the top left corner. When pressed, it will expand and drop down with the multiple options and a search bar with the logo above the search bar.

5.1.1.5 Posting to News Feed
The user will be able to enter text, bars and tags to their post. When a post is made it gets shared on the community feedback for a radius of one mile from the GPS location of the user’s location, based on the device’s given
sensors. The location can also be given by checking-in to a bar. The user will have the ability to remove a post as well.

5.1.1.6 Check-in

The user will be able to check-in and share their location with their connected friends. This check-in process will begin by attempting to use GPS and prompting the user manually if determined the location cannot be determined.

5.1.1.7 Edit User Profile

A user will be able to change his or her picture on his account. The user will also be able to determine if their account and favorite bars are visible in the profile options.

5.1.1.8 View My Bars

The user will be able to create and view a list of bars they have favorited. This list will also include the next upcoming deal for that given bar.

5.1.1.9 Edit My Bars

The user will be able to add or remove a bar that will be added to a separate tab, titled “My Bars” displaying only these bars and posts with tags related to these bars. The

5.1.1.10 View Nearby Bars

This function will use the last location provided to view a list of nearby bars and their approximate distance.

5.1.1.11 Edit Location Manually

The user will be able to use Google Maps to pinpoint their location, choose from a list of bars near that location, or enter in the bar name itself.

5.1.1.12 Enable/Disable Push Notifications

The user will be able to disable the app being able to send notifications of when deals start and end at their favorite bars or at bars where they have recently checked in at within the night. The option will be enabled by prompting the user’s agreement during installation.

5.1.1.13 Edit Notification Frequency

The user will be able to modify the frequency and time between notifications of a deal. Deals can be set to alert in customizable increments of time.

5.1.1.14 Enable/Disable GPS Permission
The user will be able to modify the ability of GPS to be used within the app. With GPS disabled, the user will be prompted to send their location.

5.1.1.15 Add a deal

The user of the Bar profiles will be able to add deals for each day of the week with specified times to be posted on their pages.

5.1.1.16 Edit a deal

The user of the Bar profile will be able to modify or remove deal at any time.

5.1.1.17 Import friends from social network

When a user creates an account they will be able to import friends who also are BarHopper users into their BarHopper social network. This will allow the users to see each other profiles.

5.1.1.18 Create an account

The user will be able to create an account after providing a username and a password with the option to provide an email. They will also have the option to log-in via Facebook.

5.1.1.19 Report

The user will be able to report abusive, uninformative, or misleading information. This information will be sent to an email address administered by a moderator.

5.1.1.20 Logout

The user may logout of the account by pressing the ‘Logout’ button that will disconnect the user’s account from the application.

5.2 State Transition Diagram

The following diagram depicts the overall behavior of the system given user inputs.
6.0 Restrictions, Limitations, and Constraints

BarHopper will be limited to those using Android phones and are connected to the internet in order to use the live feeds. Users of the application must either create an account or connect using Facebook. The application will be very limited when not connected to the internet. The user will not be able to get live updates on the current deals going on at the bar, or be able to see the live feed on the home screen. Not having internet will also prevent the user from checking in to bars, as well as seeing where other users have checked in.

7.0 Validation Criteria

The approach to software validation is described
7.1 Classes of Tests and Responses
The types of testing to be conducted is described. The main focus for testing is to make sure all users are able to login and begin viewing bars in their area, with accurate info, real-time data, and reliable performance.

7.1.1 Incorrect Login Information
If the user inputs the incorrect login information for their account, the application will display an error message. The application will then revert back to the login page for the user to try again.

7.1.2 Unavailable Username
If the user attempts to create an account, which already has the same ID in use, then the application will display an error message letting the user know that the ID they have entered is already in use.

7.1.3 Blank Post
If the user attempts to create a post but it is blank, then the application will inform the user that the post is blank and cannot be posted.

7.1.4 Bar does not exist
If the user tries to search for a bar, and that bar is not in the system, then the application will inform the user that no results can be found, and give them the option to add it if they have a bar owner account. If they do not have a bar owner account then the application will just inform the user of no results can be found.

7.1.5 User not connected to Internet
If the user is not connected to the internet when opening the application then they will be informed of this, with a message telling them that they will not have access to certain features of the application.

7.2 Performance Bounds
For the parts of BarHopper that require internet access, the performance of the application will be dependent on either the wifi or data speed that the user has on their Android device. There will be a minimum amount of data transferred, but if users want to have easier access to the other users’ posts on the live feed then this will become a factor.

8.0 Appendices

8.1 Product Strategies
There is not an application right now that like BarHopper, combines all bars into one application in order to give details on each bar. BarHopper will give users the
ability to combine all their favorite bars into one tab and have easy convenient access to the details of each one. It will also act with social media sites in order to make it easier for large groups of friends to stay connected when they go to bars.

Initially, BarHopper will be targeted to Morgantown residents who go out to bars. This will make it easier for the development team to spread the news of this application as well as get immediate feedback on what needs to be changed. Finally it will allow for gradual scaling up for larger markets.