**Project Research Document**

Community App

XID: X00119025 Name: Martin Casey

**Section 1 Detailed Discussion**

The Community App will be a mobile based, online web-enabled application that will make use of location based technologies in-order to provide the user with access to services; its aim is to enable users to better interact and become more engaged in their community. The application itself is designed to provide its users with information about activities and locations, that are accessible through the local community. Data collected for the application is intended to be stored on a cloud storage service, which the application will access in-order to provide relevant data to the user when it is appropriate.

The app will be able to identify patterns that evolve through an individual’s interaction and can then use this information to make recommendations of other areas in the community that may be of interest to the user. For example, if an individual regularly reviews information about gardening, the application will highlight gardening activities in the community.

With the use of location based technologies such as GPS (Global Positioning System), the application will have the ability to track the user if it is enabled. The application will record and store the history of the user’s past locations they have travelled to. This could be used to provide a range of location based services to the user. For instance, the application could provide the user with directions to the current location the user is trying to attend.

For users who are interested in learning more about local locations or activities, the application will provide access to relevant information and interesting facts. If there is an official online web-presence for the various entities in the community; the application will provide the user with an official link to the organisations website, if they wish to gather more in-depth information.

To facilitate community involvement, the application will allow members of community organisations, such as shops, charities and cafes, to register on the application. In which case the application will then promote the organisation to users, who based on the data in their history, may be interested in their particular services. Through a direct link with hosting organisations, the application will enable individuals to book spots at community events which they have identified as of interest to them.

For users who are concerned about their privacy on the application, there will likely be an option in the user’s account settings, to hide the geo-graphic location of their home from other users.

The Community App could also provide a neighbourhood watch type feature. This feature would disable privacy options for more criminal standing users in the community, and have their location details be accessible by other users. Thus, providing non-criminal users of the service with information they can use to better keep themselves safe from potential harmful interactions.

**Section 2 Existing Applications in this domain**

After many hours of research, the author of this document was only able to locate one application on the market that is similar in parts to the proposed Community App, upon which this document is based. The application however is only related to the Community App in some areas functionally, not the overall intended service the application was designed to provide. The application in questions is known as ’EventBase’.

‘EventBase’ is an online application available for iOS, Android. The application is designed to be used by users to both organise and attend events. Event organisers can register their event on the application, and users of the application can book a place at an event, and receive information about that event, having the app act like a flyer for users at events.

Below listed are the similarities and differences between Event Base, and the Community app.

|  |  |
| --- | --- |
| **Similarities** | **Differences** |
| Allow organisers to register on app | Event Base is for commercial events. Community app is for community based activities. |
| Allow users to book places at an event | Event base links to your various social media tools. Community app is self-contained. |
| Provide users information about events | Community app use location based technologies. Event Base does not. |
| Both apps recommend content to users based on past interactions. | Community app lets you track the position of criminal users on the app. Event Base does not track individual’s locations. |
|  | Event Base focused on organising a user’s schedule. Community app focused on encouraging users to partake in activities in their community. |

**Section 3 Platform, Technologies and Libraries**

*Platforms*

The Community App is intended to be available on the three major mobile platforms; these being Android, iOS and Windows. The application will also be intended to have a terminal for use of administrators for performing changes to any code if needed, as well as monitoring data that is collected from the application.

*Libraries*

The application is intended to make use of the .NET open-source libraries that can be accessed via the C# programming language. More specifically, the application will be intended to use the ASP.NET subsection of the .NET libraries. This will ensure that web service functionality can be built into the application, through use of languages such as HTML, JavaScript, and CSS.

*Tools*

The backend software functionality of the application, which will be used for processing many of the functions, will be built using the C# programming language. The interface through which user interaction with the application will take place, will be a web-based interface, built using the ASP.NET MVC framework. Google Maps Geolocation API will be used to provide location based technologies to the development of the application. The application will store data in a relational database, where SQL commands will be used to access and modify the data gathered by the application. The data storage of the application will be found in Microsoft Azure, which will not only store data, but allow the application to be scalable for when other users need to make use of the application.

**Section 4 The risks**

There will be some risks to various parties involved with the development and maintenance of the Community Application. The main risks that are of major concern are listed below.

*Cloud:*

* Should the vendor of the cloud service (in this case Microsoft) be unable to provide their service for any reason, large amounts of data gathered by the application will not be able to be stored anywhere for future use.
* Should any of the data scaling measures in Azure fail, or not be configured correctly, the cost of storing unnecessary data from the application could drastically rise, as the Azure service would continually provide new servers for use when a certain threshold of data is reached.
* Should there be issues with the encryption service provided by Azure, user data from the application could be left vulnerable to attack by malicious hackers.

*Phone:*

* The application is reliant on the user being connected to the internet. Should the user not have access to Wi-Fi or 3G, the application will be unusable to that user.
* Should the user not enable the GPS settings of their phones to “On”, the services of the application will not be accessible to the user.

*Cell Towers & Satellites:*

* The location services of the application are reliant on the transmission of location data from satellites to cell towers, and vice versa. Should for any reason the satellites or cell towers transmit incorrect location information, there is the possibility that the application will provide incorrect location data to the user. This would affect the applications ability to provide location services to the user, such as directions; which could result in users being sent to the wrong location of an activity, or even put them in a location that could invite harm to the user.
* If cell towers or satellites are not available in the user’s area, the users won’t be able to receive location data from the application.