**Requirements Document – Version 1.0**

**Project name: Campus Tour Software**

**Functional requirements:**

The application should provide a campus tour to students:

1. Map driven
2. QR Scan
3. GPS Integration

**R1.** The Application should provide a NWMSU Campus tour.

**R1.1.** There are two tours provided – Virtual tour and Physical tour

**R1.2.** There will be a virtual tour if the user is not in or near the campus and wishes to take a look of all the buildings and the infrastructure of the campus.

**R2.** The application should show the campus map of all the buildings and parking lots in and around the campus. This map will come from the database where we store all the details of the buildings and other parking lots.

**R2.1.** The details stored in the database include the name of the building, number of rooms in the building, the departments in the building, the image of the building, the voice over of the name of the building and the video of the building if it no other information is available (for the virtual tour)

**R3.** The application should allow users to track their tour in the following stages,

**R3.1.** To give a chance to user to choose the starting point of the tour.

**R3.2.** The user can select the starting point of the tour from the campus map by clicking which ever building he/she wants to start with.

**R3.3.** The main route of the tour will be as different for different campuses.

**R.3.3.1.** The route will be predefined by the administrator but the starting point of the tour will depend on the user

**R3.2.2.** The starting point would be obtained by the application from location services built into the GPS of the mobile.

**R.3.2.3.** If the GPS is disabled an error message is displayed asking the user to connect to the internet.

**R4.** The application should be able to provide a virtual tour of the campus to the user. The user can observe a virtual view of the main campus map with all the buildings information in a predefined path in order to know the infrastructure of the campus.

**R5.** The application should be able to scan the QR Code placed outside the building to retrieve and record the information from it.

**R6.** The GPS in the system is linked with the QR Code and function accordingly.

**R.6.1.** The user starts the tour with the help of the GPS maps and reaches his destination of one stop then he will scan the QR code of that building and then all the details of the building will be shown to him like the name, number of rooms, departments in the buildings which are stored in the database and are retrieved when the user scans the QR Code.

**R.6.2.** Then when the user resumes the tour to another location the GPS is then enabled and he continues the tour till he reaches the next destination and repeats the same process of scanning the QR code for the building information.

**R7.** The application should be smart to detect the internet connectivity. The different scenarios are given here

**R7.1.** If there is no internet connection the application displays a message to the user asking him to connect to the internet in order to start the tour.

**R7.2.** If there is a valid proper internet connection then the user proceeds with the tour.

**R7.3.** If GPS is on and the user is not near the campus then the application should show a message asking the user to go the nearest building on campus to start the tour.

**R8.** If the user is not in the range of the NWMSU campus then application tells user to go near the university in order to start the campus tour.

**R9.** QR Code is placed outside all the buildings on campus. These are scanned by the application to get the information about the building.

**R10.** There should be a database managed by the University for All the Data to be displayed in the application.

**R.10.1.** There are different databases to maintain data for different campus. Which means there is a separate database for NWMSU Maryville campus, a separate one for NWMSU Kansas city campus and another one for the NWMSU St. Joseph Campus.

**R11.** The application is based on the push pull kind of a mechanism. Which means it gets the information or pulls the information from the database and pushes it to the user interface so that the user can access it and get to know about the information provided.

**R.12.** There is a separate login for the Database administrator to add and delete the database records and there is a separate Database Administrator (DBA) for each of the campuses.

**R.12.1**. There are only types of users to access the Application. One is the Administrator (DBA) and the other is the user. They are differentiated by a flag in the Database.

**R.13.** the DBA adds, updates or removes the building information based on the university updates about the seasonal events.

**R.14.** the University has its own DBA who adds and have access to only their assigned universities data.

## Non-functional requirements:

**NFR1.** There should be uniformity in all the features of the application

**NFR2.** There should be non-interruption and the application should be bug free.