UNL Bathroom Finder
Group 3
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Software Requirements Specification Document

Version: (2) **Date: (02/09/2018)**

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1. Introduction

1.1 Purpose

The purpose of this document is to explain the specific requirements, usages, and features of the UNL Bathroom Finder application. This application is for all university students, staff, and guests who need to locate or find specific information about a bathroom in campus.

1.2 Scope

The UNL Bathroom Finder is an Android application which helps users to find the bathrooms in UNL campus. It will list bathrooms' information via building and floor searches.Each bathroom will have a description of its location, number of stalls, and will specify how many handicap stalls there are, along with extra tips such as when it's busy and whether there are paper towels and/or hand dryers. The application will be developed with Android studio by using Java and XML.

1.3 Definitions, Acronyms, and Abbreviations.

UNL – University of Nebraska, Lincoln
XML - Extensible Markup Language
JDK - Java Development Kit
SDK - Software Development Kit

1.4 References

No references.

1.5 Overview

The rest of this documents will cover the overall description, the specific requirements, and an appendix for the app. For users, the overall description will describe the overall use and purpose of the app. The specific requirements is intended for developers.

2. The Overall Description

2.1 Product Perspective

2.1.1 System Interfaces

The UNL BathroomFinder application will not require any additional existing system interfaces to run on any android devices.

2.1.2 User Interfaces

The user interface will consist of using the touchscreen of the android device to navigate through the application.

2.1.3 Hardware Interfaces

This system has no hardware interface requirements.

2.1.4 Software Interfaces

The UNL BathroomFinder app is to be developed under the Android operating systems using the Java JDK (Java Development Kit) and the Android SDK (Software Development Kit) tools.

2.1.5 Communications Interfaces

The Android platform provides abstractions for all network communication interfaces.

2.1.6 Memory Constraints

This is a simple application that any modern android device will be able to run.

2.1.7 Operations

There is only one mode of operation for the app which consists of navigating through the application to find a desired bathroom.

2.1.8 Site Adaptation Requirements

There are no adaptations for any installations.

2.2 Product Functions

This product's function is to help students, faculty, and visitors of UNL find a bathroom easier. There will also be descriptions for each bathroom.

2.3 User Characteristics

This application is mainly focused towards UNL students, but is of use to anyone on UNL campus looking for a bathroom. Anyone who can use a Android mobile device should be able to use this application. There is no age requirement for this application.

2.4 Constraints

This application will be designed for using on Android mobile devices. Older versions of these devices may be constrained due to older operating systems. This will also be optimized for standard sized phone screens so larger or smaller devices may have issues displaying the web application correctly. Any android devices must run with a minimum API level of 19 or higher.

2.5 Assumptions and Dependencies

This Android application will be dependent on a variety of programming languages, mainly Java and XML. We are also assuming that users will be using on Android mobile device.

2.6 Apportioning of Requirements

In the first phase we will develop the main intents, activities, and layouts that provide the core functionality of the application. We will need a way to link floors to buildings along with creating a way to filter specific bathrooms.

3. Specific Requirements

3.1 External Interfaces

This app does not use any external interfaces.

3.2 Functions

3.2.1 Start

After starting the application in Android phone, the main page will

be displayed.

3.2.2 Main page

3.2.2.1 The main page will have a drop-down menu which includes a list of buildings to choose from.

3.2.2.2 The selection of drop-down menu will bring user into a new page which includes the specific bathroom information of each hall.

3.2.3 Select Building and Floor

3.2.3.1 After choosing a building from the building list, there will be a description about the building.

3.2.3.2 There will be a simple map embedded which will help them find the nearest bathroom if they don't know the exact location to choose from.

3.2.3.3 Users are able to select floors in a drop-down or list-view menu after selection of building. A simple map of the floor will be generated and users will be able to select bathroom in that floor.

3.2.4 Bathroom

3.2.4.1 After selection of a floor, bathrooms will be separated by listed by gender.

3.2.4.2 Each bathroom will have expanded description of its number of sinks, number of stalls, handicap stalls, and a description and review of the bathroom.

3.2.4.3 Each bathroom will have a star rating displayed at the top of the page

3.3 Performance Requirements

100% of every navigation to a new page should be less than one second. Changing screens will require very little computation and will occur very quickly.

3.4 Logical Database Requirements

This system does not require any database since no information will be saved by the user.

3.5 Design Constraints

The main constraint of this application is that it will only be available on android devices. Since the application is designated for android devices, limited screen size and resolution will be a major design consideration. Creating a user interface which is both effective and easily navigable will pose a difficult challenge. Other constraints such as limited memory and processing power are also worth considering.

3.6 Software System Attributes

3.6.1 Reliability

This system should be reliable enough to be able to navigate through new screens without any bugs or errors.

3.6.2 Availability

This application should be available to run all the time. If the system crashes it can be opened again.

3.6.3 Security

There are no security features for this application since there are no passwords to be stored, no database holding any user information, and used offline.

3.6.4 Maintainability

The system consists of activities and layouts based on buildings and floors. Adding future buildings or floors and bathrooms to existing buildings will be easy to add without changing any of the existing features.

3.6.5 Portability

This system is designed for android devices and will be able to run on most modern android devices and can be installed through the Google Play Store.

3.7 Organizing the Specific Requirements

3.7.1 System Mode

This system only has one mode of operation for all users. The functionalities and interface will be the same for all users.

3.7.2 User Class

There is only one user class in this application.

3.7.3 Objects

This system have one set of objects of users because there is only one user class in this application

3.7.4 Feature

Developer email is provided in the Google Play Store for users report bugs or offers advice.

3.7.5 Stimulus

This section will be implemented in phase 2

3.7.6 Response

This section will be implemented in phase 2

3.7.7 Functional Hierarchy

This section will be implemented in phase 2

3.8 Additional Comments

This section will be implemented in phase 2

4. Change Management Process

Users can send any requested features to the developer email provided in the Google Play Store. In order for a change to occur, our team must come to a consensus.

5. Document Approvals

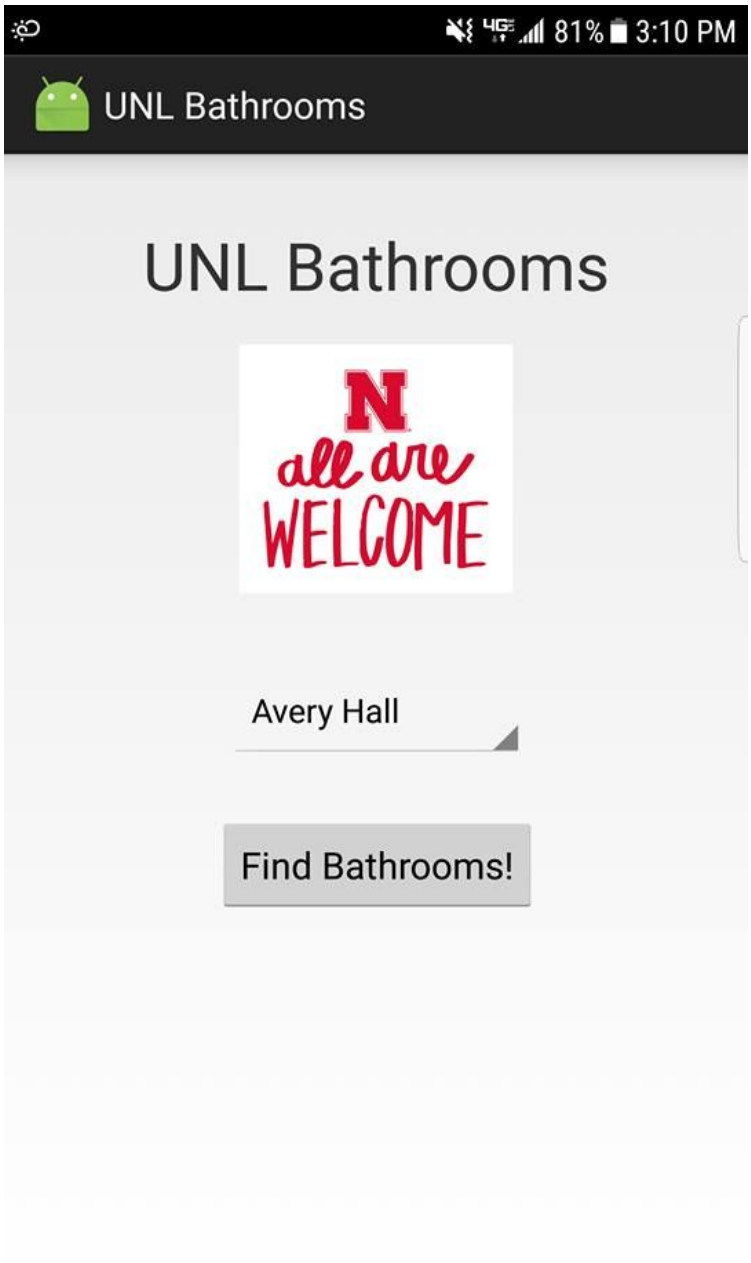
Deng Yang 2/9/18

Ziyuan Ye 2/9/18

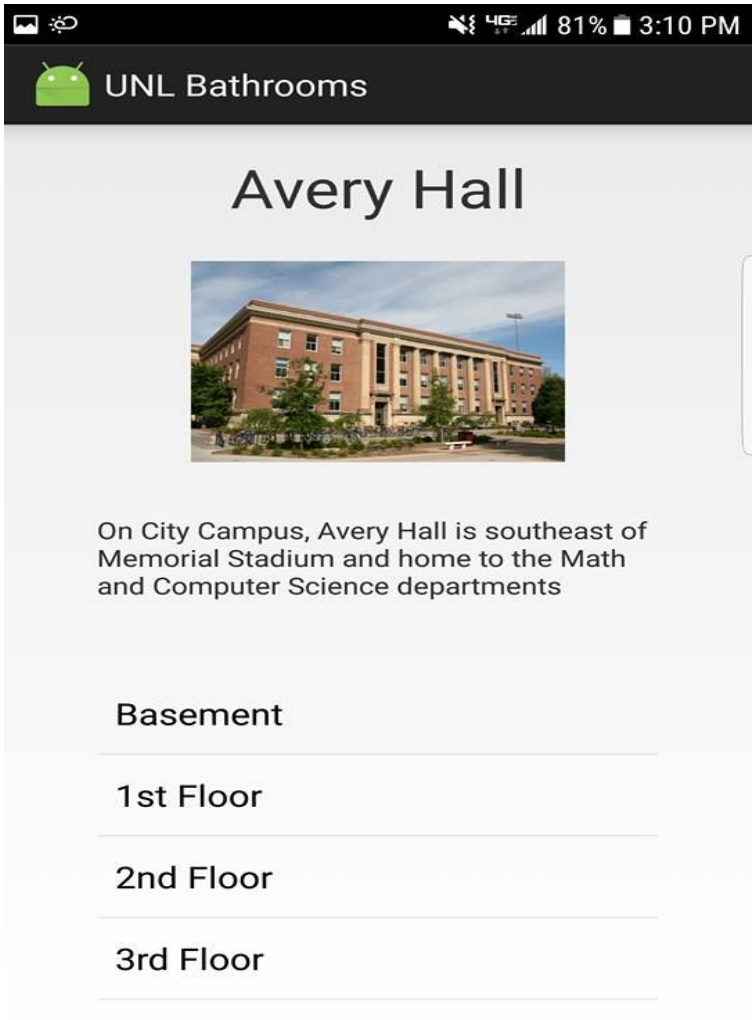
6. Supporting Information

6.1 Appendix:

Main page of the application:



One sample building of the application:


81% 3:10 PM
UNL Bathrooms
Avery Hall
On City Campus, Avery Hall is southeast of Memorial Stadium and home to the Math and Computer Science departments
Basement
1st Floor
2nd Floor
3rd Floor