

# SOFTWARE REQUIREMENTS SPECIFICATION FOR RUVACANT

VERSION 0.2

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## REVISIONS

Date	Name	Revision Description
07/20/2020	Jonnelin Leonardo	Add sorting behavior on all activities where it makes sense

## 1.0 INTRODUCTION

### 1.1 PURPOSE

The purpose of RUVacant is to inform users which classrooms within Rutgers University is empty. It will display information such as how many classrooms in a building is empty, what percentage of the selected times will the classroom be empty for, and more information about specific rooms in the building.

### 1.2 INTENDED AUDIENCE

RUVacant is intended to be used by traditional college students in Rutgers University. This includes both Undergraduate and Graduate students.

### 1.3 INTENDED USE

RUVacant is intended to be used during an active semester, when classrooms are in use. It is to be used when a student needs a currently unused classroom. However, this application only takes into case course information and not event information. Hence, the application will not be aware of event details; so if an event is placed in a classroom, the application will not know.

### 1.4 SCOPE

The goal of this application is to ease the process of finding an empty classroom. Students will no longer need to look at every classroom to determine whether it is being used. The student shall open the application, search for the building, and immediately discover which rooms are empty and for how long.

### 1.5 PRODUCT PERSPECTIVE

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#### 1.5.1 SYSTEM INTERFACES

This application runs in Android phones and tablets

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#### 1.5.2 EXTERNAL SERVICES

This application uses the Rutgers Course and Places API to fetch necessary data

## 2.0 REQUIREMENTS

### 2.1 SPLASH ACTIVITY

S01 – The application shall display the app logo

S02 – The application shall transition to the next activity with a transition animation on the app logo

### 2.2 OPTIONS ACTIVITY

O01 – The application shall display the app logo

O02 – The application shall allow the user to select a semester, from the current semester and 2 past semesters

- O03 – The application shall allow the user to select a campus, New Brunswick, Camden, or Newark
- O04 – The application shall allow the user to select a level, Undergraduate or Graduate
- O05 – The application shall only allow one selection per option
- O06 – The application shall allow the user to click the save button once one selection is chosen for each option
- O07 – The application shall disable the save button if any options have not been selected
- O08 – The application shall indicate when the save button is enabled or not
- O09 – Once the save button is clicked, the application shall download and save necessary data into persistent storage
- O10 – Upon transitioning to the next activity, the application shall use the semester text as a shared transition element
- O11 – The application shall not allow the user to back press into this activity; this activity shall close upon opening the next activity
- O12 – The application shall only open this activity when no app data is saved

## 2.3 BUILDING LISTING ACTIVITY

- B01 – The application shall list all buildings along its necessary information
- B02 – The application shall show an animated, dynamic circular bar for each listing, which indicates the percentage of empty classrooms from the total classrooms
- B03 – The application shall allow the user to fast scroll
- B04 – The application shall allow the user to search for buildings
- B05 – The application shall do a search and show results as the user types or clicks the submit button
- B06 – The application shall allow the user to click a listing, which will take the user to the next activity: the Building Activity
- B07 – The application shall allow the user to click a “menu button”, which will open the navigation drawer
- B08 – The application shall allow the user to open the navigation drawer upon swiping from the left to the right
- B09 – The application shall allow the user to add or remove a building as a favorite
- B10 – The application shall list favorite buildings before the actual building listing
- B11 – The application shall perform a transition animation from this activity to the next, with the building name as the shared element
- B12 – Favorite buildings shall be sorted by alphabetical order

B13 – Building listing shall be sorted in alphabetical order

## 2.4 BUILDING ACTIVITY

R01 – This activity shall list all the rooms within the selected building

R02 – The application shall display which rooms are vacant and which are occupied with classes

R03 – The application shall display an animated, dynamic circular bar representing how much of the selected time the room will be vacant for

R04 – The application shall display when the rooms will become occupied or vacant

R05 – The application shall allow the user to select a day of the week

R06 – The application shall allow the user to select two times of the day, a start time and an end time

R07 – The application shall display and allow the user to press a back button, which will take the user to the building listing activity

R08 – The application shall allow the user to press the device back button, which will take the user to the building listing activity

R09 – The application shall display a collapsing toolbar, which opens and collapses depending on the user's scroll behavior

R10 – The application shall indicate an occupied or vacant room using colors

R11 – The application shall be able to open the navigation drawer by swiping from left to right

R12 – The application shall perform a transition animation upon clicking a listing, with the room number or code as the shared element

R13 – The application shall allow the user to set this building as a favorite on the toolbar

R14 – Vacant rooms shall be sorted by those with the largest available time to smallest

R15 – Occupied rooms shall be sorted by those which will be vacant earliest to latest

R16 – List will be sorted with vacant rooms first, then occupied rooms

## 2.5 ROOM ACTIVITY

Q01 – The application shall display a dynamically colored collapsing toolbar, which collapses or expands depending on the user's scroll behavior; the application will then do a circular reveal of the color of the toolbar

Q02 – The application shall allow the user to select a day of the week

Q03 – The application shall allow the user to select a start time

Q04 – The application shall display visuals on occupied and vacant times

Q05 – The application shall list all vacant and occupied times in the room, starting from the start time

Q06 – The application shall display and allow the user to press a back button, which will take the user to the Building activity

Q07 – The application shall allow the user to press the device back button, which will take the user to the Building activity

Q08 – The application shall allow the user to open the navigation drawer by swiping left to right

Q09 – The application shall sort all room “events” from earliest events to latest

## 2.6 NAVIGATION DRAWER

N01 – The application shall 4 options: 1) Delete data and reselect options 2) Delete and update data with same options 3) Open info screen

N02 – The navigation drawer shall be opened by swiping left to right, and closed by either touching outside it or swiping right to left

## 2.7 INFO ACTIVITY

I01 – This activity shall present information about the application and creator

I02 – The application shall allow the user to click either a displayed back button or the device’s back button to go back to the previous screen

## 2.8 USER INTERFACE

U01 – The application shall support portrait mode

U02 – The application shall support landscape mode

U03 – The application shall inform user of errors

U04 – The application shall support varying screen sizes

U05 – The application shall support varying screen densities