

## Homework #1:

- **Group Members:**
  - Songiemar Garcia
  - Julibert Diaz
  - Javier Maldonado
  - Carlos Machin
  - Andres Perez

### I. Domain Entities:

**Entities:** The simple entities types we have identified within the domain are Students, and Faculty, and the composed entities types are Buildings, Floors, and Offices.

#### **Descriptions:**

- **Student:** these atomic entities contain the value of what task they are looking to accomplish.
- **Faculty:** these atomic entities contain the value of information or documents to complete a task.
- **Buildings:** these composed entities contain different Floor entities.
- **Floors:** these composed entities contain different Office entities.
- **Offices:** these composed entities are where Faculty can be found.

### II. Domain Functions:

**Functions:** The function types we have recognized within the domain are the following: Map, Task Manager, and White Pages.

#### **Descriptions:**

- **Map:** This function will receive as input a Student, determine where the location of his task within the campus is and return a Building entity according to what was determined.
- **White Pages:** This function will receive as an input a Student, evaluate the Student's value (task) and return a phone number of the Building or Faculty that would best be suited to complete the task. This function can also receive no input and provide an organized list of all the phone numbers we have collected.
- **Task Manager:** This function will receive as input a Student and determine their Task value, based on this it will redirect their value to one of these three inner functions within the Task Manager:
  - **Transcript Help:** The Transcript Help function is a derivative of the Task Manager function, this function

returns detailed instructions on how the Student should go about collecting his transcripts.

- **Summer Class Request Help:** this function is a derivative of the Task Manager function, this function returns a set of instructions for the Student to follow to help the Student solicit summer classes in other universities within the UPR system.
- **Academic Minor Help:** this function is a derivative of the Task Manager function, this functions purpose is to return a step by step guide for a Student who is seeking to apply for an Academic Minor within the UPRM campus.

### III. Domain Events:

**Events:** The event types we have recognized within the domain are the following:

- Map:
  - Receives the service and returns the location to perform tasks.
- White Pages:
  - General directory of all the campus-related phone numbers and extensions.
- Task Manager:
  - Physical documents
  - Signatures
  - Information

### IV. Domain Behaviours:

*Behaviours:*

1. **Map:** Student opened *Map* feature. Following this, they looked up the abbreviation of a building in the legend of the map, to then find the building on the map, and went to the said location.
2. **White Pages:** Student opened *White Pages* feature, searched through catalogue of campus-related phone numbers and extensions. Afterwards, retrieved the specific phone number they were looking for, and proceeded to call the number.
3. **Task Manager:** Student opened the *Task Manager* feature and searched to find the task they wanted to complete. After this, they followed the instructions laid out in each specific part, to complete the errand.

## **V. Domain Requirements:**

### *Requirements:*

The Domain Requirements for our project are divided in two aspects: what our system must do and the constraints on said system's development. What our system must do is provide up to date and accurate information within each of its parts. The constraints on the system's development will be the gathering of all the information currently available.

## **VI. Interface Requirements:**

### *Requirements:*

1. **Map:** The WebApp must display a chart with the abbreviations for each building along with their full names and a map of the campus.
2. **White Pages:** The WebApp must display a catalogue of the phone numbers related to each office.
3. **Task Manager:** The WebApp must display a categorized task, with necessary information (phone number, location) and instructions to complete it.

## **VII. Machine Requirements:**

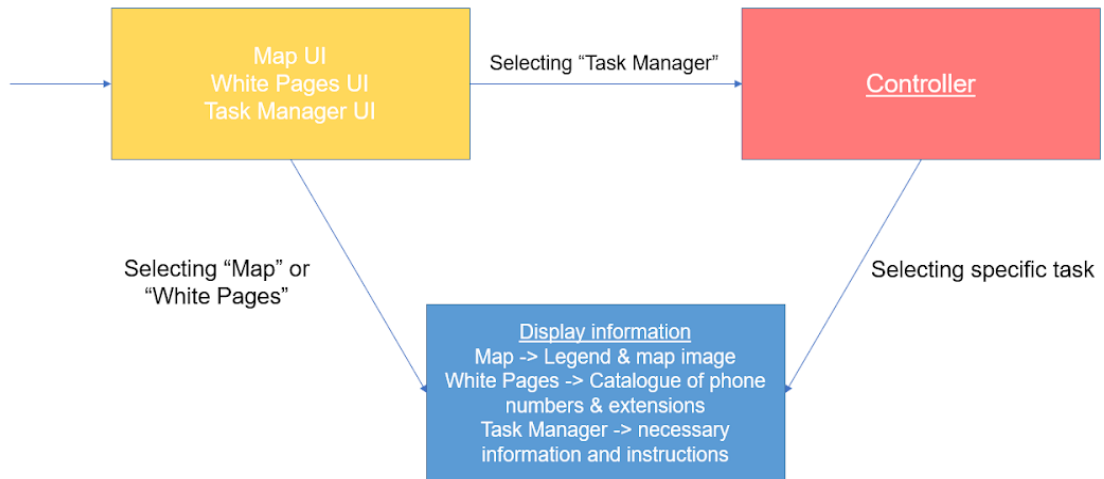
### *Requirements:*

1. **Map:** Student requires a device connected to the Internet in order to access the WebApp and the *Map* feature, to locate buildings.
2. **White Pages:** Student requires a device connected to the Internet in order to access the WebApp and the *White Pages* feature, in order to find the number of the desired department or office.
3. **Task Manager:** Student requires a device connected to the Internet in order to access the WebApp and the *Task Manager* feature, to find the appropriate information for the task they want to complete.

## **VIII. Software Architecture Design:**

### *Design:*

## Team #5

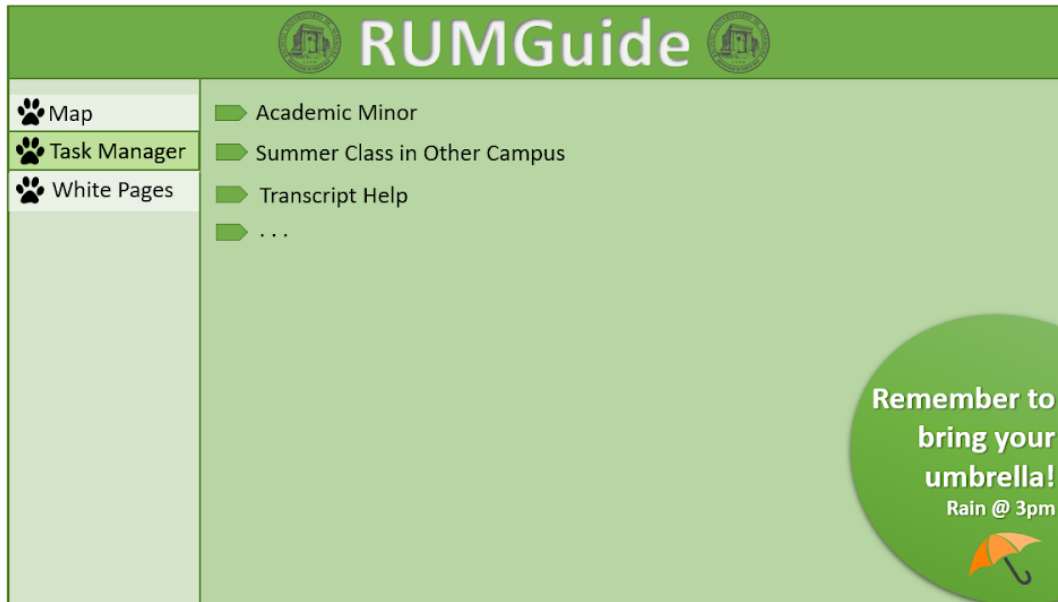


## IX. Software Component Design:

*Design\*:*



**Team #5**



\*\*\*\*\*is subject to change in development.

#### X. Informative Domain Development Documents:

##### *Documents:*

- **Name:** RUMGuide.
- **Place:** UPR Mayagüez, Puerto Rico.
- **Date:** 2020 - onward
- **Group Members:**
  - Songiemar Garcia
  - Julibert Diaz
  - Javier Maldonado

## Team #5

- Carlos Machin
- Andres Perez
- **Current Situation:** Information is not centralized, therefore, students are often unaware of the process and/or documents required for facilities and programs on campus.
- **Needs and Ideas:** Create a centralized source of information, accessible to all students.

### *Domain Description:*

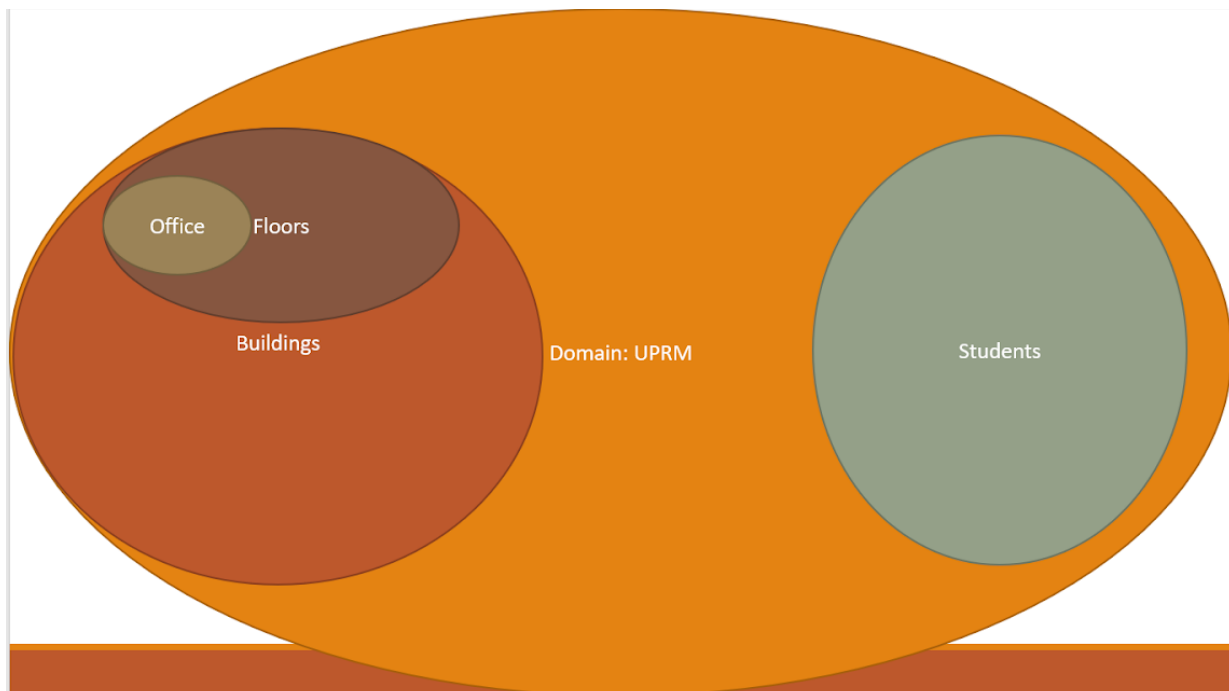
- **Domain:** UPRM Campus.
  - *Description:* The UPRM campus is the domain we have chosen for our project. It is composed of the following atomic entities: Students and Faculty. It is also composed of these compound entities: Buildings, Floors and Office.

## **XI. Informative Requirements Development Documents:**

### *Documents:*

- **Building Locations**
- **Office Room Numbers**
- **Office Phone Numbers**
- **Office Administrative Duties**

## **XII. Descriptive Rough Domain Sketches:**



### **XIII. Concept Analysis of Rough Domain Sketch**

The domain for the project is the UPRM. Inside this domain, there exist a number of sub-domains such as Buildings and Floors which are all part of UPRM. The Floors sub-domain contains the Office entity and the UPM also contains the Student entity. Essentially, inside UPRM, there are Students and Buildings; inside Buildings, there are Floor; inside Floors, there are Offices where a user must visit to complete a wanted task.

### **XIV. Descriptive Domain Terminology**

- UPRM - Universidad de Puerto Rico-Mayaguez
- Entities - “things” that belong inside the domain.
  - Simple entities: atomic/have no proper sub entity and only one type
  - Composed entities: they are composed of other entities or types.
- Functions - operation or action that test for some property, observe some subentity or change an entity.
- Events - something that happens/occurs instantaneously between actions.
- Behaviour - they proceed in time, by performing actions responding to events.
- UI - user interface
- RUMGuide - name of application. Stands for Recinto Universitario de Mayaguez Guide
- Sub-domains: entities inside a domain that have subentities in them, therefore can be thought of the domain of those subentities.
- Office - room in a building where faculty members have a specific job and where students go to complete specific tasks.

### **XV. Descriptive Domain Narrative**

The student needs to complete a task within UPRM. They log into the application to find the needed documents and places to go. After that, they proceed to call the offices needed to gather some information. If everything is gathered, the student finds the building to then find the specific office they need. Finally, they proceed to complete their task by going to the office. All is done in a reasonable time because it was all in one place.

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## Team #5

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