**Proposal for Orbital 2021**

**Team Name:**

RCBuddy

**Proposed Level of Achievement:**

Artemis

**Motivation**

If you are a student staying in NUS’ Residential Colleges (RCs), we are sure that you have had the same experience as us:

* Wanting to use a RC lounge to study for exams, but it is a hassle to check every single floor for an available lounge. The maximum lounge capacity of eight people due to social distancing makes it even more difficult to find a free space.
* Finding it too time consuming to wait for an available washing machine or dryer in the laundry room, and people tend to forget to take out their clothes which makes the wait even more troublesome.
* Wanting to quickly check whether my favourite dishes are served in the dining hall today without having to go down myself (the current online menu is difficult to find), as well as the crowdedness in food courts, so that I can decide where to enjoy my meals.
* As a freshman, I am not familiar with available Interest Groups as well as the common facilities provided in the RCs.

As such, we want to capitalise on these small but important aspects of RC lives to provide a platform that promotes easier and more convenient life for RC residents.

**Aim**

We hope to design a platform that aggregates all the information that a student living in NUS Residential College may possibly need, aiming to create a convenient and fulfilling campus life.

**User Stories**

1. As a student who wants to use an RC floor lounge, I want to check which lounge is available for use quickly and accurately.
2. As a student staying in RC with the options of dining hall and food courts for meals, I want to check the daily menu in the dining hall as well as the crowdedness of the food courts without going down myself.
3. As a student who needs to do laundry on a regular basis, I want to check which washing machines and dryers are available in real time.

**Features and Timeline**

The **Telegram Bot/mobile app** provides a chat-like interface for residents to quickly check if certain facilities are available and to receive notifications/reminders regarding facility bookings.

Features to be completed by the mid of June:

* 1. 1. *Telegram Bot*

1. Availability of lounges/common rooms/sports hall with acceptable amount of notifications when the desired facility is available/booked for events.
2. Availability of washing machines and dryers with reminders when the machine is done.
3. Polish the checking and booking systems.
4. Personality of the Telegram Bot, so that it can act more as a buddy/assistant to the user.

Features to be completed by the mid of July:

1. *Mobile app integrated with the Telegram Bot (Additional Functionality)*
2. Daily menu for the dining hall with pictures (Fetch from OHS website) with notifications when a certain dish is available.
3. Food court crowdedness and the estimated waiting time for a particular store.
4. How-to guides for common facilities in RCs (Printer, Washing machine/dryer, map showing which floors have which facilities)
5. Import event calendar for RC events and links for different RC official chat groups.
6. Mechanisms to collect datasets for analysis
7. Availability/capacity of a particular lounge.
8. Analysis of food court crowdedness.

**Tech Stack**

1. Telegram API

2. HTML/CSS/Javascript

3. Python

4. GitHub

5. Firebase

**Qualifications**

We are capable of the following skills that could help us to carry out this project:

* JavaScript
* Java
* DialogFlow (Chatbot builder)
* MATLAB

Both of us have some experience in projects related to computing as well as a certain degree of understanding in software engineering:

* Jiawen: Helped to build a voice-activated chatbot for customer service using Google Assistant.
* Yanzi: Participated in an attachment with A\*STAR to develop a platform that enables AIs to perform certain instructions based on human facial expressions analysis.