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Software Development

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Project Proposal #2

Our team is proposing a web application for Residence Life. We hope the app would be of aid to resident assistants (RA), RD/GRA/ARD's (Upper Staff), and residents in doing day-to-day tasks. For example, we hope to reduce the amount of paper forms Resident Life staff would have to keep track of and provide streamlined scheduling between RAs and Upper Staff. The app will be geared towards three user groups: RA's, Upper Staff, and residents. Below are the services for each user group.

Note: The features below are tailored to interviews we have conducted with these user groups. We have also included the concerns of specific user groups regarding the feasibility of the features.

1. Upper Staff

The first user group is the Upper Staff: RDs, GRAs, and ARDs. These users would have special/administrative privileges in our web app. For instance, they would be able to remove or adjust the accounts of other users.

The functionalities for this group would be:

- The ability to view and edit the IN/OPEN/OFF schedule (work schedule for RAs). ARDs would need to be able to edit and print out this schedule. Below is an example of such a schedule:

	Mar 13 MON	Mar 14 TUES	Mar 15 WED	Mar 16 THUR	Mar 17 FRI	Mar 18 SAT	Mar 19 SUN
CHLOE 1 SOUTH			IN				IN
YOUNG-AEH 2 SOUTH	IN						IN
SADIE 3 SOUTH				IN		IN	
BRIA 2 EAST					IN		IN
CAMILLE 3 EAST		IN					IN
TIMotius T2				IN	IN		
ANDREW T3			IN				IN
PRESTON T4	IN						IN

Competition: Google Docs, GroupMe Photos (ARD takes a picture and uploads it into the GroupMe chat).

- View and edit the dorm event schedule in a “master” calendar. Events would include events such as Loud/Silent raids, CLC Dorm-wide events, Campus events, training times, and Mandatory meetings. Below is a picture of a physical master calendar, which every RA has.

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Staff cannot take off this weekend	1 Reading Day	2	3	4 Regular meal plan ends with dinner	5 5pm: Campus housing closes for students not participating in commencement	6 5pm: Check out deadline for students participating in commencement but not graduating themselves
		Finals Week				Graduate commencement
7 5pm: Residence Halls close for students participating in commencement, but not graduating themselves Undergraduate Commencement	8 Noon: Res-halls close for summer students 5pm: All housing closes for grads 12-3pm: Check in for summer school/program students Before 5pm: All ARDs and RAs must be packed and prepared to	9 ResLife Worship: 11am ResLife closing banquet: 12pm-2pm After 3pm: ARDs and RAs	10 Noon—ARDs/RAs must be checked out 9am-4pm Apt/Hse RD/ GRA year end debrief	11 9am-4pm Res Hall RD/ GRA year end debrief Heth house year-end dinner	12 Last day of work for GRAs or when work is complete	13
14	15 Summer Session Begins	16 9am-4pm RD year end debrief	17	18	19 Last day of work for RDs	20
21	22	23	24	25	26	27
28	29 Memorial Day • No classes • Offices closed	30	31 RD/GRA Meal Cards are done!!			

Competition: Physical “master” calendar, GroupMe Notifications

- Automatically create floor charts by resident roster and be able edit roster for withdrawals/room changes easily. **RD Requested this feature!** Every beginning of the semester, the RD receives a large .csv roster of residents, containing their name, birth dates, room numbers, and arrival dates. Currently, the RDs have to categorize the residents by floor/dorm manually and print out the lists for reference during orientation week, since students need the reference to figure out what room they are in. RDs have to manually determine early arrivals by looking at the arrival dates and if students withdraw/change rooms, they would have to look through the roster and edit the .csv files. Furthermore, they have to create and print the floor charts below manually in Google Sheets.

Smith One South				
102	FR	S	103	ARD APT
Erin O'Day		ê	Chloe Burris	
Abigail Nordhues				
	176			
104	FR			
Kiki Rogers				
Mckenna Lenderink				
	177			
106	SO		107	SO
Sarah Yoon			Leah Schoonmaker	
Grace Mamalat			Tirzah Montanye	
	177			176
108	FR		109	FR
Kaitlin Armstrong			Zoie Berkley	
Rachel Olaleye			Kirsten Miller	
	177			177
110	RA		BATHROOM	
Ella Knowlton				
	176			
112	RA Reserve			
Sophia Becker				
April Phinney				
	177			

The floor charts are mainly for reference for RAs, new residents, and also as a way for Upper Staff to find students (in case of emergencies, deliveries, etc.).

It would be helpful if an interactive floor chart and organized roster (by dorm, floor) can be created automatically from the given .csv file. Furthermore, it would be helpful to have a feature which allows the RD to quickly search for students and find what room they are in. An extra feature would be to have the RAs see the birthdays of residents on the floor chart.

- Make announcements to the entire dorm.

2. Resident Assistants

The RA user group would be the core user group in the web app. They would act as the bridge between the RD/ARD/GRA group and the resident group. The app would allow RA's to access paperwork/information with ease, communicate important information to their residents, and schedule working nights.

The functionalities for this group would be:

- The ability to receive and process Check in/out forms. In the beginning of each term, each student would have to submit a form where they document and sign off on the condition of the room (walls, floors, etc.). At the end of the semester, RAs would then have to find the form of each student and check if the room is still in the same condition.

RD concern: An online system would be effective only if its more accessible and intuitive than paper-based room condition. Considerations regarding possible network error, login issues should be considered. We try to keep this process as easy as possible for the RAs and residents, as there are 40 residents on each floor.

RA comment: It would be helpful to be able to access the forms quickly by name, instead of having to sort through them all the time.

Competition: Paper-based system

- The RA could see and update their IN/OPEN/Off Schedule.

RD comment: This functionality would be very useful since its very often that RAs need to edit the IN schedule.

Competition: Google Doc

- The ability to process Work Orders

Concern: Work Orders are processed through banner's employee tab, in an already established system.

- Allow RA's to edit and view dorm event scheduling

RD comment: Traditionally, dorm/raid events need to be scheduled through the ARD. So it might be better if only the ARD can edit the schedule.

- Allow RA's to edit floor events which residents can see

- Allow RA to see and edit the floor charts of the dorm (described above). Edits are made if student changes rooms or there are withdrawals.

- Access emergency phone numbers and procedure instructions. Currently, emergency instructions are located in the RA handbook, which is a large and heavy binder often placed in the RA room.

Emergency situations include: Fire, Tornado, Blood, Vomit, Mental Health.

RA comment: Having an accessible list of instructions would be very helpful when an emergency occurs, as RAs rarely remember the exact instructions and end up asking Senior staff for next steps.

- Make announcements to their floor without residents being able to respond back (email/text if possible).

3. Residents

Students will be under the user group of Resident. This will give them all the information they need to live in the dorms and give them an easy way to engage with other members and authorities of Residence Life.

The information they will be able see:

- The In/Out/Off schedules of the RA's in their dorm
- The floor schedule and any events that the floor might be planning
- Dorm-wide schedule and events that are not blocked (e.g. raids)
- Information about resident life staff (phone numbers, email addresses, on duty schedules, etc.).

The functionality they will be able to use:

- Submitting forms: Students will be able to submit form that have previously been on paper. It will be a web form, with the option to upload pictures and e-sign.
- Submitting work orders: If a piece equipment or furniture is broken in the dorms, students will be able to ask an authority to send someone to fix it.
- Participate in an online forum for all members of Residence Life.

Basic info that all groups can see:

- Fine information
- Emergency phone numbers
- Any other common information

System environment:

Web application using PHP or NodeJS for backend, HTML/Javascript for frontend, and mongoDB or mySQL for the database.