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IDM 213-001

Design files:

https://drive.google.com/drive/folders/1cpeS4wRFphpYz9lmp8tZ0AD2zQhhS-Wi?usp=sharing

University Parrot : An Alternative Campus Sign In App

Challenge Statement:

The process to sign in a guest at any of the dorms or apartments on campus is a lengthy and tedious process that takes a decent chunk of time from both you, your guests, and security. Not only is this an extensive process, but also a confusing one since it is different for each building you enter.

Purpose:

This is a system that will allow for smooth and safe dorm building access for you and your fellow student guests.

Anyone who has lived in the Drexel dorms know how much time it takes to sign people in. You have to write down the name of the person you are signing in, which can be difficult if you don't know them that well, and have to ask them every single time how to spell their last name, write down your name next to it, and write down the time that you're signing them in. The person is then required to hand over their ID to the security guard, who

stores it with other IDs of people who have been signed in. Then the person who is signed in can walk through the security gate when they are given the signal, and the person who signed them in can hand their ID to the security guard, who scans it, and hands it back to them.

When the students decide to leave the building, the person who had a guest must now sign them out with the time and date, then the person who is being signed out must tell the security guard their name so that they can retrieve their ID for them. Once the time of sign out is written, and the student has their ID they can leave the building.

The problem of having guests sign themselves into buildings was another issue that public safety has combated by introducing a newer, but similar solution. The newer signing in process is very time consuming and life draining. In order to sign in you have to give the security guard both of your IDs, they always forget who is signing in who, ask again multiple times, slowly bang in the resident's name into the computer system and then the guest's name, ask the guest to take a picture, hold onto the guest's ID, scans the resident's ID, then both of you can finally go up to your room. When the students decide to leave the building the resident who had a guest must now give their ID to the security guard, the security guard then looks up the resident's name in the computer, signs them out, then hands both people their IDs.

Both of these systems that have already been implemented in residence halls still take a very long time and may cause confusion at times. With the system embedded in our University Parrot app, the length of time that it takes for someone to get signed in and out would be reduced almost entirely. We are proposing a one time entry system, in which all of the needed information is entered into an app upon download, and the app is used to sign the person in, instead of a physical ID and sign in sheet. This reduces the burden on the security

guard, as they no longer need to take and give back IDs to students, all they have to do now is make sure the information on their screen matches with the person they are looking at.

Problems and Solutions

There are a few concerns that have to be addressed with this app. The major concern that is present, is the fact that security guards will no longer hold onto IDs. Guests will have their IDs on them, which leaves the security guards in the dark when it comes to the location of the guest relative to the building. A proposed idea to address this concern is asking for the guest's permission to turn on location services while they are inside the building. With the location on, security guards can be at ease knowing where the guests are.

Another idea is simply enforcing the rule to scan in and scan out. The same way that a person enters the building, they leave, scanning their QR code each time. This idea can be seen in a system that Amazon Go in Seattle has already mastered. In their Seattle store, guests scan into the store and are tracked around the store with sensors. We are thinking of using sensors at the entrance of a building. This would allow security to know who walks in and out based on a person's phone. Instead of installing multiple sensors around the building, we are, again, asking for users to enable their location services on their phones so that they can be tracked within the building.

Another concern is false identities. Since our app requires a DIY upload of an institution or government issued ID, there could be cases where someone uploads false information. In that situation, students could provide their university ID number, school email, or login with their Drexel information. For non-university guests, another "point" of identification will be enforced. This point could range anywhere from a birth certificate,

marriage certificate, or divorce decree to a bank statement, health insurance card, or high school/college diploma. These are secondary documents that will verify and confirm your identity.

Prototype and Process

Any student that would like to visit a fellow student's residence hall would only need their University ID/Student Number. Since any and all clearance is done through the university already, each student's information is the same credentials already stored in a secured university system. The information would be exactly the same when logged into University Parrot.

Anyone who is not enrolled in a university or college would be considered a non-student, and would have to follow the procedure for non-students in the University Parrot app. The procedure for non-students would be slightly different from that of a student's, but these steps are necessary to ensure the safety of you and your guests. Since non-students do not have university clearances that current students do, a non-student guest would need to be verified through other means. A valid point of identification must be used in order to sign a non-student guest in. A state ID, driver's license, passport, birth certificate, high school student IDs, etc. would be considered valid ID for non-students. A guest must manually enter their information as well as a photo of their valid ID into our system. Our system would then cross check and verify that the manually input information matches the uploaded photo. If it is not the same for any reason, the app will not allow access to the rest of the app. Guests have the option to go back and enter the correct information before allowing a continuation with the app.

The guest needs to request the host to gain access to your QR code. The host has to accept the request to gain entry. This is so that the host knows the guest is coming and doesn't have to go down to the lobby to let the guest in. Also allows the system to know who is signing who in.

Use of QR code is for the reason of quicker in and out then what is being used for the current system. All the information can be scanned and accessed through the code so no need to constantly write in a name and show an ID. Just scan and wait for the approval for entry

Turning on Location Services is a requirement once signed into the building if the person is signing in with the QR code. Once the guest leaves the building by scanning out with the QR code, then the location services are turned off and the person will not longer be tracked once they exit the building. The implementation of location services is for security reasons. Public safety has to know where a student is and if they are staying with their host. Since security no longer holds onto the physical ID, location services are used to identify the location of guests. With location services, public safety can double check to see who is in the building and who has exited.

Existing Solutions

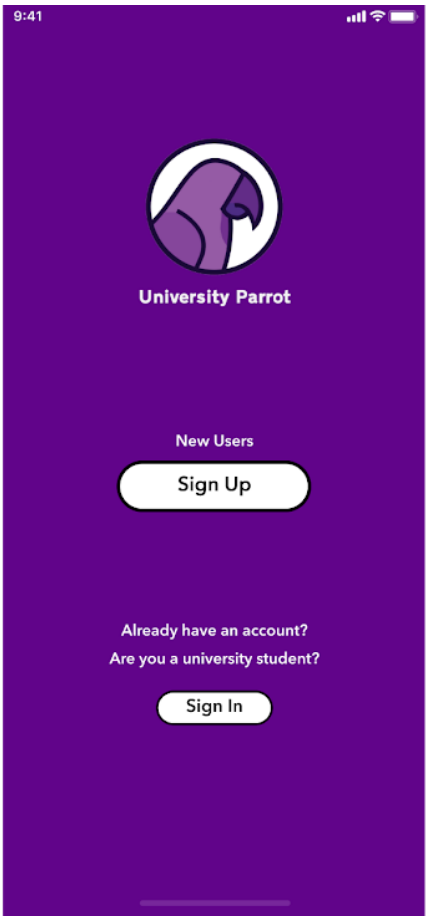
Amazon Go in Seattle uses a QR code to allow customers scan in. Once the customers sign in with the app, the sensors around the building will start tracking the customer to uphold security and prevent theft. This is done with a bunch of sensors scattered around the store. Amazon would only be tracking within the store if the customer is still with the store. This is where we can draw our solution for both security and efficiency when entering and exiting a dorm.

Another existing solution is the sign in procedure at Emerson College. Here, students download a similar app and fill in their guest's name. Once they enter the building the security computer will verify the guest based on what the host has filled in through the app and valid ID of some form. The host is sent an email that verifies that the guest has been signed in and the guest is then given a physical "Guest Pass" which they have to return upon exit. In this system, the guest still has to physically sign themselves into a login book, and still has to show the security their ID each and every time they want to visit.

The idea of a QR code for the friends feature is inspired by Snapchat's QR code, which is known as a "Snapcode". Snapchat implemented Snapcodes to allow users to easily scan another user's Snapcode and add friends in seconds instead of manually typing out usernames. Adding friends by username is still an option for users, it is commonly used in instances when Snapcodes don't scan correctly or do not appear on screen for any reason.

Methodology

Student vs Non Student During Signup



The sign in process can be tough in many cases, which is why we came up with two different methods for initial registration. These two methods will ensure that students and non-students do not have the same initial process for registering with the app. Both parties don't have to go through the same procedure for registering which in turn results in each party skipping over irrelevant steps that do not concern them. The two methods would benefit each party as well as keep the process as simple, fast, and secure as possible.

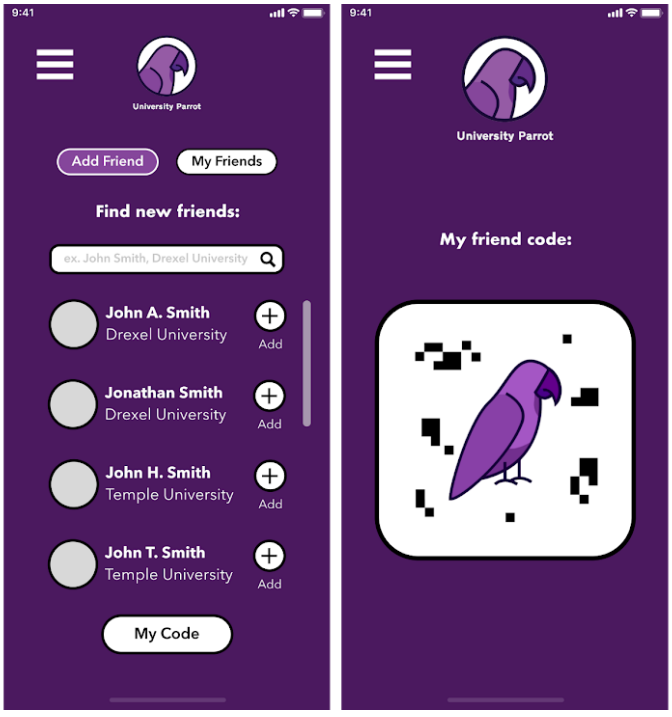
Sign In and Out Process

With a swift signing in process, the only logical conclusion would also be a swift signing out process. University Parrot's sign in/sign out system will allow guests to "fly" in and out at the same speed upon each visit. Our goal is to keep every step of the process

simple, hence our easily accessible QR code feature which enables guests and hosts to sign in and out without worry. To physically sign in with the QR code is simple. Both parties just have to open the app, pull up their unique QR code, then both scan in at the front desk. This system provides no wait time which gives students more time to entertain their guests.

Friends

Users can save people as “Friends” for easier and quicker access to the QR code. This feature for the use of students in the same university to visit each other often. People can search for another person whom they want to be “friends” with and send a request. The other party would then have to accept the request for the connection to be developed. Once the connection has been made, either person can request the other for entry to their dorm for a quicker sign in process.



The first image showcases the screen from our prototype where the user can search for people to add to their friends list by name and university. Another way to add people to

the friends list is by sharing the friend code that is a different type of QR code then the one you would sign into a building with. Once the friendship has been established, users can request each other to enter each other's dorm.

Logo/Name Reasoning

The name "Univeristy Parrot" is derived from the fact that parrots are very social animals and create meaningful relationships with other parrots as well as being an animal that has the ability to fly. This represents two goals that we want to accomplish with University Parrot. We want to allow students to spend time with their friends and converse with their friends more easily, just as parrots do. We also want students to be able to "fly" in and out of their dorms with ease the same way parrots can take flight anytime they want or see fit. This would also be an easy twist to sell it to Universities; the parrot follows you around and sits on your shoulder, the app tracks you, it's all representational. University Parrot would allow for a much easier sign in system across universities.

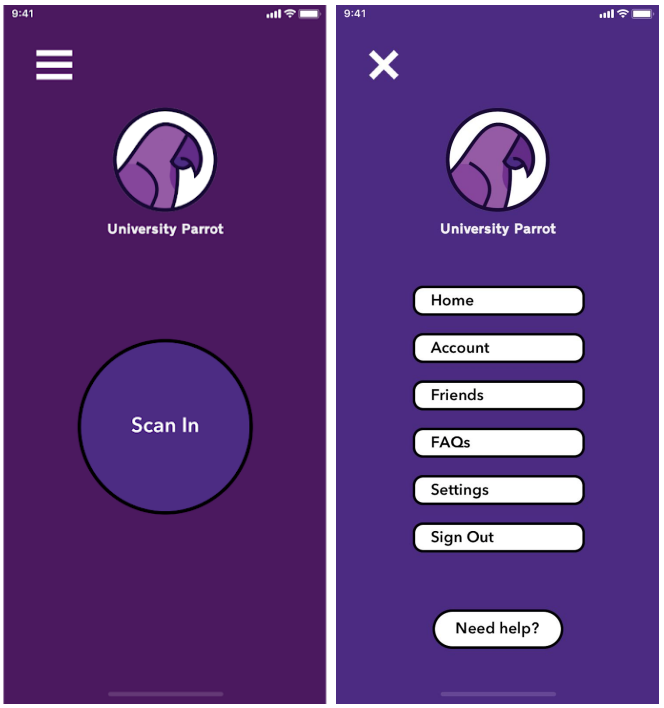
Color Palette and Fonts

Our color palette is inspired by the hyacinth macaw parrot. The hyacinth macaw parrot is a violet bird with cooler blue undertones, so we decided to take those colors and saturate them a bit more in order to have purple color palette with more magenta undertones. The color palette also still includes a cooler violet that is original to the hyacinth macaw parrot. We chose a color palette that work well together with our fonts in order to keep our content legible, which will give our app a simple but colorful and organized feel.

In addition to pulling inspiration from the hyacinth parrot, we also considered the understood meaning of the color purple. Purple combines the calm stability of blue and the fierce energy of red. The color purple is often associated with royalty, nobility, luxury, power, and ambition. Purple also represents devotion, independence, and creativity which can all be adjectives to describe college students.

The sans serif font gives off a more professional yet friendly feel. While this app is more catered towards students and the like, it also deals with security and sensitive issues. The fonts we have chosen are consistent and simple to recreate that feeling of professionalism yet youthfulness of college campuses.

Menu Location



University Parrot is an easy and fast way to access residence halls. The app should be easy and fast to navigate as well. The hamburger menu is an easy way to organize all the features of the app. The placement of the hamburger menu is on the upper left hand corner. This icon is generally well recognized as a menu navigation. As well as having a very minimalistic design, the hamburger fits that aesthetic.

The Design

We tried to keep the overall design for the app minimalistic. The whole purpose of the app is to have a quick way to sign in an out of a dorml that the user frequents. We keep the simplistic design to mimic that purpose and not distract the user from their goals of signing into the dorms.

Possible Issue(s)

An issue that was brought up was the situation of if the phone battery runs out. If the guests battery dies during their stay, or if the location services gets turned off, the front desk will be notified of this change, as well as the person who signed them in. Although most people will have a charger for their guest in their room, this cannot be relied upon. This is for security sake so all parties involved knows where the guest is at all times. If the guest's location services is turned off, the host will be notified and their location services will be turned on, as a backup. In the original system, the guest is supposed to be with the host at all times; our system will mimic this with the added layer of monitoring for safety reasons.

If the guest phone runs out of battery before arriving, they don't have a phone on their person, or they wish to opt out of the app's purpose, the older system will still be in place as a backup for the reasons listed. The purpose of the app is to have a more efficient, quicker, and safer way of signing in students in and out of the dorms.

Conclusion

Overall, our purpose for University Parrot is the have a more efficient and safer system for students to sign in and out of dorms. University Parrot allows users to avoid the hassle of writing the names of both host and guest, resulting in misspellings and misunderstandings. Students can easily use their smartphones to sign their friends in and out of their dorms at any time. Many students use their smartphones for daily tasks, why not use it to quickly sign friends in and ensure both parties' safety.