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UI/UX CASE STUDY

Project Title: **"Solving the Parking Predicament at Palawan State University"**
Subtitle: "Enhancing Campus Mobility and Convenience"

Exercise 2: Your Role
My role as the lead UX/UI designer encompassed research, ideation, design, prototyping, testing, and collaboration, with a strong focus on creating a user-centric solution to address the parking challenges at Palawan State University.

Project Summary/About this Project:

This case study outlines the design and implementation of a parking management solution at Palawan State University (PSU). PSU faced a persistent parking predicament, with limited spaces and chaotic parking patterns causing frustration among students, faculty, and visitors. The goal of this project was to create a user-friendly and efficient parking system that would alleviate congestion and enhance campus mobility.

Exercise 3: The Challenge

Problem Statement: PSU's parking areas were consistently overcrowded, leading to inconvenience, traffic congestion, and occasional disputes among users. The lack of a streamlined parking management system exacerbated the issue. The high volume of vehicles seeking parking spaces resulted in traffic congestion, especially during peak arrival and departure times. This congestion had a cascading effect on the entire campus, impacting mobility.

Users, including students, faculty, and visitors, often experienced frustration and stress when trying to find available parking spaces. Prolonged search times and uncertainty about parking availability were common concerns.

User Interviews: We conducted interviews with PSU students, faculty, and staff to understand their parking-related challenges. Questions revolved around parking habits, pain points, and suggestions for improvement.

Demographic Questions:

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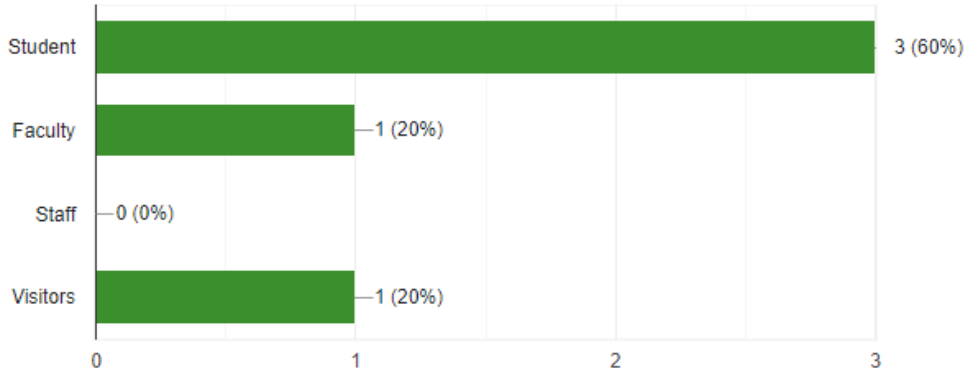
What is your affiliation with Palawan State University? (Select one)

5 responses



How often do you visit Palawan State University's campus? (Select one)

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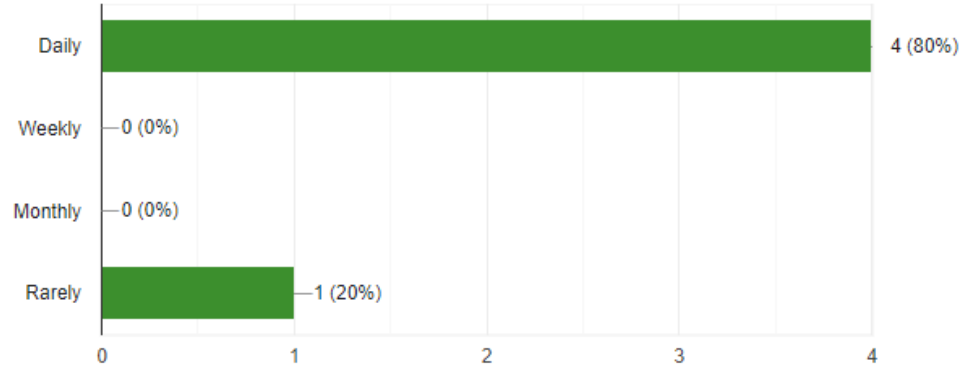
5 responses



Parking Experience:

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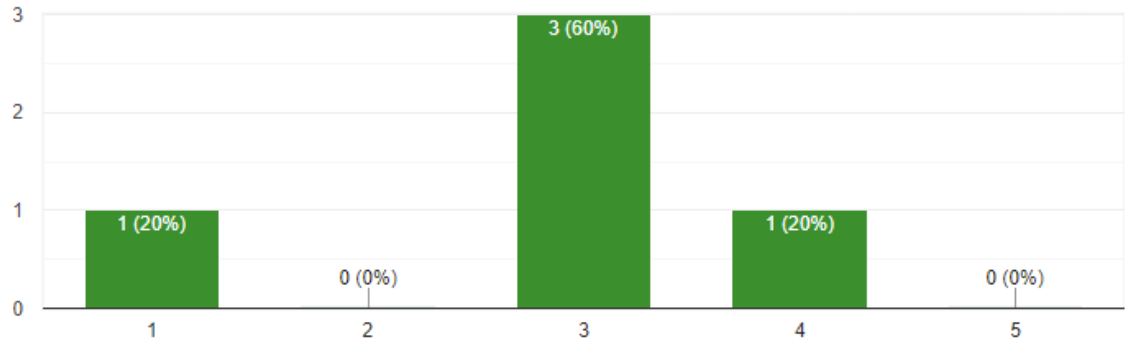
On average, how satisfied are you with the parking facilities at PSU? (Scale of 1 to 5, with 1 being very dissatisfied and 5 being very satisfied)

5 responses



How often do you encounter difficulties finding a parking space on campus? (Select one)

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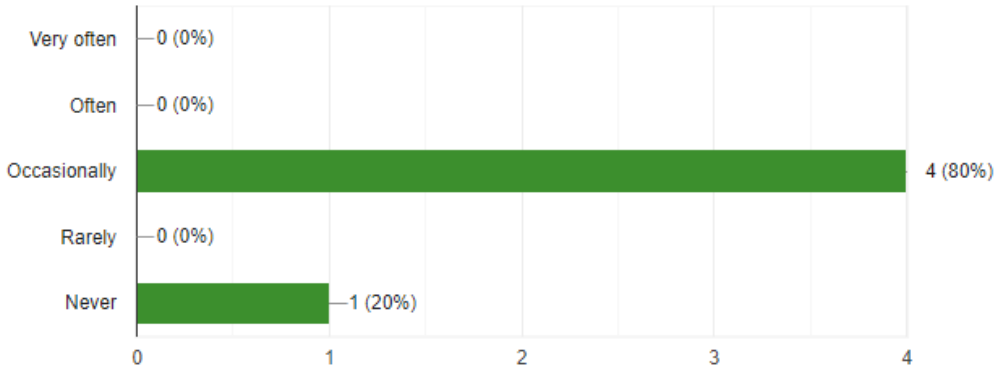
5 responses



Have you ever experienced disputes or conflicts over parking spaces at PSU? (Select one)

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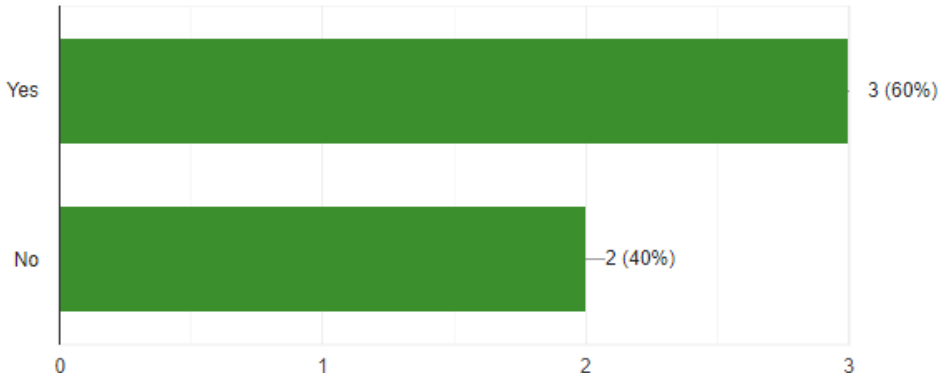
5 responses



What are your insights and advice?

2 responses

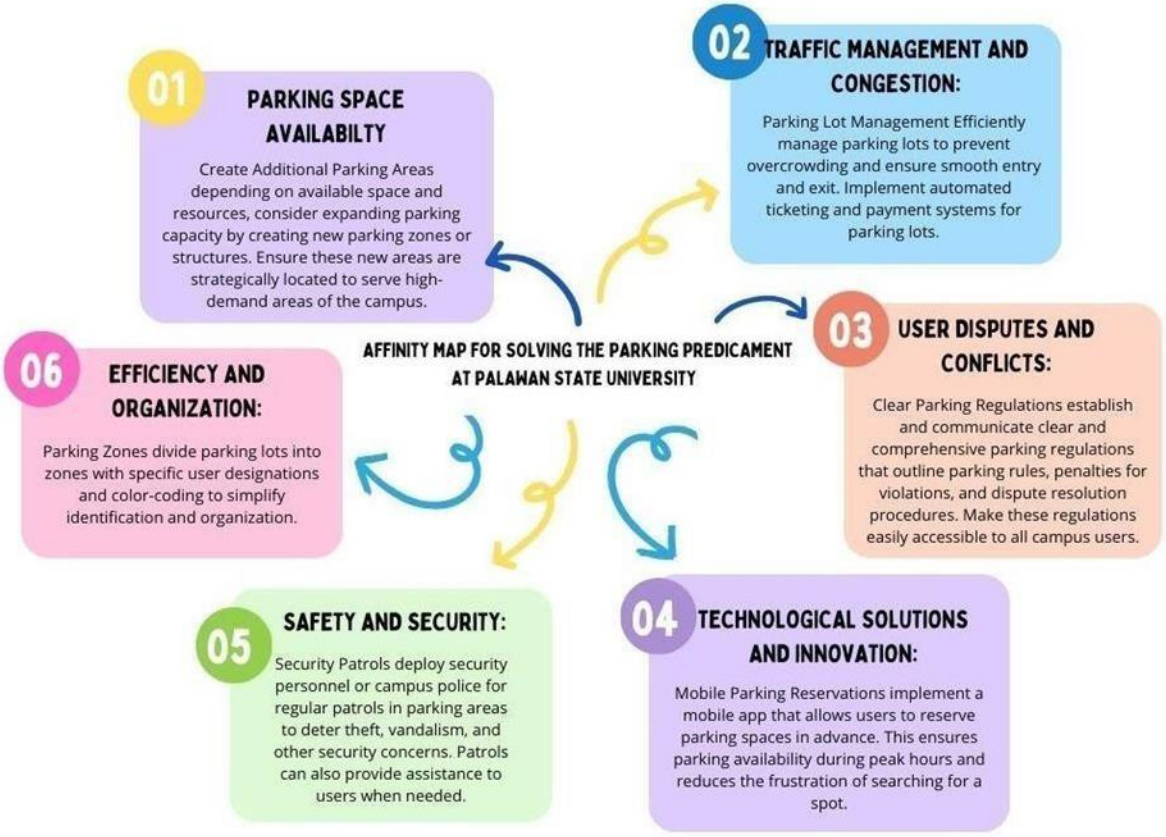
Parking Space Availability also I want Efficiency and Organization in term of parking zones.

PSU face many challenges in terms of Parking Areas like limited Parking Spaces, sometimes I struggled to find parking spots during peak hours. So ,I don't expect it, but I would like to have a guaranteed parking space on campus.

Pain Points

- Limited Parking Spaces Users struggled to find parking spots during peak hours.
- Traffic Congestion: Chaotic parking led to traffic jams and delays.
- Disputes: Disputes over parking spaces were common, causing frustration.
- Lack of Information: Users had no real-time information on available parking spaces.
- Inefficiency: The existing system was manual and lacked organization.

Affinity Mapping: We conducted affinity mapping workshops to categorize and prioritize pain points and user suggestions. This helped us identify common themes and areas for improvement.



Personas: We created personas representing typical users, including students, faculty, and visitors. These personas helped us empathize with our target audience and make design decisions accordingly.

Demographics:
Persona 1: Shiela Mae, Auto owner Age: 21
Occupation: Learner Enrolled at Palawan State University Background: Local resident of Palawan Hometown: Puerto Princesa City
Marital Status: Single

Description:
Shiela Mae is a vibrant 21-year-old who is currently pursuing her education at Palawan State University. As a dedicated learner, she is deeply committed to her studies and takes her academic responsibilities seriously. Born and raised in Palawan, she is a true local resident of the island, with her hometown being the picturesque Puerto Princesa City. Despite her youthful age, Shiela Mae displays a sense of maturity and responsibility that's notable in her role as an auto owner. Being single and focused on her education, her vehicle serves not only as a mode of transportation but also as a symbol of her growing independence and the capability to manage her life effectively. Shiela Mae's dedication to her studies and her local roots make her a unique and important part of the community in Palawan.

Goals and Needs:
Shiela Mae's goals and needs as an auto owner and local student at Palawan State University can guide the development of a parking management solution that caters to her specific requirements and enhances her overall campus experience. One of her main needs is to. She often arrives early in the morning and wants the assurance that she won't have trouble finding a spot.

User Scenario:
Scenario 1: Morning Class

- Morning Routine: Shiela Mae starts her day early, getting ready for her morning classes at Palawan State University.

- Parking Dilemma: She walks to her car parked near her apartment and starts her drive to the university. She knows finding parking will be a challenge, and it's an added stress to her morning routine.

- Campus Arrival: After circling the university for an available parking spot, Shiela Mae finally finds one but must walk a considerable distance to reach her class on time.

Scenario 2: Midday Break

- Lunch Break: During her midday break, Shiela Mae wants to grab lunch off-campus. She hesitates because she doesn't want to lose her parking spot, but the on-campus options are limited.

- Parking Predicament Continues: She decides to stay on campus for lunch, even though she'd prefer to explore the local dining options.

Attributes:

- Faces a parking predicament at Palawan State University due to limited parking options.
- Struggles with finding convenient and affordable parking spaces on campus.
- Concerned about the safety of her car when parked on or around campus.
- Frustrated with the stress and time-consuming nature of searching for parking spots.
- Desires a better and safer parking experience to enhance her university life.

Demographics:
Persona 2: Eugene, Motor Vehicle Owner Age: 20
Occupation: Freshman at Palawan State University
Background: Local resident of Palawan
Marital Status: Single

Description:
Eugene is a 20-year-old freshman at Palawan State University, and he is also a motor vehicle owner. As a local resident of Puerto Princesa City, he decided to attend this university to pursue higher education while staying close to home. Eugene's decision to bring his own vehicle to campus was influenced by the limited public transportation options available and the convenience of having his own mode of transportation.

Goals and Needs:
Eugene's primary need is to find a reliable and convenient parking solution at the university. He faces the daily challenge of securing a parking spot on campus, which can often be a time-consuming and frustrating experience. This situation often leads to stress and tardiness, affecting his academic performance. His goals include receiving timely information and updates on parking availability and regulations to plan his daily commute effectively and contributing to a more sustainable campus environment by supporting eco-friendly parking solutions, if available.

User Scenario: Experiencing the Parking Predicament at Palawan State University.

- Morning Routine: Eugene wakes up in his home in Puerto Princesa City. He knows that he needs to leave early to secure a parking spot at the university. He gathers his study materials and heads to the parking area where he usually parks his vehicle.

- Parking Area Crowds: Upon arriving at the university's parking area, Eugene is met with a familiar sight a crowded and disorganized parking lot. There are limited designated spots for students, and the spaces are often occupied by faculty and staff vehicles.

- Searching for Parking: Eugene spends the next 5 minutes circling the parking area, hoping to find a vacant space. Unfortunately, he doesn't find any available spots, and this has become a daily frustration for him.

- Late for Class: Realizing he's running out of time and his first class is about to begin, Eugene is forced to park his vehicle in an unofficial and less convenient location, which is not only inconvenient but also potentially against university parking regulations.
- Class Time: Eugene rushes to his class, already stressed and worried about the safety of his vehicle parked in an unauthorized area. He enters the classroom late and flustered, which affects his ability to focus and engage in the lecture.

- Desire for a Solution: During the lecture, Eugene daydreams about a practical parking solution. He wishes there were designated parking areas for students that are well-organized and easily accessible, allowing him to arrive on time and concentrate on his studies.

Attributes:
- Parking Habits: Relies on his motorcycle for daily commuting to campus.
- Preferred Parking Location: Prefers convenient and safe parking areas on campus.
- Daily Routine: Commits to finding a suitable parking space each day.
- Emotional State: Experiences stress and frustration due to the parking predicament.
- Academic Impact: Tardiness affects his ability to focus and engage in lectures.

Customer Journey Mapping: A customer journey map depicted the user's experience from arriving on campus to finding a parking spot. It highlighted pain points and opportunities for improvement.

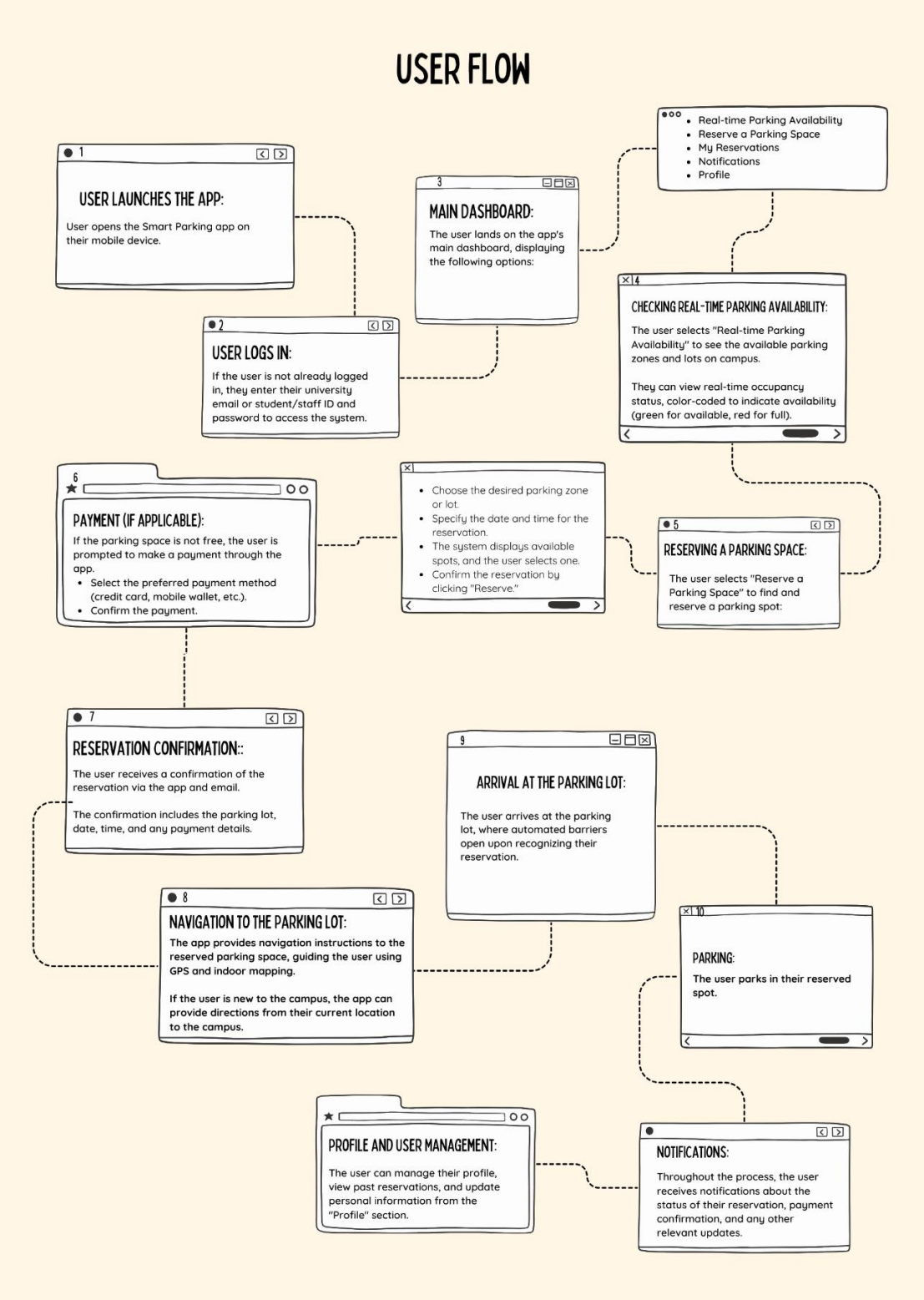
Design Solutions:
To address the parking problem at the university, we considered several design solutions. These design solutions aimed to optimize parking space usage, improve the user experience, and streamline the parking process. Here are some of the design solutions:

- Parking Reservation System: Develop a digital parking reservation system where students and staff can reserve parking slots in advance, ensuring availability and reducing the hassle of finding parking spots.

- Real-time Parking Availability: Implement a system that tracks and displays real-time parking spot availability on a mobile app, guiding users to available spaces and minimizing search time.

- Reserve Parking Zones: Designate specific parking zones for different groups, such as students, staff, and visitors, ensuring that each group has a dedicated area to park.

User flow for the Smart Parking System in the case of Palawan State University can help visualize how users will interact with the system to find and reserve parking spaces. Below is a simplified user flow for the system:



Storyboard: “Solving the Parking Predicament at Palawan State University”

Scene 1: University Campus - Parking Lot Characters: Jhon R. (Student), Shiena (Student)

[The scene opens in a crowded parking lot at Palawan State University. Cars are circling, looking for parking spots.]

Alex: (frustrated) Sarah, I've been driving in circles for 20 minutes. There's just no parking space available!

Sarah: I know, Alex. This parking problem is getting out of hand. We need a solution.

Scene 2: University Library Characters
Bjan (Student), Shiela (Student)

[Jhon R. and Shiena meet with Bjan and Shiela at the university library.]

Bjan: I've noticed this issue for a while now. It's not just an inconvenience; it affects productivity too.

Shiela: And it's not eco-friendly with all these cars idling. We should think about sustainability as well.

Scene 3: University Meeting Room
Characters: Jhon R., Shiena, Bjan, Shiela, and Stephanie
[The group gathers in a meeting room to discuss the issue]

Rebecca: Thank you all for coming. Let's brainstorm solutions. We need to enhance campus mobility and convenience.

Alex: What if we create a mobile app to reserve parking spaces in advance?

Sarah: That's a great idea, and we could also introduce a carpooling program.

Lisa: How about a shuttle service from a nearby parking area?

Professor Johnson: And don't forget about bike racks and incentives for using alternative transportation.

Scene 4: University Campus - Parking Lot (A few months later)
Characters: Jhon R, Shiena, Shiela, Bjan, Stephanie

[The parking lot is much more organized with clear spaces for different programs. People are using the new mobile app and carpooling more frequently.]

Stephanie: The changes seem to be working well. The parking predicament is gradually resolving.

Shiela: It's so much easier and greener now. And I've made friends through carpooling!

Scene 5: University Meeting Room (A year later)
Characters: Jhon R, Shiena, Shiela, Bjan, Stephanie

Stephanie: A year ago, we were facing a significant parking problem, and thanks to all of your ideas and efforts, we've come a long way.

Jhon R: The mobile app has made a big difference. It's more convenient, and we can reserve parking spaces in advance.

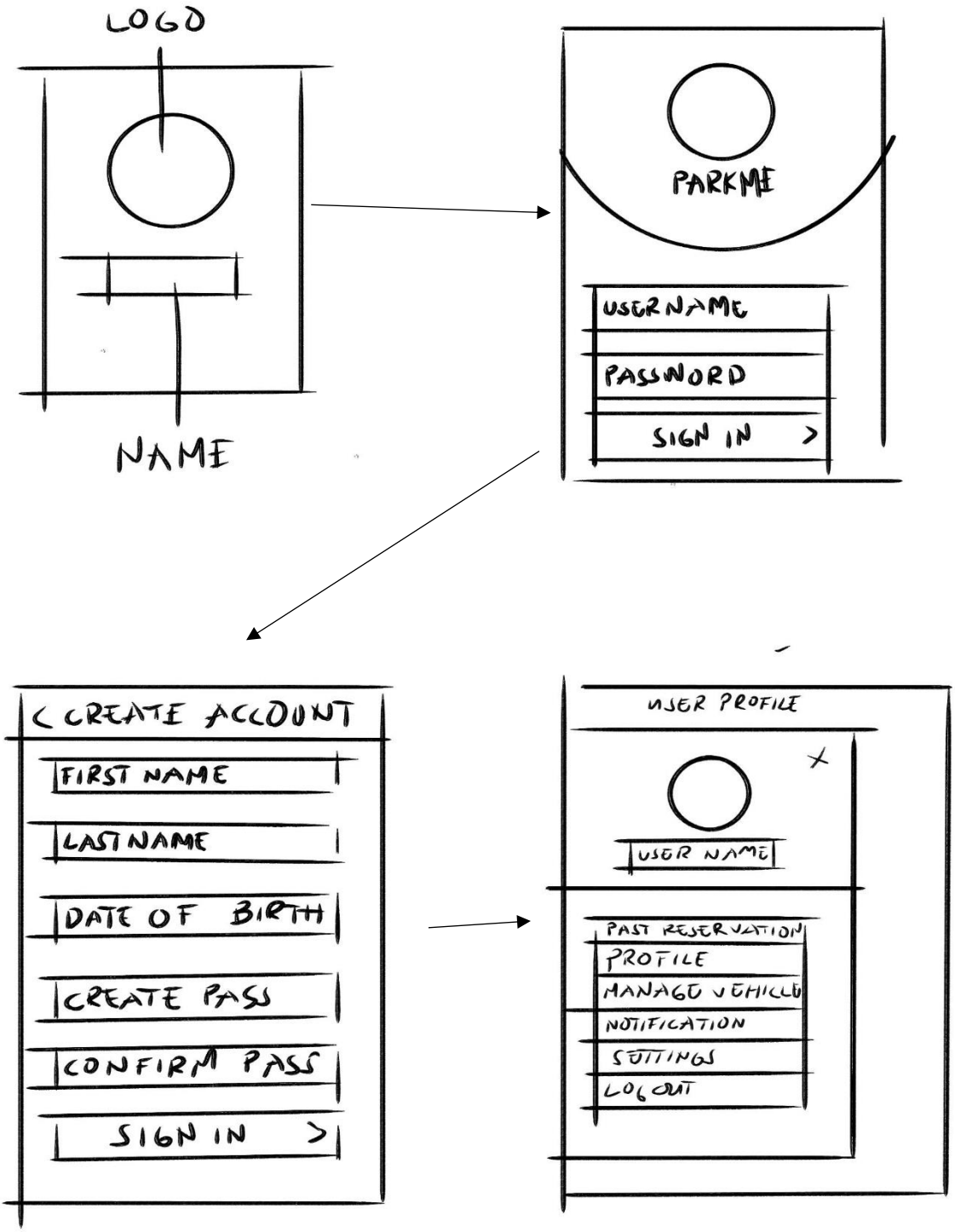
Shiena: And the carpooling program has reduced the number of cars on campus, making it easier to find parking spots.

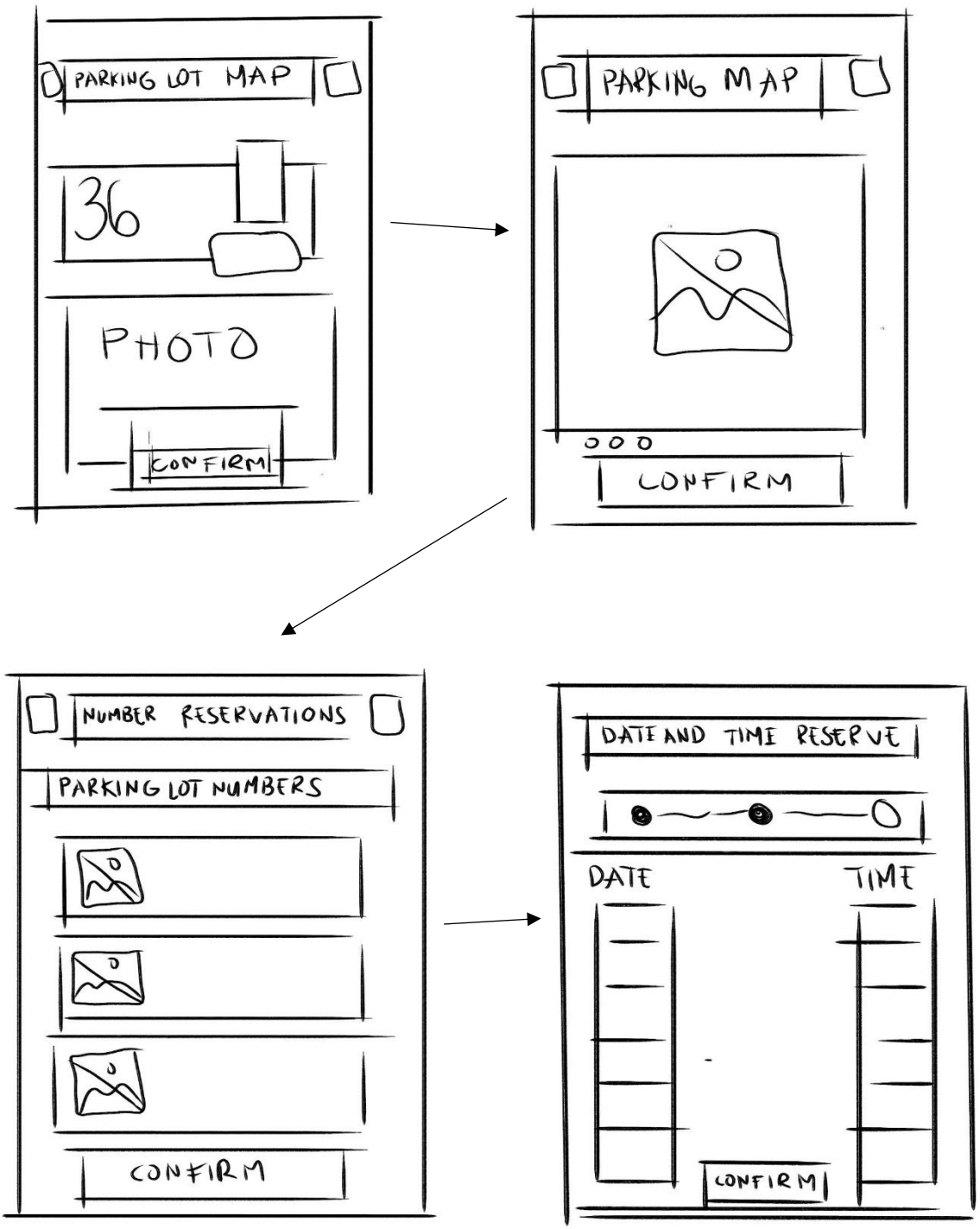
Shiela: The shuttle service and bike racks have encouraged alternative transportation and reduced our carbon footprint.
Professor Johnson: Productivity and campus mobility have improved significantly. It's been a great change for the university.

Stephanie: Our efforts have not only solved the parking predicament but also enhanced the overall campus experience.
[The group smiles and nods in agreement, reflecting on their successful journey to improve campus mobility and convenience.]

The End

Sketches: Sketches were used to brainstorm and visualize various aspects of the parking solution, including the user interface of the mobile app, signage placement, and shuttle service routes.




PARKING LOT MAP
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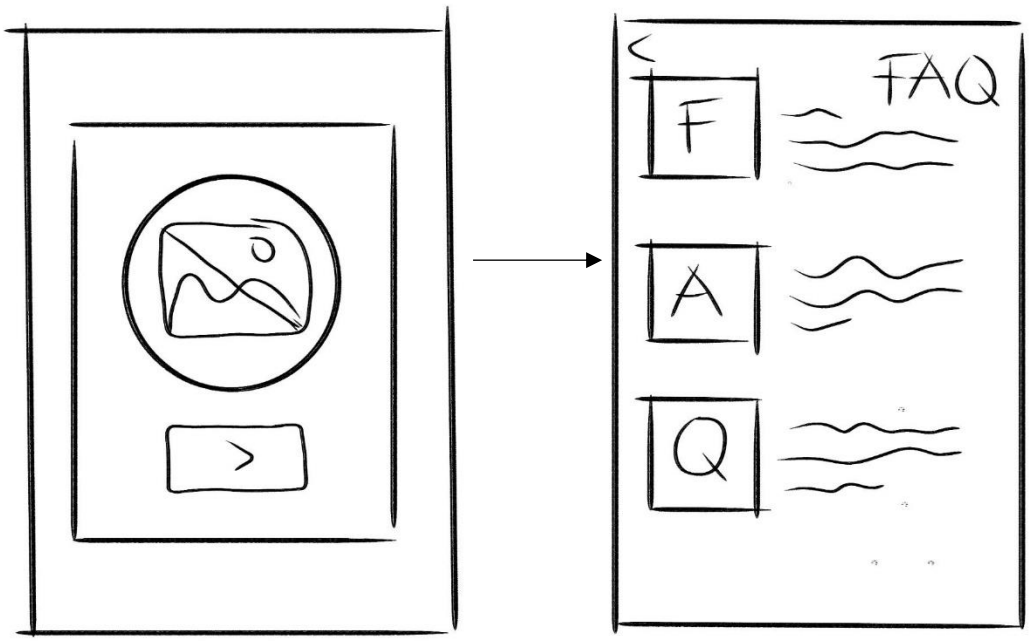
FAQ
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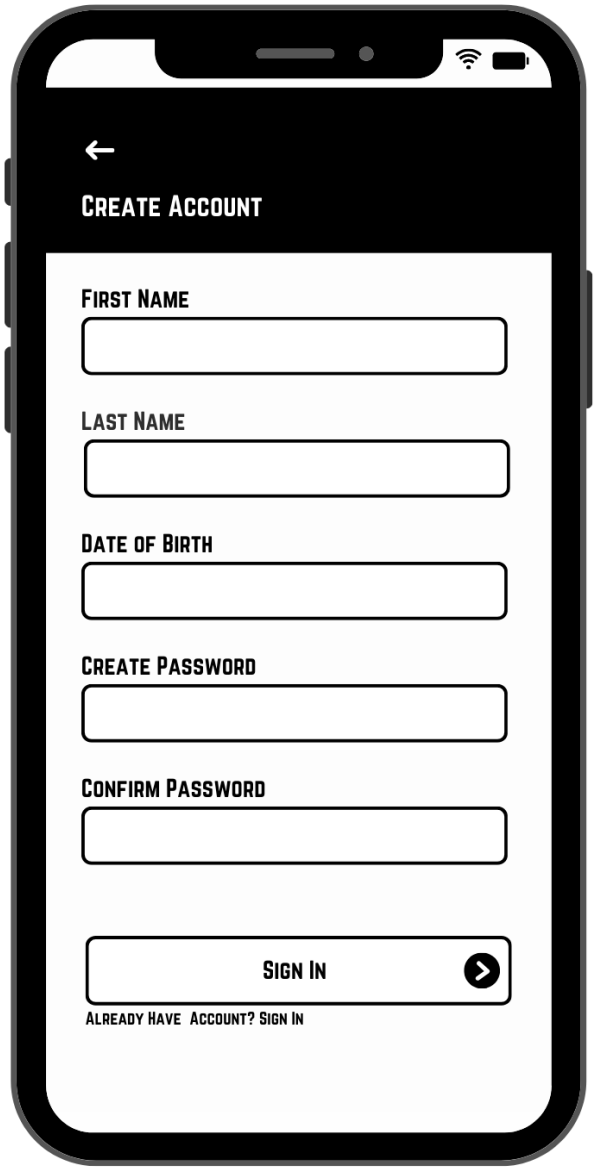
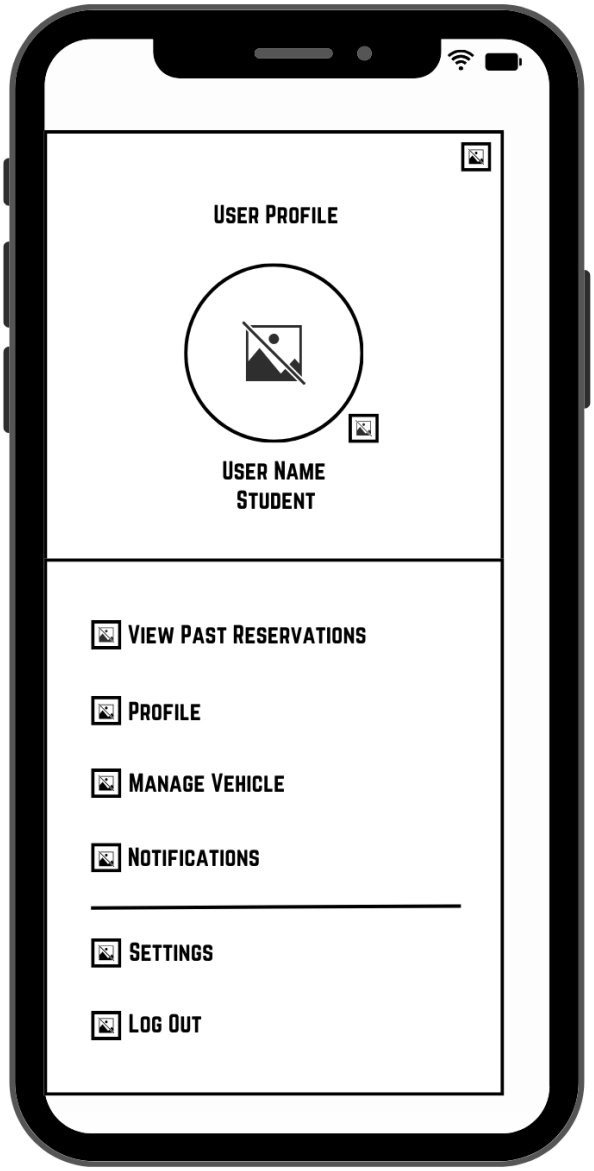
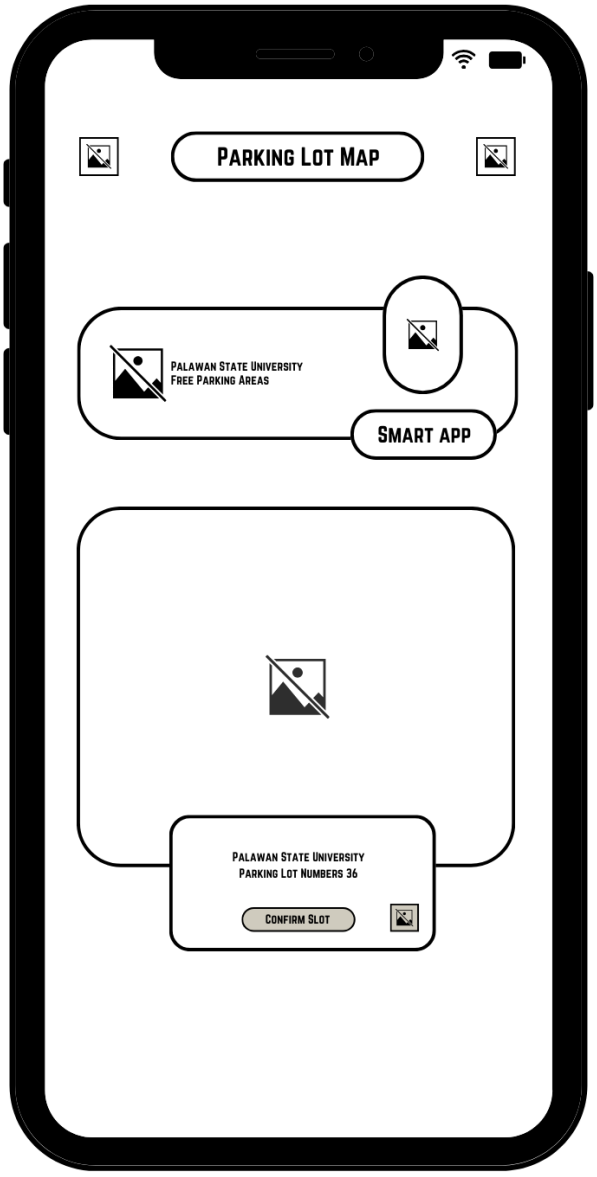
Wireframing:
Wireframes Icon and Sign in Interface

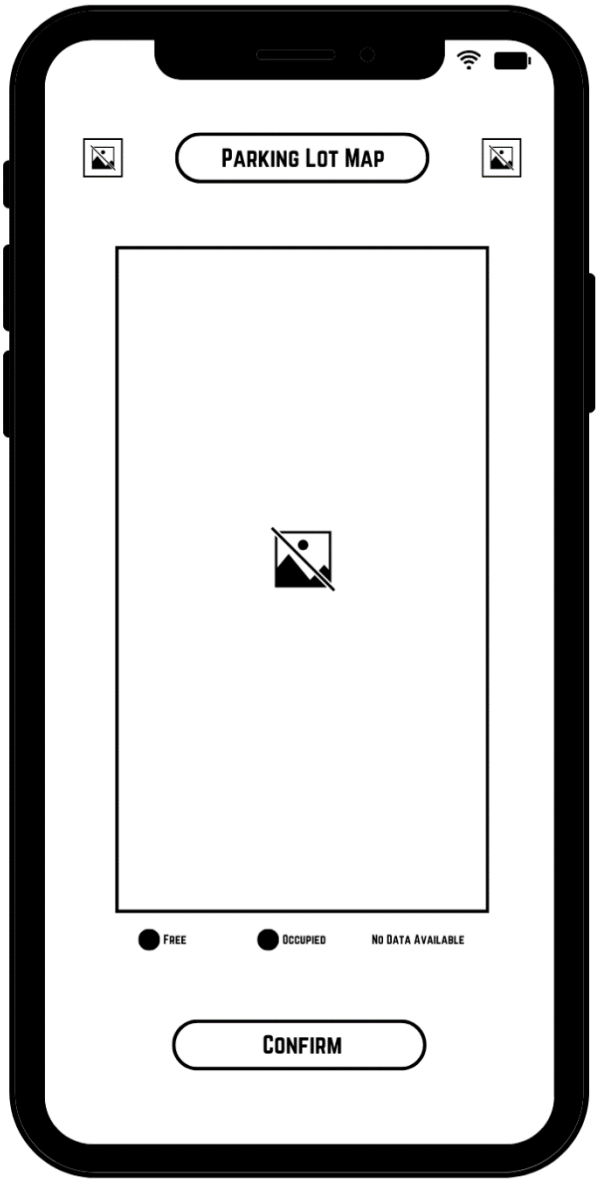
Wireframing:
Wireframes Create Account and User Profile



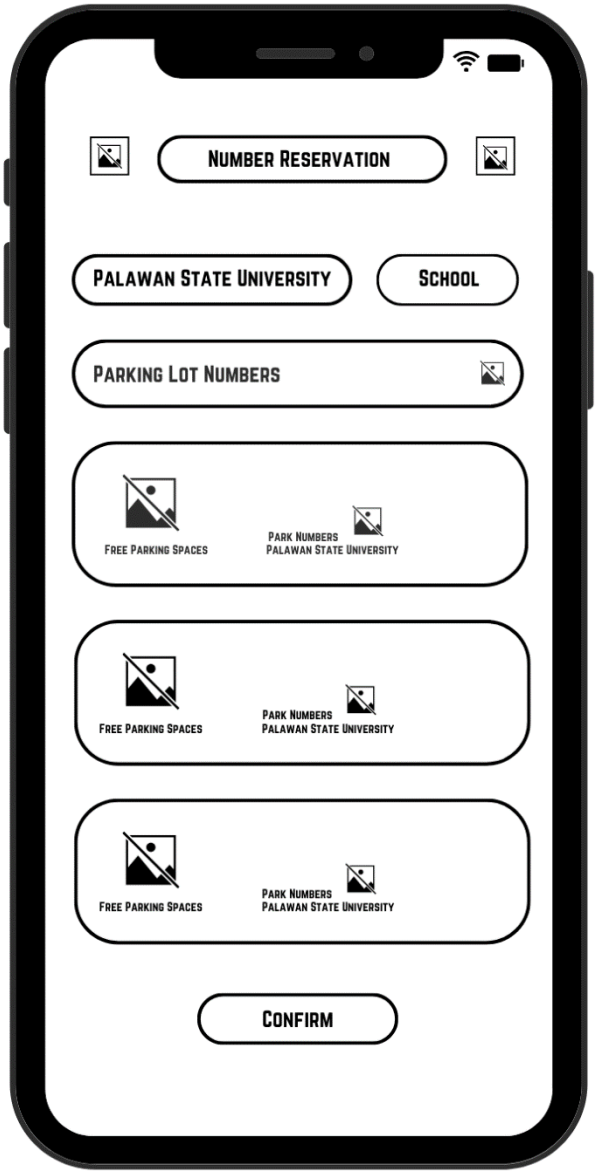


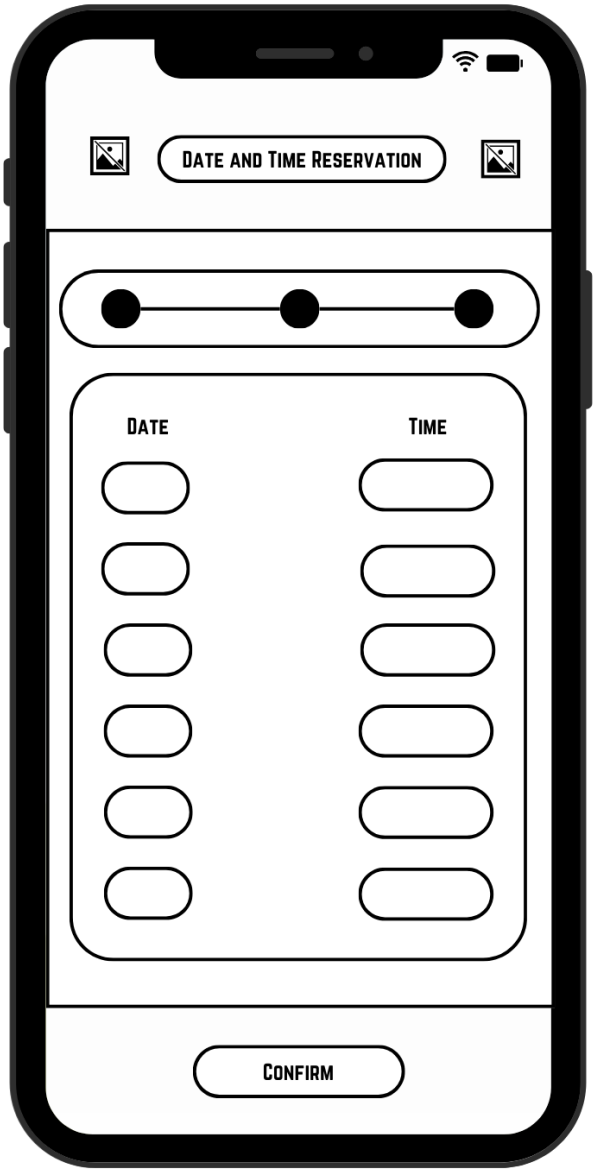
Wireframing:
Wireframes Parking Lot Map





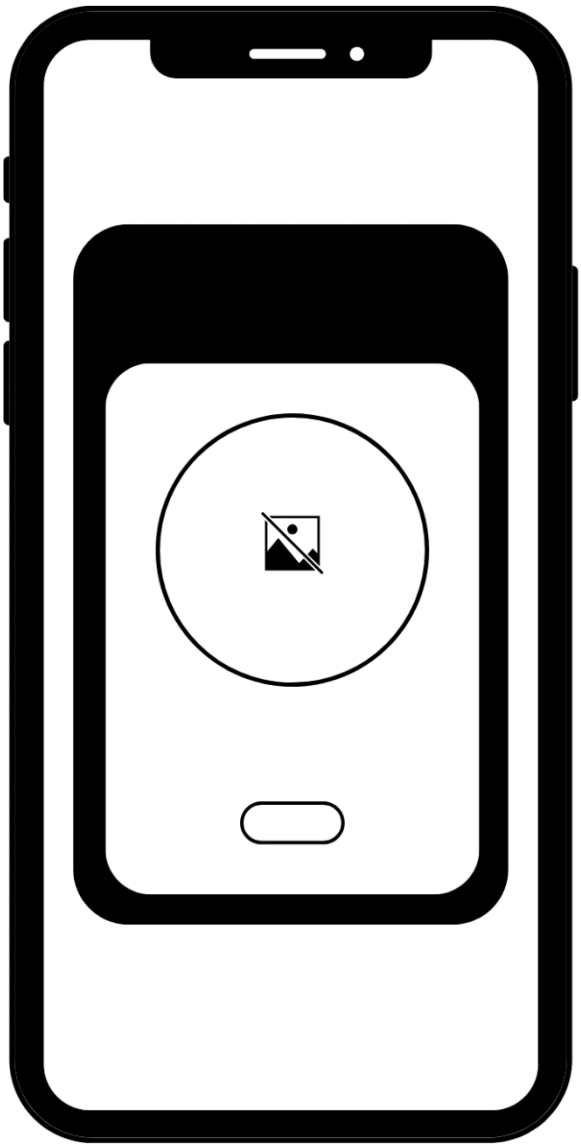
Wireframing:
Wireframes Number Reservation and Date and Time Reservation

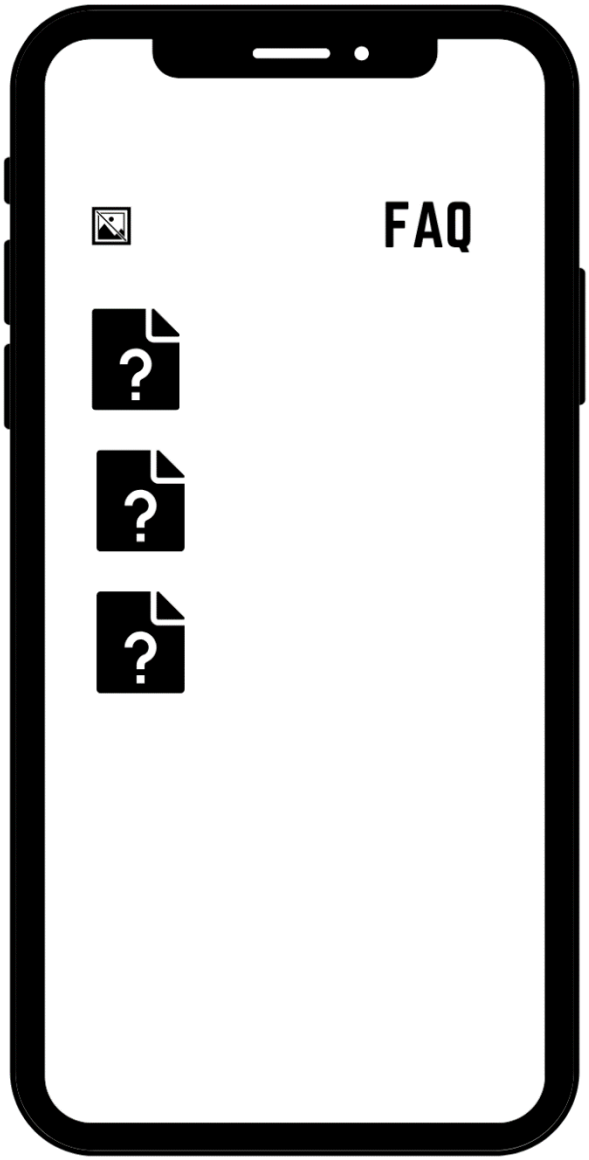




Wireframing:

Wireframes Reservation Confirmation and FAQ





Visual UI Design: Solving the Parking Predicament at Palawan State University

To address the pain points related to limited parking spaces, traffic congestion, disputes, lack of information, and inefficiency, a comprehensive parking management system can be developed. The Visual UI Design should be user- friendly, efficient, and informative, focusing on solving these issues. Here are design choices and explanations for how they address the pain points:

Home Screen:
Colors: Use a clean and intuitive color palette with calming shades of Dark Mode to reduce user stress. Styles: A modern and minimalistic style to keep the interface uncluttered.

Real-Time Parking Availability:
Pain Point: Lack of information on available parking spaces.
Design: Include a map with color-coded parking zones and the number of available spots in each zone.
Colors: Use green for available spots and red for occupied spots.

Parking Reservation:
Pain Point: Limited parking spaces and disputes.
Design: Allow users to reserve parking spots in advance, reducing disputes and ensuring a spot is available when they arrive.

User Profile:
Pain Point: Inefficiency of the existing system.
Design: Users can manage their profiles, view past reservations, and set preferences. This enhances efficiency and personalization.

Notification Center:
Design: Send real-time notifications about reservation confirmations, spot availability, and parking time reminders.
Help and Support

Pain Point: Users frustrated by disputes and issues.
Design: Include a help and support section with FAQs and the option to chat with a support representative.

Screens Overview:

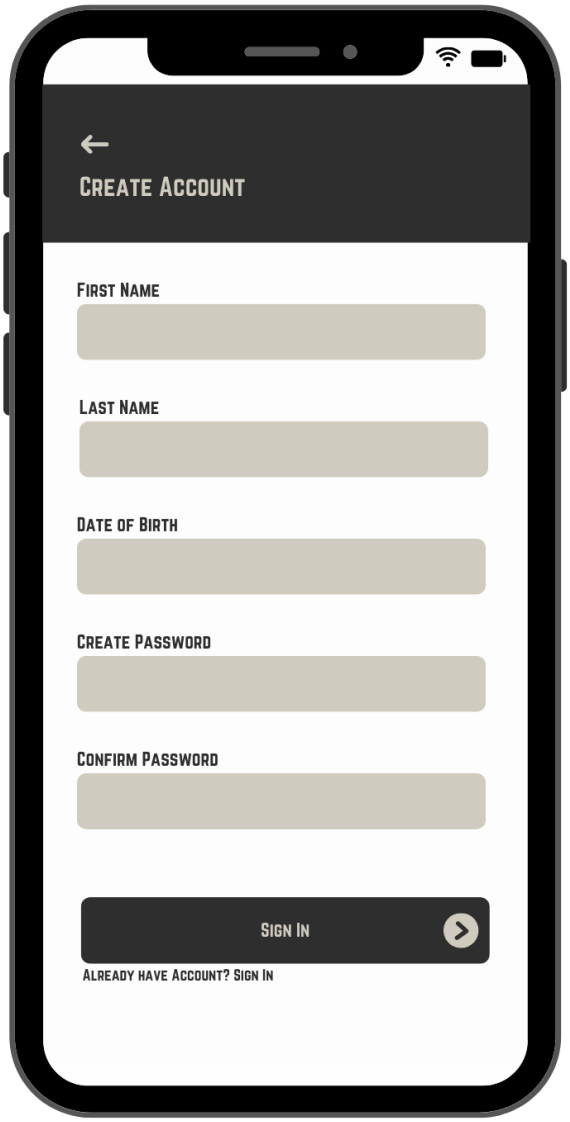
1. Login/Registration: Users can create accounts or log in for a personalized experience.
2. Real-Time Availability: Shows a map with parking zones and the number of available spots.
3. Reserve a Spot: Allows users to choose a parking zone, select a time, and make a reservation.
4. Notification Center: Displays real-time notifications about reservations and parking spot availability.
5. Help and Support: Helps and a chat feature for dispute resolution.

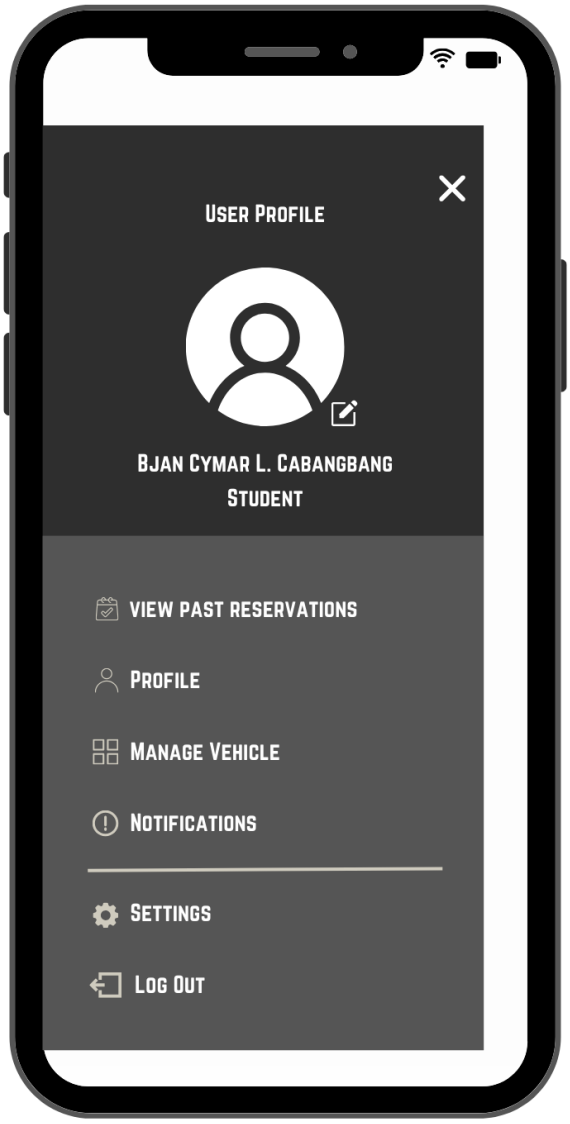
By focusing on these design choices and features, the parking management system effectively addresses the pain points, making the parking experience at Palawan State University more convenient, efficient, and less stressful for its users.

Prototyping:
A prototype of the mobile app was created to demonstrate its functionality. It allows users to interact with the app, check parking availability, and reserve spots. Users can also see how the app guides them to available parking spaces. The prototype highlights the key features that enhance the user experience.

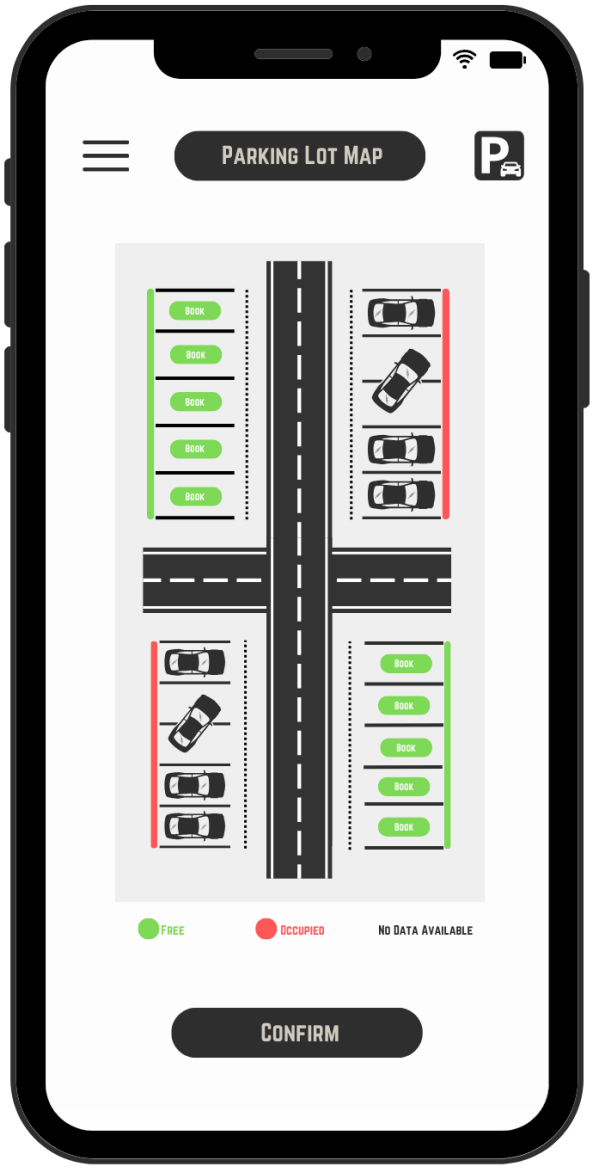
Icon and Sign in Interface

Prototyping: A prototype of the mobile app was created to demonstrate its functionality.
Create Account and User Profile Interface



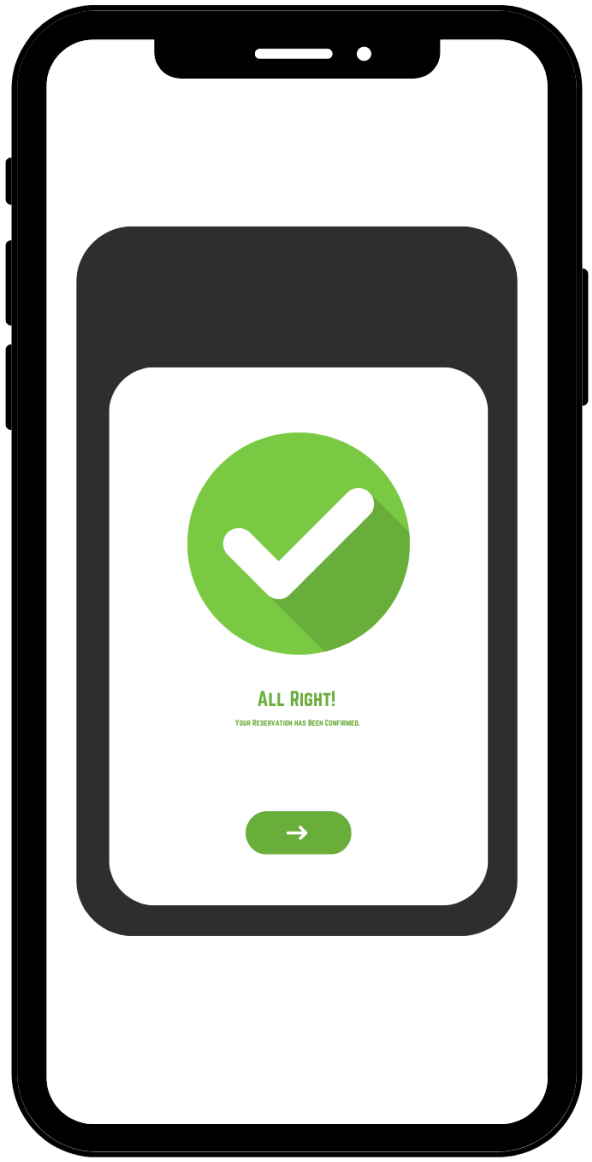


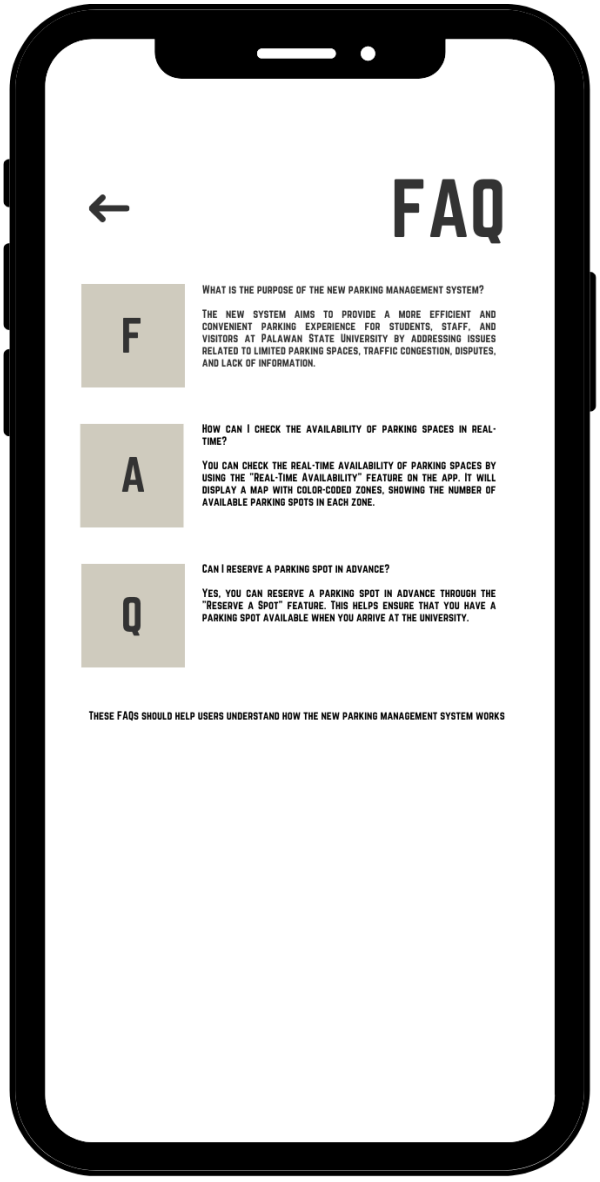
Prototyping: A prototype of the mobile app was created to demonstrate its functionality.
Parking Lot Maps Interface



Prototyping: A prototype of the mobile app was created to demonstrate its functionality.
Numbers and Date/Time Reservation Interface

Prototyping: A prototype of the mobile app was created to demonstrate its functionality.
Confirmation and FAQ Interface





Part II: Exer 4 Comments/Suggestions:
Various aspects based on your personas to address the parking predicament at Palawan State University.

Parking Space Availability: To ensure an effective solution, focus on improving the availability of parking spaces. Consider strategies like optimizing existing parking areas, identifying unused spaces, or even exploring additional parking structures if needed. This approach will directly alleviate the congestion issue.

Efficiency and Organization: Efficient parking management is crucial. Implement parking zones and proper signage to guide drivers to available spots. You could also explore technology-based solutions like apps that show real-time parking availability or automated entry systems to reduce congestion at entry points.

Guaranteed Parking Space: Providing a guaranteed parking space on campus could be an attractive solution. This can be achieved by implementing a reservation system, which allows students and staff to book parking spots in advance, ensuring they have a spot when they arrive. I encourage their input and insights to refine the study further, ensuring it aligns with the needs of my personas and the university community. This collaborative effort will strengthen the thesis proposal and increase the chances of implementing a successful solution.

Results / Conclusion:
Throughout the case study journey focused on "Solving the Parking Predicament at Palawan State University," several key findings, achievements, and insights have emerged:

Key Learnings:
Flexibility is key: Adapting to the ever-changing needs of the university community and the dynamic nature of parking challenges required flexibility in our approach. Technology matters: The integration of technology-based solutions significantly improved efficiency and overall user experience.

Challenging Steps:
One of the most challenging aspects was securing the necessary funding for infrastructure improvements, such as additional parking structures. Balancing the interests and needs of different user personas, as identified earlier, presented a challenge when deciding on the final solution.

Next Steps for the Project:
Continuously monitor the performance of the implemented solutions and gather feedback from users to make necessary adjustments. Explore sustainable and environmentally friendly options, such as green parking spaces. Consider expanding the reservation system to include faculty and staff to further alleviate parking issues.

Reflections:

This project has not only provided a practical solution to a persistent problem but also highlighted the importance of collaborative work in addressing complex challenges. The lessons learned extend beyond this project, emphasizing the significance of adaptability and the integration of technology in modern problem-solving. In closing, the journey of addressing the parking predicament at Palawan State University has been a rewarding experience. The success metrics achieved, the lessons learned, and the challenges overcome all contribute to a comprehensive case study that not only benefits the university community but also demonstrates a commitment to both the project's life cycle and personal career development. This project serves as a testament to the positive impact that collaborative, innovative, and adaptable solutions can have on real-world challenges.