Call me Rob
A robor-guide

Presented by Dilnaz

The design challenge

Our educational institution needs a robot guide to help new students and teachers solve basic problems they face upon arriving at the university and assist them in adapting. The goal is to develop a robot guide that will meet the needs of students within the SDU (Suleyman Demirel University) campus.

Overview

1.Problem
2.Research
3.Design
4.Evaluation

Problem

Each year, thousands of new students, teachers, and staff join the university, encountering difficulties with navigation. Why? The university is quite large, with different buildings assigned to various specialties, and classroom locations change every semester, making it hard to move around. Additionally, students face challenges with their studies. The university offers resources like the advising desk and official social media platforms; however, they do not always provide quick results, or students may not always feel comfortable reaching out for help.
As a result, the university seeks to assist students and others through a robot guide.

Problem

01

How can we motivate people to use the robot guide, and what are its advantages?

02

How can we implement the robot guide within the university?

For a deeper exploration of these questions, we conducted a step-by-step research process:

- Brainstorming
- Research (Survey)
- Analysis
- Objectives (Questions for the robot and the functions it should perform)
- Design development (How the interaction will take place)
- Evaluation (Final survey)

Brainstorming

Idea

We were tasked with implementing a robot delivery system at SDU. Many ideas were considered, but one that stood out was mentioned by the teacher during a lecture, especially the challenges he faced. Reflecting on our own experiences, we realized that everyone has faced these same issues at some point. New students will continue to encounter them as well, making it a consistently relevant issue year after year.

Why does the university need this?

The university needs this solution if they want to streamline responses to students' basic questions and avoid the chaos or confusion that often arises during the first few days of school..

Why does every SDU student face this problem?

- The large number of students often overwhelms the university's resources.
- There are difficulties in adapting, understanding locations, and figuring out the internal layout of the university.

Who will face these challenges?

Everyone associated with SDU.

Why a robot guide?

Right now, robots represent innovation and the future. A robot could provide round-the-clock assistance at the university. It would generate interest among students and others as a new type of helper. Plus, with access to vast data, it could handle most questions quickly and efficiently.

Possible solutions

This problem could be addressed with touch-screen banners, expanding student services or advice desks, or using more advanced technology like delivery robots. Other options include developing a mobile app or website.

Competitive Analysis

- Orientation Day
- At the beginning of the academic year, the university holds an Orientation Day for first-year students. This event familiarizes them with the campus, showing where classrooms are located, where teachers can be found, where to go with questions, and where the information desk is. It mainly focuses on answering questions about locations and logistics.
- Social Media
- Any events or activities at SDU are announced on the university's official social media platforms. In advance, students are informed about upcoming events happening on campus.
- Advisors (for students only)
- Advisors primarily help students with academic issues and assist them in communicating with other students.
- Senior Students
- If you know a senior student, they can usually answer most of your questions based on their experience.

Interview

Link for audio interview:
It was uploaded to Moodle as an audio file.
Link for paper interview:
It was uploaded to Moodle as an file.

User Research

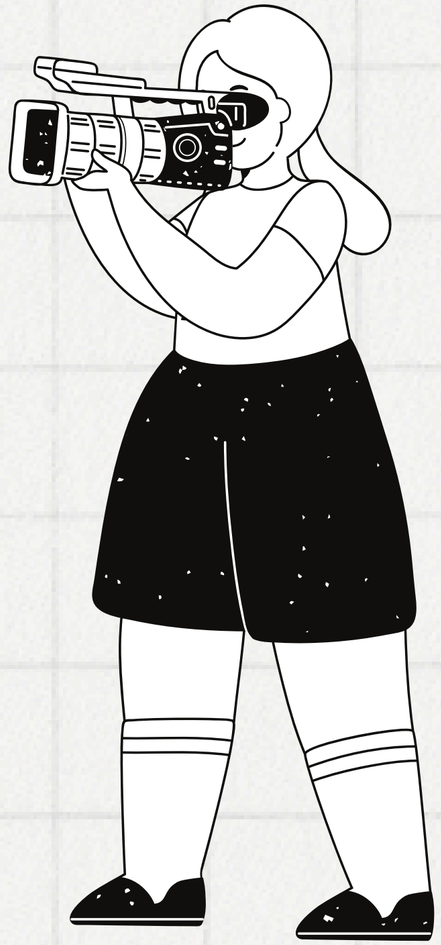
The questions for students and teachers were quite similar. We asked students about their problems with navigation and academics, while we asked teachers about the difficulties they faced during their first time teaching at the university.

Challenges (Analysis)

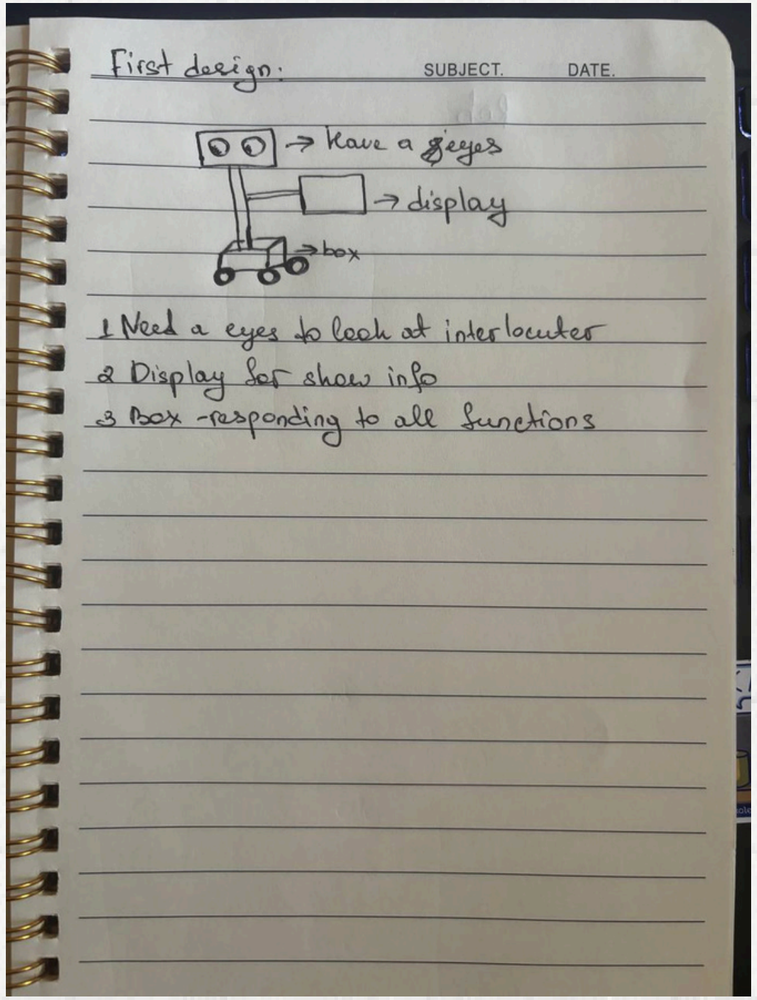
1. Difficulty finding classrooms, halls, and gyms.
2. Social skills and making connections.
3. Academic-related questions.
4. Issues with the website (problems with registration).
5. English courses and tuition fees.

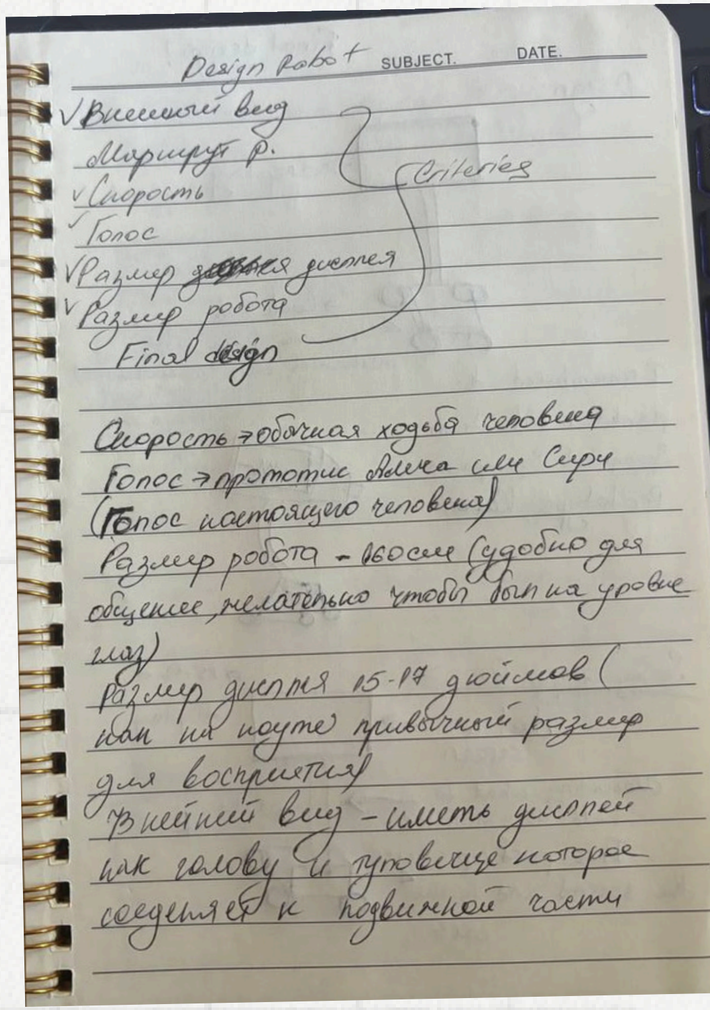
Specific Requirements for the Robot

1. Fixed Route: The robot will have one fixed route, moving slowly without stops.
2. Two-way Navigation: It will only operate on the first floor, moving from one end to the other and back.
3. Initial Testing: The product will undergo one test phase, with no voice commands or mobile app integration, except for showing the robot's location on a map.
4. Robot Location: It will only be present on the first floor of the building.
5. Information Helper (Not a Delivery Robot): The robot will assist by answering questions, acting as a guide, not delivering items.
6. Navigation Assistance: The robot will display maps and animations on its screen to show how to reach certain places, using both voice and visual cues.
7. Neutral Interaction: The robot will interact neutrally, without concern for who it is communicating with.
8. Teacher and Class Database: The robot will have access to a database of all teachers and courses, which must be updated regularly.
9. Teacher Input Required: Teachers must input their office hours and information about their courses, syllabi, grades, and class schedules.
10. Extensive Information: The robot will have access to a large amount of information to provide detailed answers.



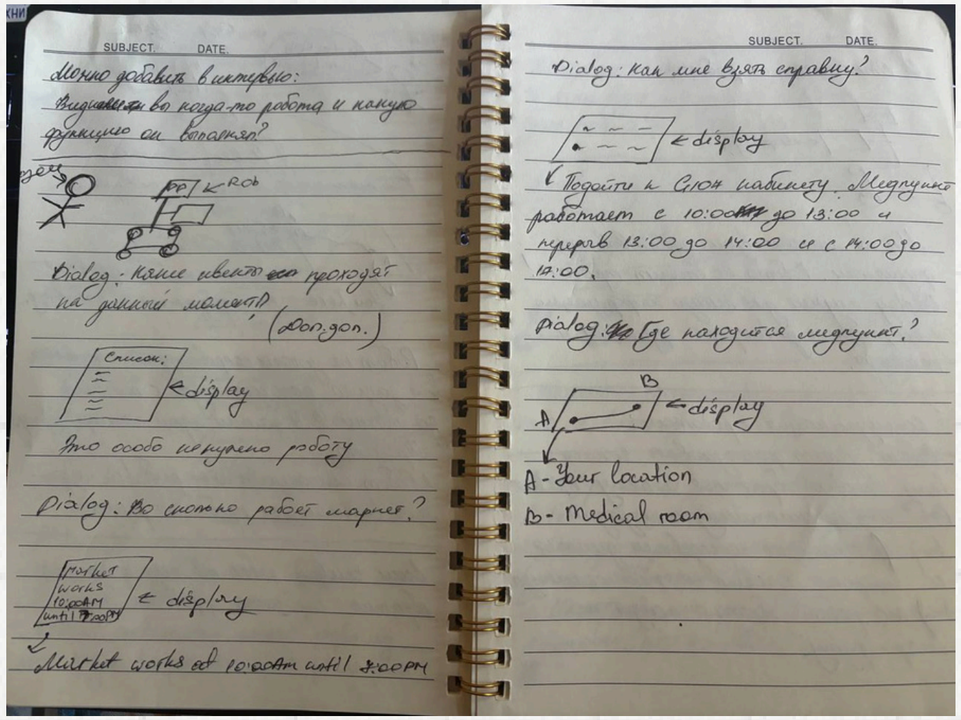
Design sketches

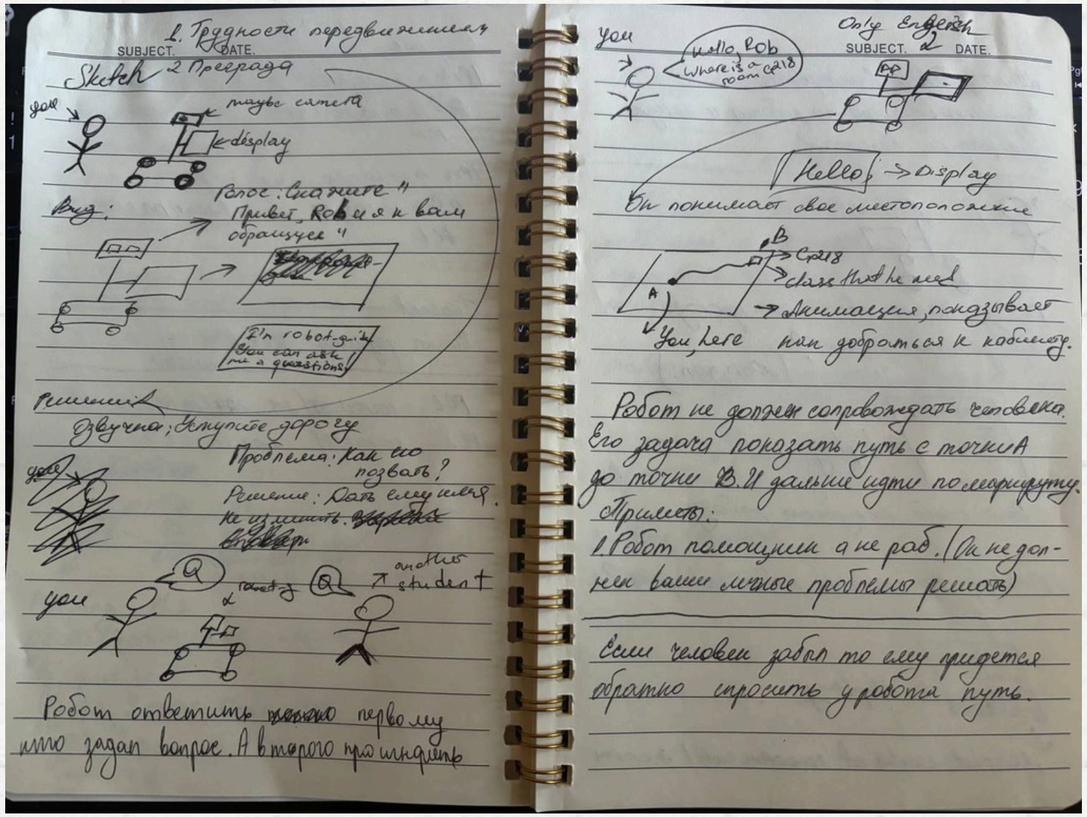


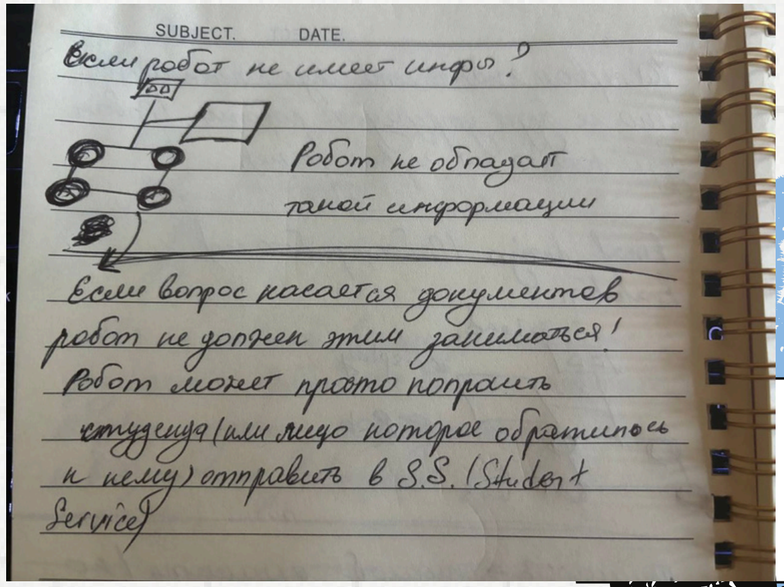


Design

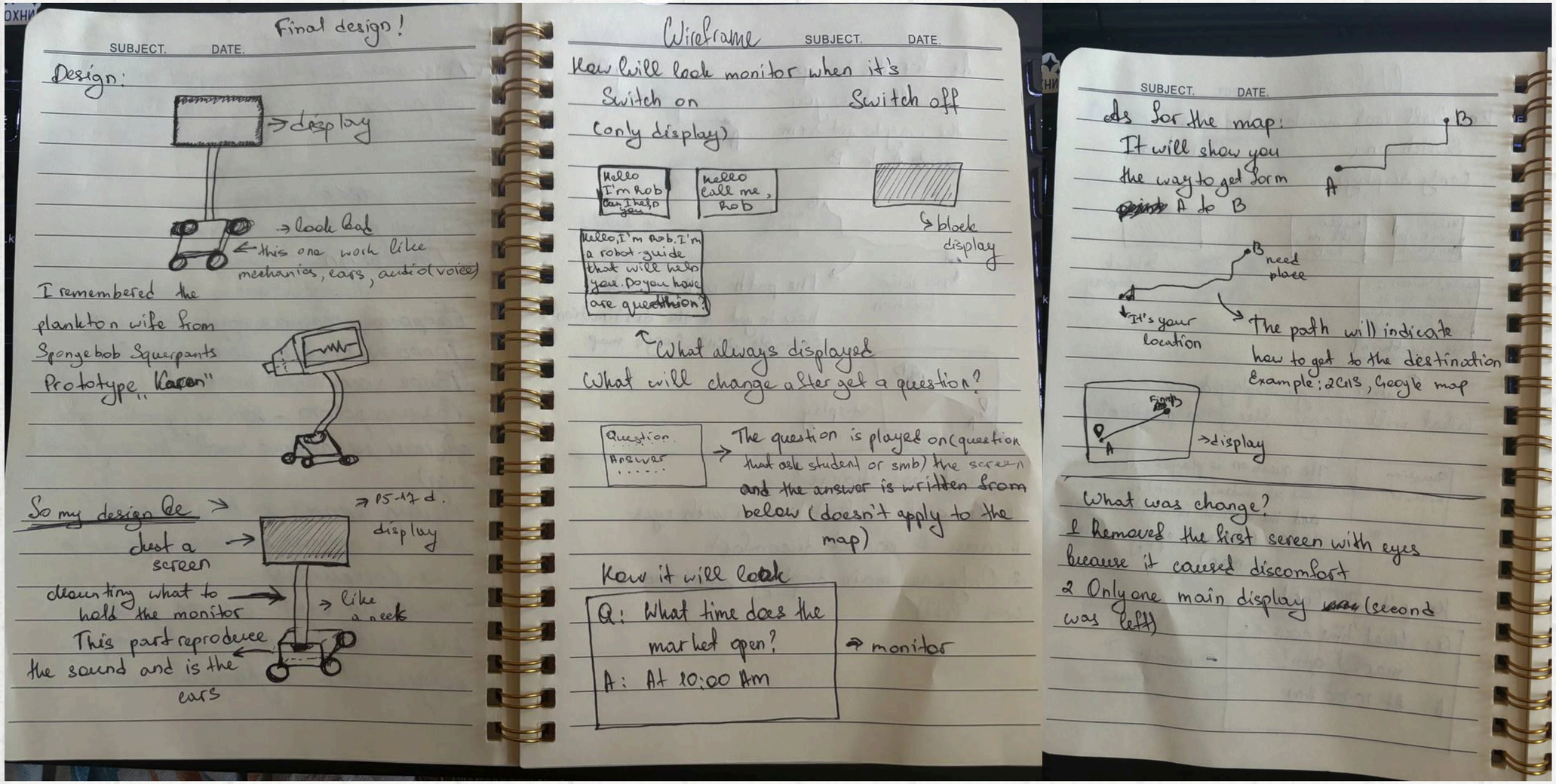
Storyboards



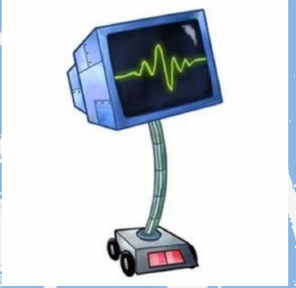




Final Design



Prototype



Evaluation

There were many ideas regarding the design, but the main adjustment was to refine the design to make it more practical and user-friendly, which was demonstrated in the final design.