**Project Description**

SASHA (Student Assisted Studying and Homework Application) is a mobile application aimed at helping Senior High School and College students manage their pacing in online classes. It provides tools for task tracking, note-taking, and quiz generation. The app addresses key problems students face in digital learning environments, including the lack of update notifications, overwhelming workloads, and the absence of personalized review features.

Requirements Summary:

| COMPONENTS: | SPECIFICATIONS: |
|---|---|
| OS | Android 8.0 (Oreo) or later |
| RAM | Minimum 2 GB |
| Storage | Minimum 100 MB free space |
| Display | 5.0" screen or larger (responsive UI) |
| Processor | Quad-core 1.4 GHz or higher |
| Connectivity | Internet access for syncing tasks & alerts |

Table 1. System Requirements

The SASHA application is not expected to be demanding in terms of hardware, but the recommended requirements shown in Table 1 are suggested to ensure users can fully benefit from its features without experiencing performance issues.

Creating a user-friendly and efficient app tailored for students involves several important considerations. First, the user interface and experience must emphasize simplicity and intuitive navigation. Since the app is designed for mobile devices, particularly Android smartphones, all elements must be clearly laid out and easily interactable even on smaller screens. Buttons should be large enough for touch interaction, and important information must be displayed in a clutter-free, scrollable format.

Accessibility is also a primary design concern. The application incorporates colorblind-friendly visuals, text-based indicators (rather than relying on color alone), and plans for

optional ambient sound to create a calm studying environment. These features are aimed at addressing stress and supporting users with varying levels of digital literacy or sensory needs. The overall design will remain minimalistic, focusing only on the most essential features to avoid overwhelming the user.

**Design Space:**

**What requirements may be difficult to realize?**

1. **Non-Intrusive Smart Notifications**
   Designing a notification system that effectively reminds students of pending academic tasks without increasing their stress is particularly challenging. Our users expressed frustration with institutional platforms that do not send timely alerts, so our system must fill this gap with reminders that are helpful but not disruptive. Achieving this balance especially on a mobile platform is non trivial.

2. **Student-Friendly Quiz Creation**
   While many students want a review tool they can control, they may not have the time, energy, or familiarity with formal quiz-building tools. Creating a system that lets students quickly build meaningful quizzes without requiring much effort or technical know how is difficult. The interface must be intuitive, allow for multiple quiz types (e.g. multiple choice, short answer, matching), and feel as casual as taking notes. Many students are used to passive study methods, so encouraging active engagement through personalized quizzes while keeping the process light and easy is a major design hurdle.

3. **User-Generated Cliff Notes**
   Enabling users to quickly create and organize course "cliff notes" efficiently on a mobile app involves challenges in UI design. Notes must be easy to input, edit, and categorize without becoming overwhelming or cluttered.

**What are some trade-offs that you should or did explore?**

1. **Feature Completeness vs. Simplicity**
   SASHA must provide real academic utility while remaining light and intuitive. We discussed integrating LMS features (like syncing with Google Classroom), but chose instead to focus on core pacing tools due to feasibility and user priorities.

2. **Reminders vs. Peace of Mind**
   Constant notifications might help students stay updated but may also contribute to the same anxiety they're meant to reduce. We decided to make reminders highly customizable (e.g. time based vs. task based alerts) so users can maintain control.

3. **Gamification vs. Minimalism**
   While gamified elements like badges or streaks can increase engagement, they can

also add cognitive load. Our team is exploring light gamification options that can be toggled on or off depending on the user's preference.

4. **Visual Aesthetics vs. Accessibility**
   A modern, stylish interface should not come at the cost of usability. To support a diverse student user base, the UI avoids reliance on color-coding alone and uses clear symbols and labels for all functions.

**Which tasks will be easiest to support?**

1. **Task Tracking and Status Updates**
   Allowing users to mark tasks as complete, in-progress, or not started is a simple and essential feature that can be implemented using basic toggle buttons or status indicators. This directly supports students' pacing needs with minimal complexity.

2. **Basic Note Input (Cliff Notes)**
   Students can create and save short summaries for personal reference. This aligns with their current habits and doesn't require complicated formatting or tools.

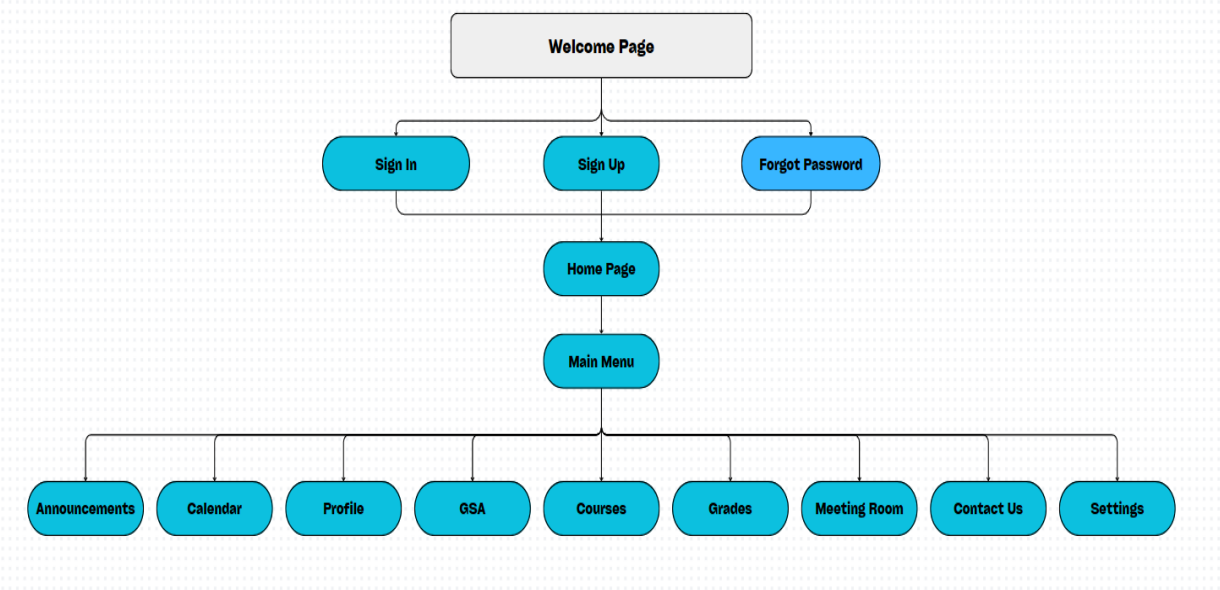
**Which tasks will be hardest to support?**

1. **Creating Personalized Review Quizzes**
   Supporting multiple quiz types and timed quiz options adds significant complexity, especially with regard to user experience design and answer validation.

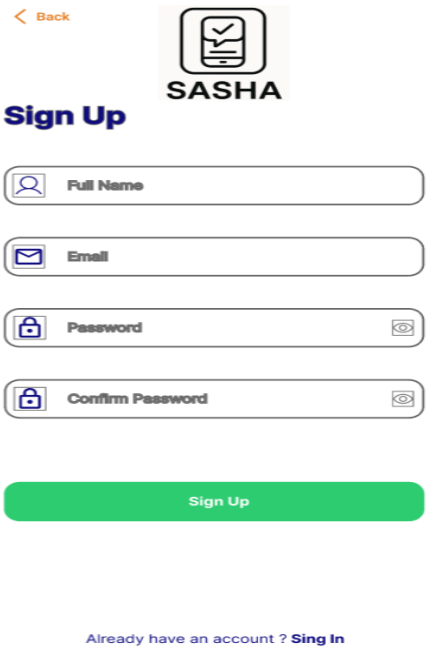
2. **Designing a Smart Notification System**
   Developing a system that determines when and how often to remind students based on their activity or deadlines involves contextual logic and behavior prediction, which is difficult to balance for a broad user base.

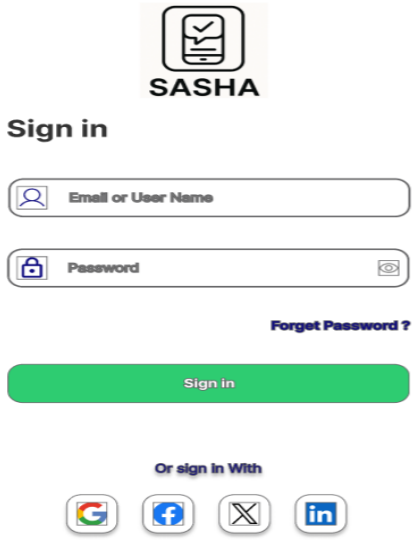
**The Designs:**

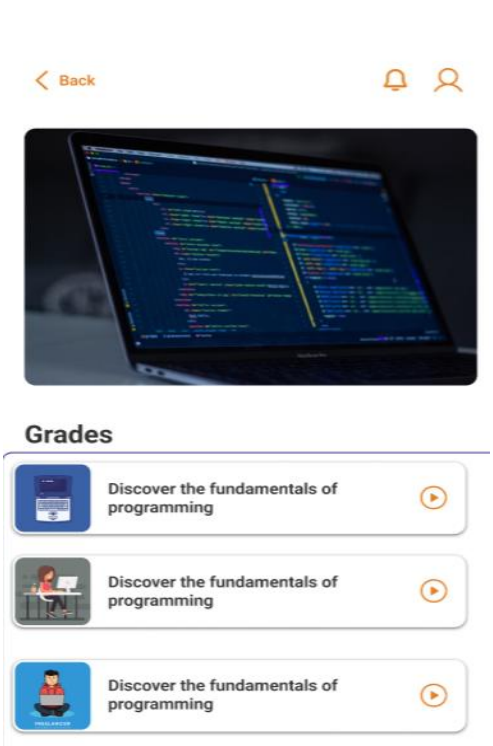
**A brief overview:**

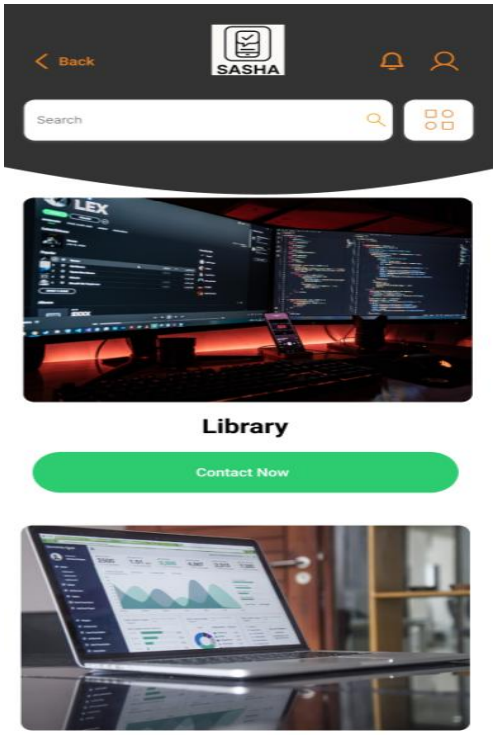



**Design 1**



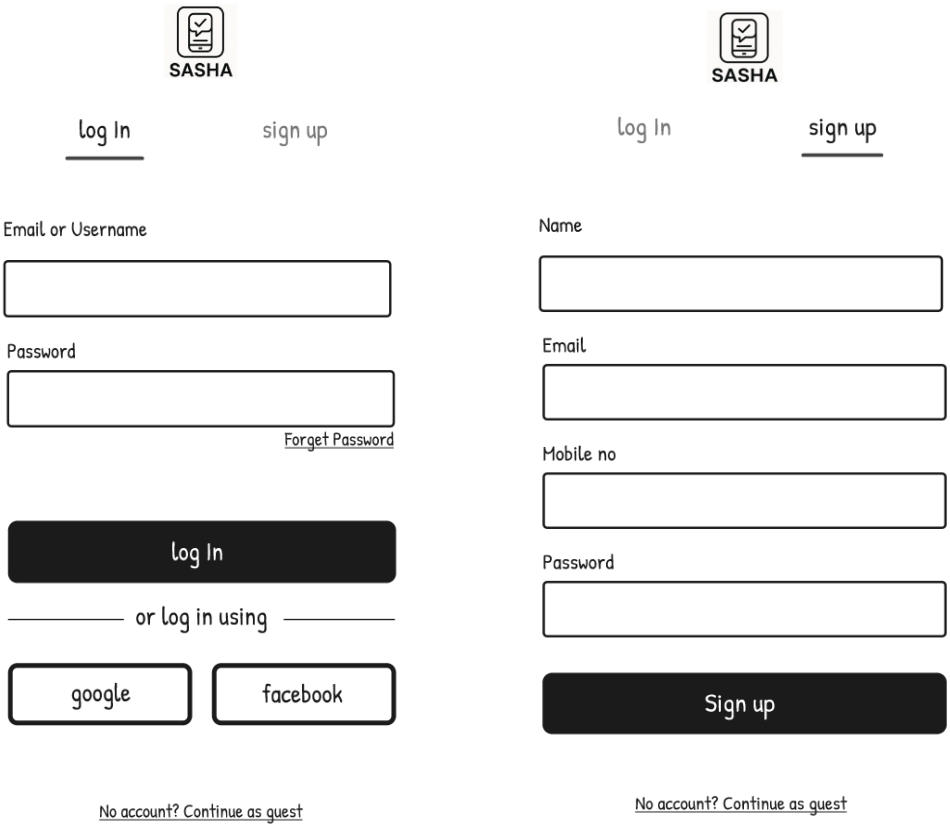





Back
Grades
Discover the fundamentals of programming
Discover the fundamentals of programming
Discover the fundamentals of programming


Back
SASHA
Search
Library
Contact Now

Design 2:


SASHA


SASHA
log In
sign up
Email or Username
Password
Forget Password
log In
or log in using
google
facebook
No account? Continue as guest
SASHA
log In
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Name
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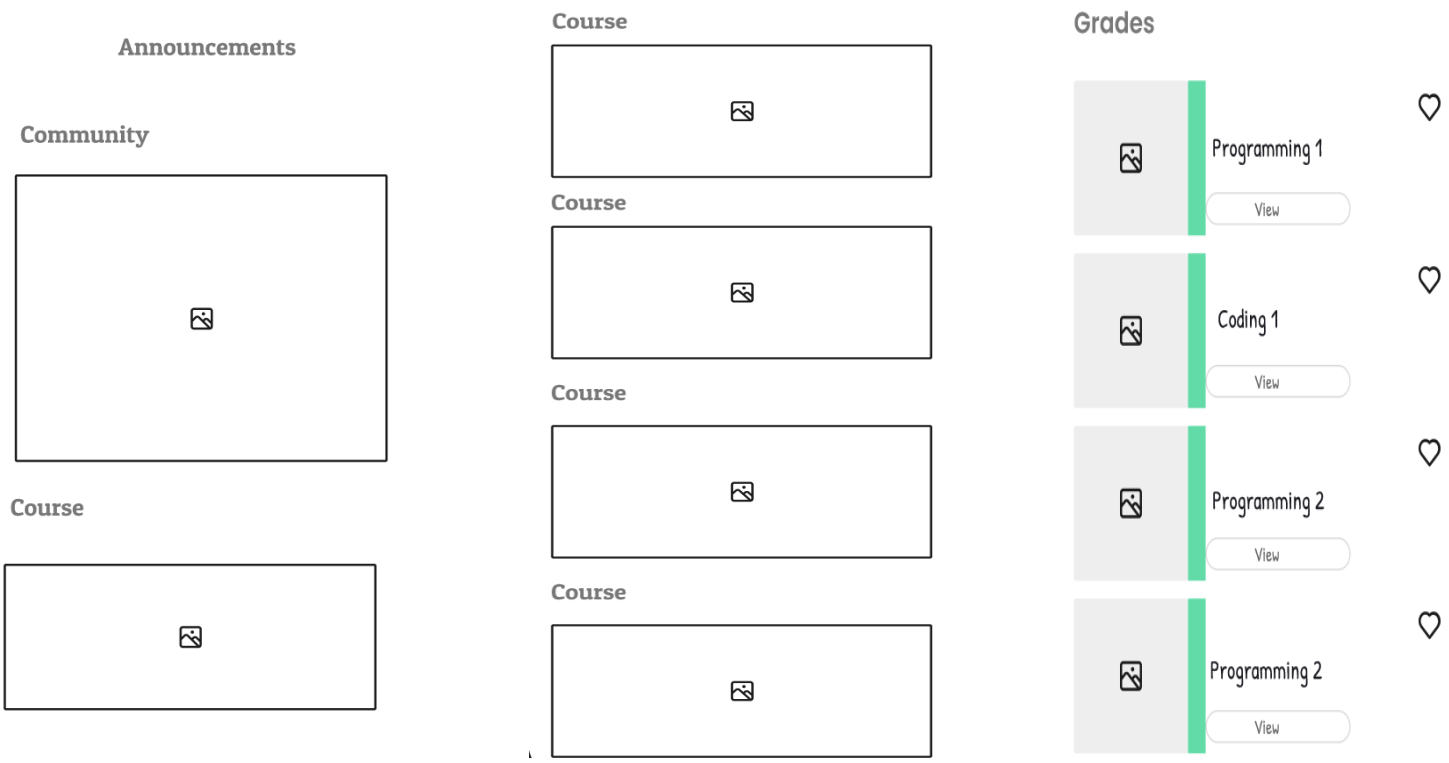
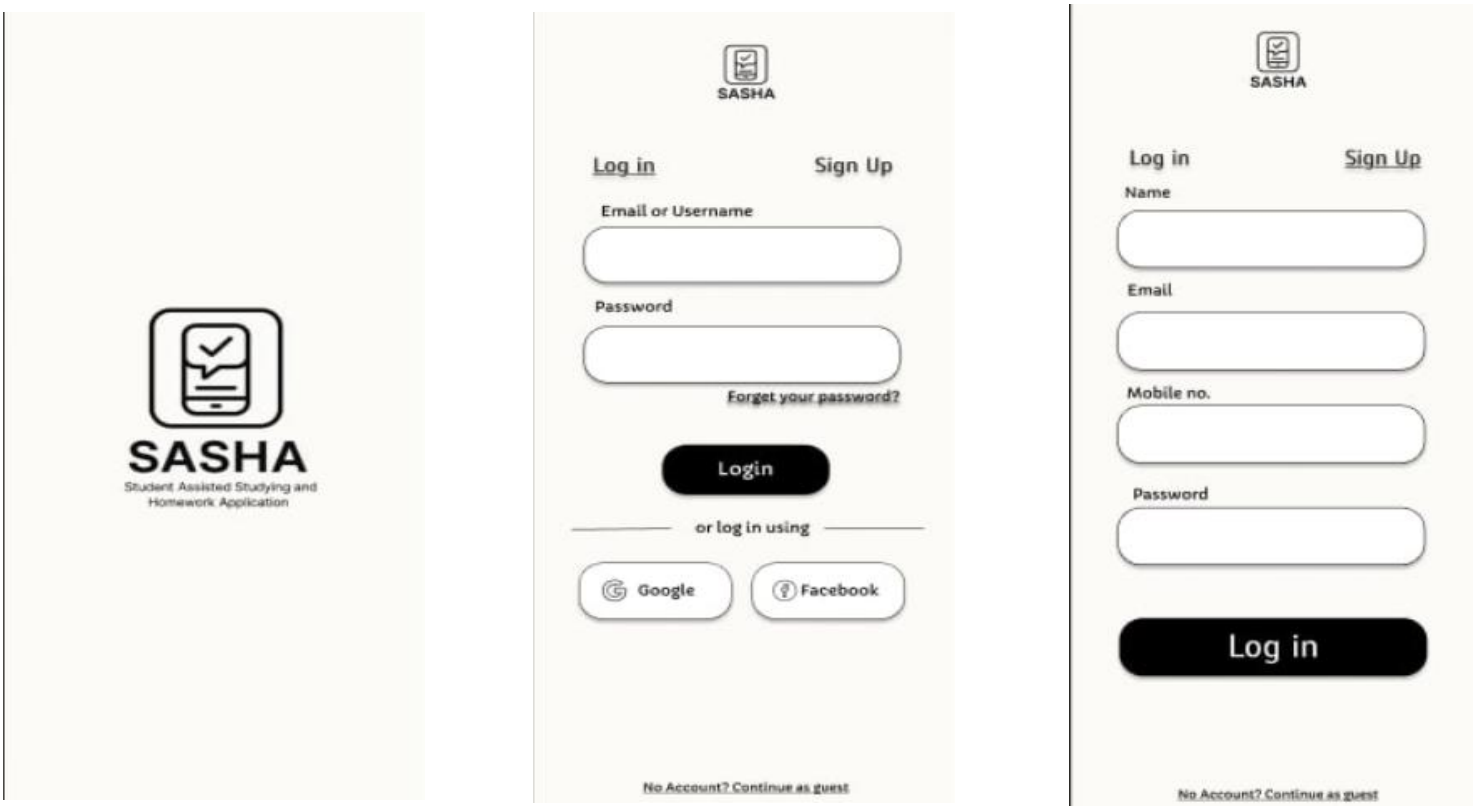
Mobile no
Password
Sign up
No account? Continue as guest


Announcements
Community
Course
Course
Course
Course
Course
Grades
Programming 1
View
Coding 1
View
Programming 2
View
Programming 2
View

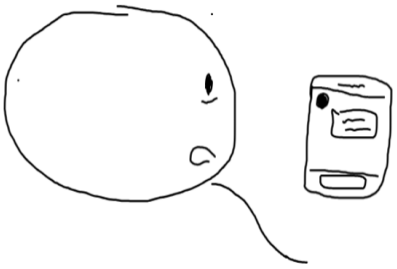
Design 3


SASHA
Student Assisted Studying and Homework Application
SASHA
Log in
Sign Up
Email or Username
Password
Forget your password?
Login
or log in using
Google
Facebook
No Account? Continue as guest
SASHA
Log in
Sign Up
Name
Email
Mobile no.
Password
Log in
No Account? Continue as guest

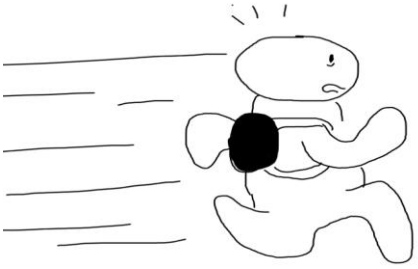


Scenario 1: As a new college student Mark is not yet accustomed to the new schedule

After school while mark was playing games, he suddenly got a notification from his phone



The text was from his classmate wondering where he was as class was already starting



After realizing that he still has 1 class in the afternoon, he dashed all the way to school

**Design 1**

**Advantages:**

**Navigation:** Easy to navigate. Important updates like announcements are shown immediately after login. A collapsible sidebar ensures quick access across the app.

**Mobile Optimization:** Designed for mobile devices with large buttons and visual elements. Prioritizes readability and reduces information overload.

**Accessibility:** Features a consistent, top-level text-to-speech toggle for visually impaired users, enhancing inclusivity.

**Disadvantages:**

**Navigation:** Message board placement below announcements requires unnecessary scrolling.

**Mobile Optimization:** While the sidebar is resizable, it still takes up significant space. Text resizing may cause overlap or tapping inaccuracies.

**Accessibility:** Small sidebar text may pose challenges for older users or those with low vision.

**Design 2**

**Advantages:**

**Navigation:** Pop-up announcements streamline visibility without displacing the message board. Familiar layout (inspired by social media) eases user learning.

**Mobile Optimization:** Uses symbols and visual cues to reduce word clutter. Maintains touch-friendly design.

**Accessibility:** Mimics the feel of popular platforms like Facebook and Instagram, enhancing intuitiveness. Includes a universal text-to-speech toggle.

**Disadvantages:**

**Mobile Optimization:** Resizable sidebar still risks crowding the screen. Small font sizes reduce touch accuracy.

**Design 3**

**Advantages:**

**Mobile Optimization:** Centralized main menu with large, symbolic buttons maximizes usability on small screens.

**Accessibility:** Consistent placement of the text-to-speech toggle. The interface is minimalist and less overwhelming.

**Disadvantages:**

**Navigation:** No announcement visibility unless users return to the home page. Main menu not accessible from every screen, which may reduce efficiency.

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**Common insights:**

- **Design 2** was most preferred due to its familiarity and visual simplicity.
- Many found **Design 1** useful for quick information access but noted the announcement-heavy homepage delayed them from checking messages.
- **Design 3** was praised for its clarity but criticized for the lack of a persistent navigation system.

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**Requirements Changes**

While developing the designs for SASHA, we realized that our original set of usability criteria was too limited. At first, we were only focusing on usability, accessibility, and user satisfaction. However, as we continued working on the app and reviewing our design ideas, we saw the need to expand our criteria to better fit what SASHA aims to do.

We added mobile optimization, visual appeal, and feature assessment to our list. Since SASHA is mainly a mobile app for students, it's important that everything works well on small screens, looks clean, and is easy to interact with. We also needed to make sure that features like task tracking, note-taking, and quiz generation weren't just included, but actually worked in a way that feels smooth and useful for students.