Университет „Св. Кирил и Методиј“ во Скопје

ФАКУЛТЕТ ЗА ИНФОРМАТИЧКИ НАУКИ И КОМПЈУТЕРСКО ИНЖЕНЕРСТВО

Project Assignment 3
Human-computer interaction design

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May, 2025

1. StudyBuddy Introduction

StudyBuddy is an AI-enhanced learning platform designed to create a more effective and personalized learning environment for students. Our product combines various learning tools that users would typically find scattered across different applications, bringing them together in one cohesive, AI-powered platform.

Main Functionalities

StudyBuddy's core functionality is built around three primary features that work together to support the complete learning cycle:

1. **Organization Tools for Learning Materials:** Create and manage digital notebooks for different subjects, allowing users to add, organize, and access their study materials efficiently. Users can organize content in an intuitive, customizable way that matches their learning preferences.
2. **Personalized Learning Plan with AI:** Interact with our SmartBot to generate custom learning resources from your materials including AI-generated flashcards, summaries, and adaptive learning paths tailored to individual learning patterns and preferences.
3. **Personalized Motivation System:** Self-evaluate knowledge through AI-generated quizzes and track progress with our achievement system that rewards learning milestones, keeping users motivated and engaged throughout their learning journey.

Tasks for Evaluation

For this evaluation, we have selected the following tasks that represent the main functionality of our system:

Primary Tasks:

1. **Create and Organize Study Materials:** Create a new notebook for a specific subject and organize uploaded study materials within it.
2. **Use ChatBot and Generate AI-Powered Flashcards:** Consult the SmartBot about study content and generate flashcards from selected study materials.
3. **Take an AI-Generated Quiz and View Achievements:** Generate a quiz based on study materials, complete the quiz, and view earned achievements and progress.

Additional Moderate Complexity Tasks:

4. **Customize Learning Materials with AI Assistance:** Use the SmartBot to create custom summaries of uploaded content and adapt them to personal learning style.
5. ChatBot - the buddy chat accompanying you throughout the journey in every step of the way, where you can ask him questions, give him tasks, he will listen to you at all times.

Planned but Not Yet Implemented Functionality

The following features are planned for future implementation but are not included in the current prototype:

- Advanced analytics dashboard showing detailed learning patterns over time
- Set up a working Search bar in the notebooks
- Calendar integration for scheduling study sessions

This early mid-fi prototype focuses on the core user experience and interface design, with an emphasis on the navigation flow between key features rather than the underlying implementation of AI algorithms.

2. Mid-Fi Interactive Prototype

Prototype Overview

We have extended our low-fidelity prototype into a mid-fidelity interactive prototype using Figma. The prototype now features a complete visual design with consistent styling, color scheme, and interactive elements. The published version is accessible at: *https://www.figma.com/proto/oJckqLvrzGTQIr4jPj05gB/studyBuddy?node-id=1-2&p=f&t=Bi6f0GXqhzS5f93s-1&scaling=scale-down&content-scaling=fixed&page-id=0%3A1&starting-point-node-id=1%3A2&show-proto-sidebar=1* - *Your authorization is required for system access. Approval will be granted promptly upon request. Additionally, all team members remain accessible via our students email addresses for any further assistance required. (dea.jadrovska@students.finki.ukim.mk, teodor.bogoeski@students.finki.ukim.mk , blerona.muladauti@students.finki.ukim.mk)*

Design Evolution from Low-Fi to Mid-Fi

Our transition from low-fidelity to mid-fidelity involved several key improvements:

1. **Refined Visual Identity**: We've implemented a cohesive color scheme with blue as our primary color, complemented by a clean white background to enhance readability. The StudyBuddy robot mascot has been incorporated throughout the interface to create a friendly, approachable experience.
2. **Improved Navigation Structure**: We've created a consistent navigation bar across all pages, allowing users to easily move between Notebooks, AI Chat, Flashcards, Quizzes, and Achievements sections.
3. **Enhanced Interaction Feedback**: Interactive elements now provide clear visual feedback, with buttons changing state on hover and selection.

Implementation of Core Functionality

The mid-fidelity prototype includes all three main task flows described in the first section, including the main page and login section:
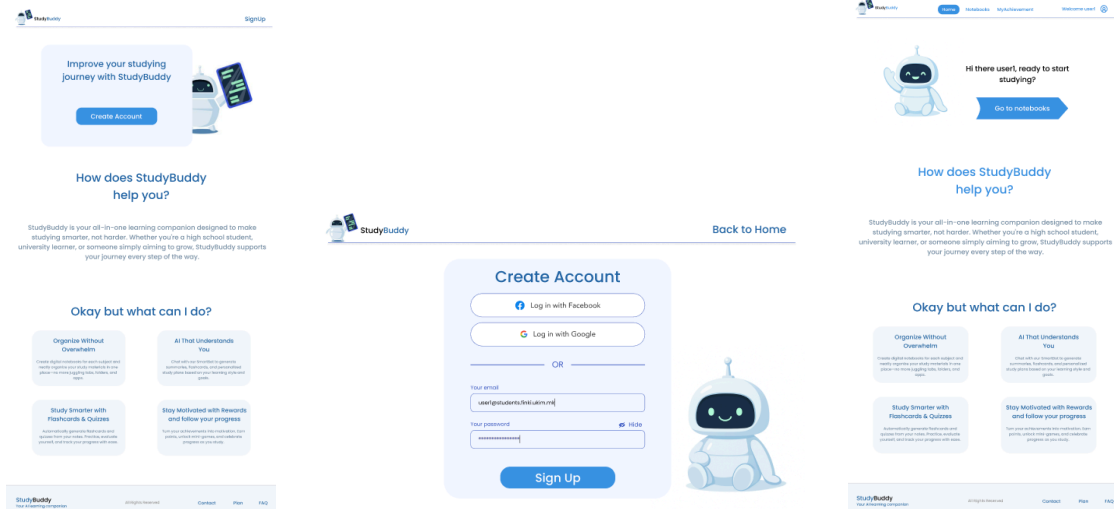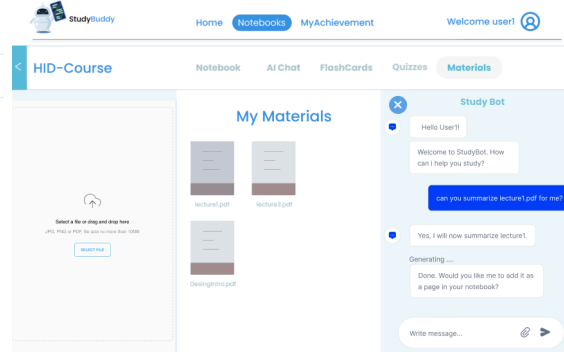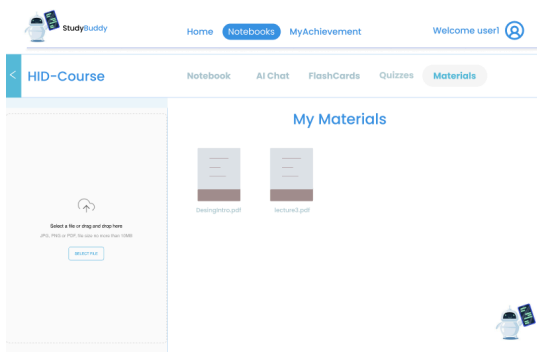

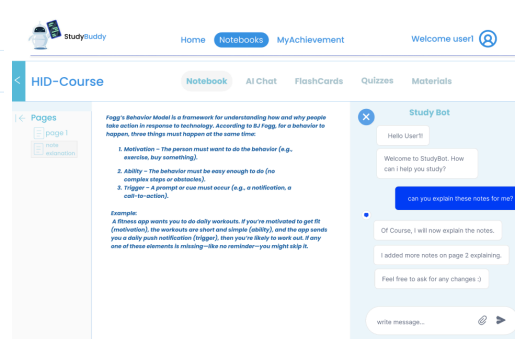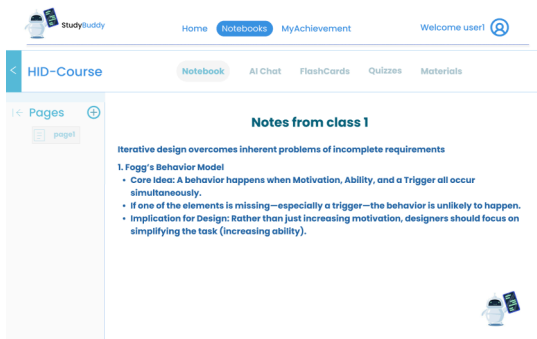## Task 1: Create and Organize Study Materials

- Users can create new notebooks by specifying a subject name and selecting a color theme
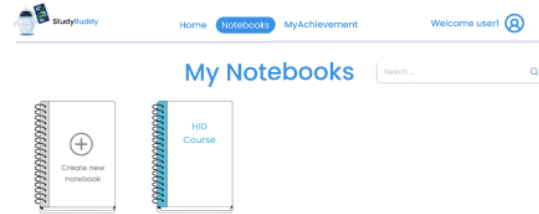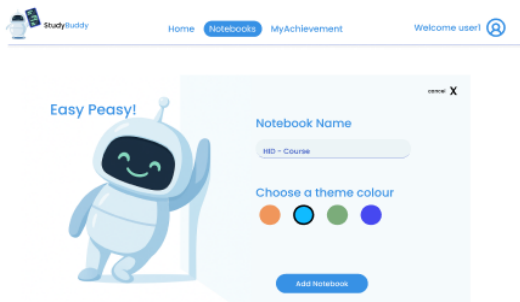
- Study materials can be uploaded, viewed, and organized within notebooks


- The notebook interface includes a text editor for taking notes, the chatbot is also accessible here, it can for example explain the notes you just wrote.


## Task 2: Use ChatBot and Generate AI-Powered Flashcards

- The AI chatbot (StudyBot) interface allows users to have conversations about their study content. The AI chat page is a general page where users can ask about anything including study questions, or app functionality questions.
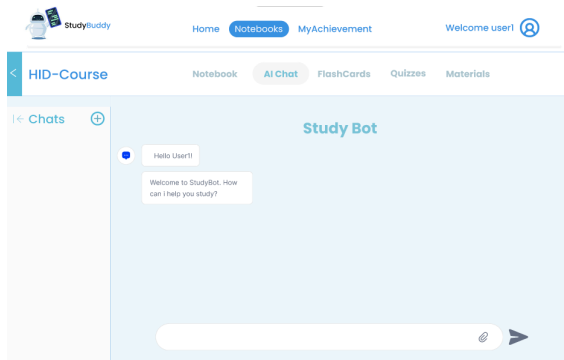
- In the Flashcards page, Users can generate new flashcards by following the steps : select materials to generate flashcards from, and additionally if they have specific requirements made to AI.
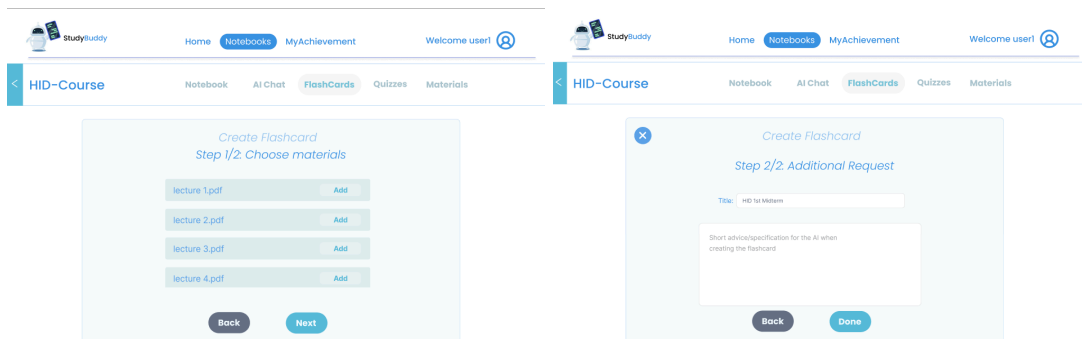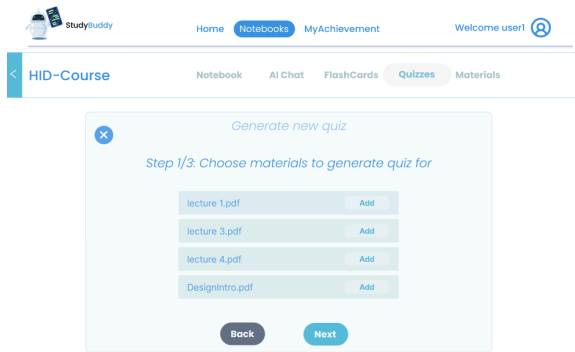

- The flashcard system includes features for viewing, flipping, shuffling, and reviewing cards
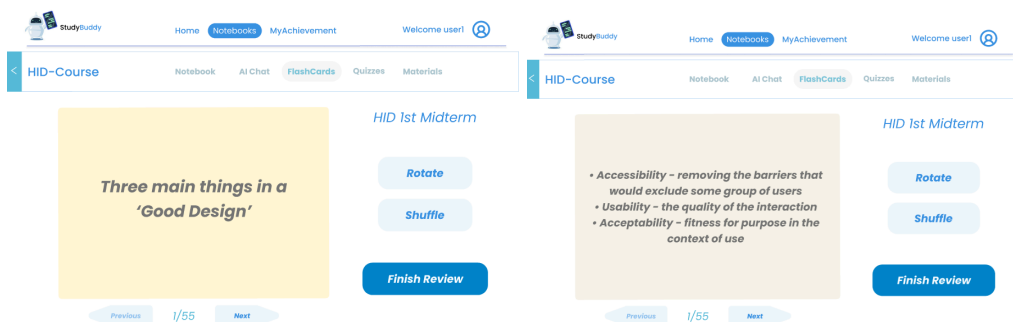

## Task 3: Take AI-Generated Quizzes and View Achievements

- Users can generate quizzes following the steps. First, choose the materials they want to generate questions for.

- Then, choose what type of questions to include in the quiz. Multiple question types are supported (multiple choice, true/false). And in the last step, optionally users- can add additional requests on what to include or ignore in the questions.
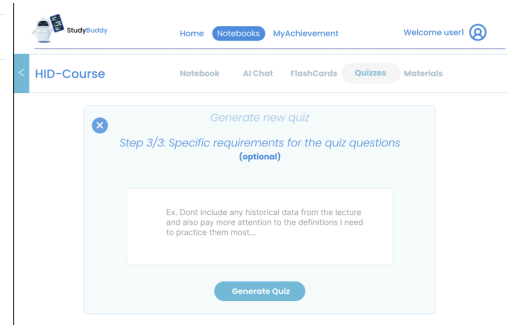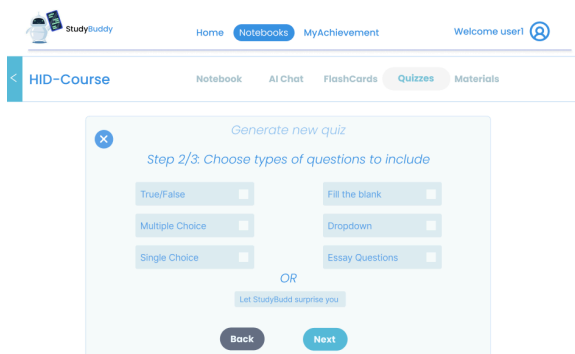
- Users can flag questions, move back and forth, and it's clearly notated when the user is in which question, and which question is answered.
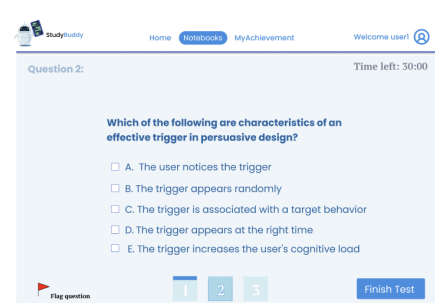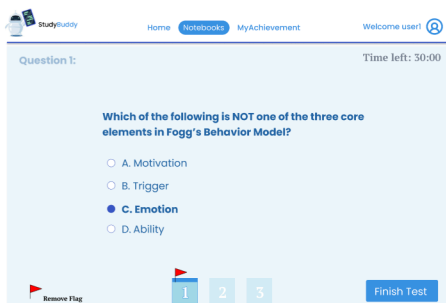
- After clicking on the "Finish test", the user is prompted and notified that finishing the quiz means the current progress will be saved. Quiz results are presented with clear feedback
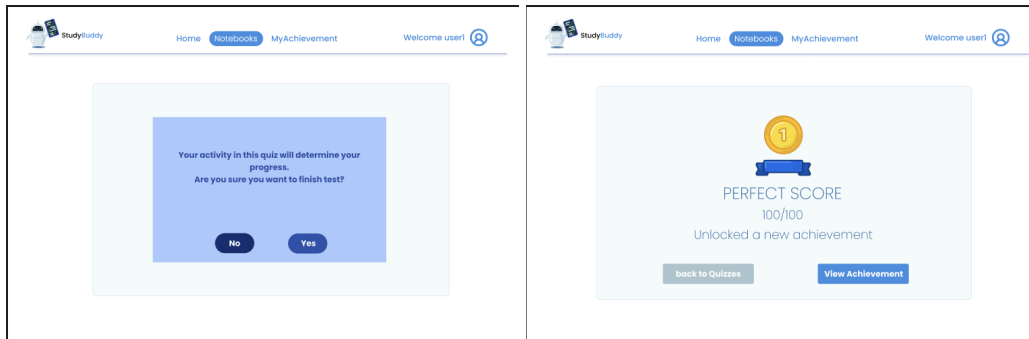
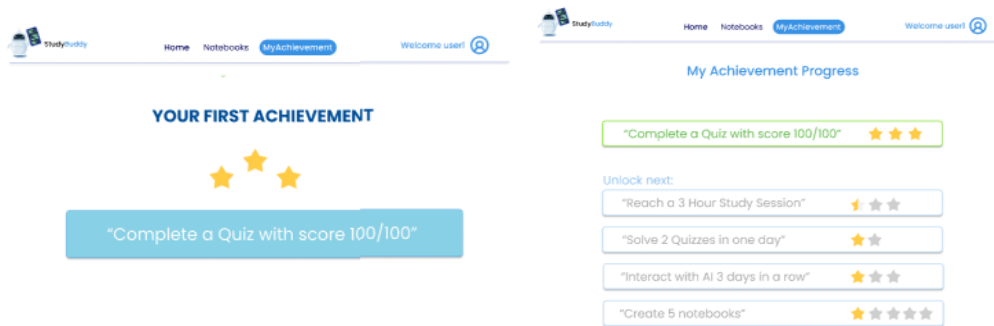● The achievement system will track progress and award accomplishments

3. Instructions for Evaluators

Introduction

Thank you for participating in the heuristic evaluation of StudyBuddy, an AI-enhanced learning platform designed to help students organize their learning materials, personalize their learning experience, and stay motivated through a rewards system. This evaluation will help us identify potential usability issues before moving forward with the final design.

Note: The AI Chat, Quizzes, Flashcards, and Materials are all tied to a specific notebook. They are created and accessed within that context, meaning these features are only available when you're inside a notebook — in this case, "HID-Course."

Task 1: Create Notebook and Organize Study Materials

Scenario: You are a student taking a Human-Computer Interaction (HCI) course and want to create a dedicated space for your course materials.

Your goal: Create a new notebook for your HCI course and organize some study materials within it by adding new ones.

During this task, try to:

- Create a new notebook with an appropriate name and color
- Add some notes (pages) in the Notebook
- Add some study materials to the notebook (note: for this prototype, you'll find sample HCI materials pre-loaded) in the "Materials" Page.
- Explore how the notebook organization system works

Task 2: Generate Flashcards and use the AI Chatbot

Scenario: You need to study for an upcoming HCI exam and want to use AI to help you create study materials.

Your goal: Generate flashcards for studying and after use the AI chatbot (StudyBot) to explore the HCI content and During this task, try to:

- Generate a set of flashcards based on specific material
- Review the flashcards using different modes (shuffle, rotate, etc.)
- Understand how to navigate through the flashcard system
- Locate and open the AI chatbot
- Ask the chatbot questions about the HCI content in your notebook

Task 3: Take a Quiz and Review Achievements

Scenario: After studying with the flashcards, you want to test your knowledge and track your progress.

Your goal: Generate a quiz for your study materials, complete it, and check your achievements.

During this task, try to:

- Generate a quiz based on your HCI study materials
- Complete the quiz by answering the questions

- Review your quiz score and feedback
- Check your achievements and rewards
- Understand what options are available after completing a quiz

Additional Notes

- This is an early mid-fi prototype, so some functionality might be limited
- Focus on the user experience and flow rather than expecting full functionality
- If you find yourself unable to complete a task, please document why
- Feel free to think aloud as you navigate through the prototype

Thank you for your valuable feedback that will help us improve StudyBuddy!