CSC425 Deliverable 2: User Research & Problem Definition Submission

Student Name: Carson Decker
Branch Name: `d2-carson-decker`
Date Submitted: August 28, 2025

Target User Group

> **Struggling College Students in Lectures**
> Primarily learners that are struggling in class who can't express their confusion due to lecture-style classes

Problem Description

Students in lecture-style classes, especially in large lecture halls, can't get timely answers to their questions. Some professors run through a lecture and are only able to ask a few questions at the end. Due to this, professors can rush through explanations that they assume students already understand. When these questions are asked after the lecture, students can lose engagement and understanding after that point in the lesson because they are lost on a certain point.

Evidence of the Problem

- "When used during lectures, clickers have either neutral or positive effects and a more strongly positive effect on learning outcomes when combined with peer or cooperative learning. They increase attendance and retention and can be used to promote student accountability." –"Clickers in the Large Classroom: Current Research and Best-Practice Tips" (https://pmc.ncbi.nlm.nih.gov/articles/PMC1810212/)

- A large study found that larger class sizes correlates to worse student performance (https://www.sciencedirect.com/science/article/pii/S0272775721000236?utm_source=chatgpt.com#abs0001)

"How Might We" Statement

> **How might we increase engagement and performance for students in lecture-style classes?**

User Persona

Name: John Smith
Age: 20
Occupation: Full-time Student
Location: Lexington, KY
Goals: Complete his degree and excel in his classes
Frustrations: Unable to get his questions answered in large lectures, teachers making assumptions about what students know and leaving others behind
Technology Comfort Level: Moderate (uses a smartphone daily, no home computer)

Ethical Lens Applied

Principle: Equity of access to education

- **Application:** This issue violates the principle of fairness by hurting the performance of students who only have the option to attend schools with primarily large lecture-style classes

- **Stakeholders Impacted:** Students in large lectures, teachers who want to adapt better to their students, universities aiming to improve performance of students

- **Professional Standard:** Aligns with ACM Code of Ethics 1.4: *"Be fair and take action not to discriminate."* By giving every student a voice (via anonymous polling) the system shows fairness.