



**King Abdulaziz University**  
**Faculty of Computing & Information Technology**  
**CPCS 381**  
**Spring 2024**  
**Group Project**

**Section: CS1 -CS3**  
**instructor: Dr.Ahmad E. Alzahrani**  
**Email: aaalzahrani9@kau.edu.sa**

## **Learning Outcomes**

- Design prototypes at varying levels of fidelity, from paper prototypes to functional, interactive prototypes. (SO6)

## **Read Carefully**

- The deadline for this assignment is shown in the blackboard .
- This assignment is worth 20% towards your final grade.
- Any form of cheating will result in receiving – 4% (less than zero) in the assignment.
- Note: once the clock becomes 11:59 PM, the submission will be closed! Therefore, in reality, you must submit by 11:58 and 59 seconds.
- LATE SUBMISSION: you are allowed to make a late submission, but there is a penalty. If you submit within 24 hours of the due date, you will receive a 25% deduction. You will NOT be able to submit after this date/time.
- Any form of plagiarism will result in receiving zero in the assignment.
- Only the group leader is allowed to submit the project via Blackboard

# Blackboard Submission

This assignment must be submitted online via blackboard as follows:

1. Your submission must be in a PDF form and should be named as: StudentId\_FirstName
2. Your video. The video must be publicly accessible. You may use services such as YouTube, or Google Drive.
3. Your presentation slides or a link to them (e.g., Google Slides).

If your file is empty or you upload the wrong file, it will be solely your responsibility, and your grade will be zero.

# Assessment criteria

The assessment will be according to the attached rubric.

# Project Description

This project will help you learn and apply the fundamental concepts of user-centered design and usability. You'll design an application (web or mobile) that solves a problem for a particular group of users. You will apply usability testing and conduct experiments, iterate through your design, and refine the design of your application. Successful completion of this project will provide you with an understanding of the iterative design process.

## Objectives

- Be able to conduct formative research using qualitative and quantitative methods to gain information about the target users and feasibility of the idea.
- Learn how to conduct usability testing, collect data, and interpret results.
- Learn how to build low-fidelity prototypes using papers.
- Be able to compare design alternatives using flexible, fast, and low-cost methods.
- Learn how to conduct usability testing with users to test low-fidelity prototypes.
- Learn how to build medium-fidelity prototypes using interactive user interface prototype tools.
- Be able to revise the initial low-fidelity prototype and incorporate the feedback received during testing with potential users.
- Compare and contrast medium-fidelity prototyping with low-fidelity prototyping.
- Learn how to build a high-fidelity prototype with an experience close to the native interface.
- Be able to evaluate and communicate your design ideas.

## Activities and Stages

This project is divided into two main stages:

### Stage 1: Initial/Mid level progress

#### Description

You will need to form a team of 3-4 students to design a mobile or web application that solves a problem for a particular group of users. You will write a description of the problem your team is trying to solve. You should include at least an example of a related project/app and why you think it did not solve the problem you're trying to solve. You should also describe what your project will do differently to address these problems.

You will conduct formative research to understand your users, their problems, and validate the assumption that your app is a reasonable solution. You will identify your target users using some inclusion and exclusion criteria. You will conduct formative research with your target users. Your group is expected to use two types of methods (e.g., interviews, ethnographic study, survey/questionnaire research, direct observation). If you have questions about the appropriate method for your app, you may talk to your instructor. You will then conduct your formative user research with at least four users (not people in this class).

## What to do?

- Identify your users (write personas and scenarios).
- Pick two research methods to conduct your user research.
- Inform users about the study (obtain consent, explain goals, the length of the study, and protocol you will follow).
- Conduct two studies using two methods.
- Collect the data (take notes, record audio, or use online questionnaire, etc.).
- Analyze the data to interpret your findings (visualize your findings (e.g., graphs), discuss themes and patterns, etc.).
- Write your user research report.

## What to submit?

A report that includes:

- A list of the group members. Your team should also agree on a group leader who will be responsible for submitting the reports and will act as the primary contact for your group.
- A clear description of the problem, examples of related projects, and how your app is different.
- A report (10-15 pages) that includes the following:
  - Introduction: briefly describe your project and goals.
  - Target users: Identify your target users. Describe at least two personas for your app and three main scenarios for each persona.
  - Two research methods: Describe the methods you used to understand your users? Why you chose each method?
  - The study you conducted (e.g. the protocol of the study, research questions)
  - The results from each participant. Please make sure they remain anonymous [1](#).
  - Findings: What did you find in your research? How did you collect and analyze the results? What surprises you?
  - Conclusion: What did you learn from this activity?
- Participation summary: In one paragraph, each team member must describe how each member contributed to this stage and submit it to the instructor in private (on blackboard).

\*1 You must include the demographics of your users for each study you conducted (e.g., age, education, technology background, etc).

## Stage 2: Final Report, Refined Prototype, Video, and Presentation

### Description

In this stage, you will need to address the issues discovered in stage 1. You'll have to refine your prototype based on the feedback and findings of your user testing. Your team will create the final refined prototype. You will also need to create a video explaining the goal and importance of your app. You need to create a plan for a good video that communicates your ideas to new users. Thus, you need to create a Storyboard to show a roadmap of your video and help your team create a great promotional video for your app. Your team will share the video and present the final prototype to the class.

### What to do?

- Refine your design based on the feedback and results of your user testing in stage 1.
- Draw a storyboard for your video. It should demonstrate why your app is needed and how a user can perform some tasks with your app.
- Create a video for your app. The video may be a real life video of a target user of your app or a slideshow of your prototypes. Your video will be 5 minutes maximum.
- Prepare a five minutes presentation outlining the changes you made to the design of your app as well as the strengths and limitations of your app. You should conclude with future directions and work for your project.

### What tool to use to make the video?

You may use [Powtoon](#) or a screencast software like [Camtasia](#) or any other tool you prefer.

**All the best ..**