# UX in AI-Generated Interfaces: A Comparative Study

# Introduction

# This project, conducted as part of The Lab Small at KdG, focuses on UI/UX research. The goal is to compare multiple AI-driven UI generation tools, assessing their usability, accessibility, and overall design effectiveness against human-designed alternatives. The study will analyze AI-powered design tools, including Figma AI, Uizard, Chat GPT, and Framer AI. The research aims to determine how these technologies impact UI design, highlighting their strengths and limitations.

# Assignment

### This project focuses on evaluating AI-generated UI designs by selecting a common UI layout (e.g., a landing page, dashboard, or form-based interface) and using multiple AI tools to generate designs. These designs will be assessed based on usability heuristics, accessibility compliance (WCAG), and user experience metrics. User testing will be conducted to gather feedback, and the findings will be documented for a critical evaluation. Additionally, a human-designed version of the same UI will be created to compare against the AI-generated versions. This will help highlight the differences in usability, accessibility, and design quality between AI-generated and manually designed interfaces. The project falls under Application Development & UI/UX Research, emphasizing frontend design and usability rather than backend development

### Versions, Licenses and Costs

* **Figma AI** (for automated UI generation and suggestions)
* **Uizard** (AI-powered rapid prototyping)
* **ChatGPT (Advanced Code Interpreter + UI design prompts)** (for generating UI layouts and providing interactive design assistance)
* **Framer AI** (AI-assisted interface generation)

### Hardware requirements

A development laptop with sufficient performance for design and prototype testing.

### Scope of the project

The project will focus on evaluating AI-generated designs rather than implementing them in production. It will also include a direct comparison with a manually designed UI to assess how AI tools perform relative to human designers.

# Non-functional requirements

* Accessibility compliance (WCAG 2.2 evaluation)
* Consistency of UI elements across different AI-generated designs
* Ease of modification and customization of AI-generated UIs
* Performance analysis (speed of AI generation, ease of use)

## Functional requirements

* Ability to generate UI layouts using multiple AI tools
* Comparative analysis based on usability heuristics (Nielsen’s heuristics)
* User testing with qualitative and quantitative feedback
* Comparison with a manually designed UI
* Report on findings, including recommendations for AI-assisted UI design

## Deliverables

### Essential Deliverables

* **Proof of Concept**: Comparative study of AI-generated UIs.
* **Application(s)**: AI-generated UI prototypes.
* **Findings and Evaluation**:
  + Research documentation
  + Usability study results
  + Pros and cons of each AI tool
  + Answer to the research question: "How does AI-generated UI impact user experience and accessibility opposite to human created UI?"

### Specific Deliverables

* Usability testing results (heatmaps, user feedback, A/B testing results)
* Design evaluation using standardized heuristics (e.g., usability scorecards)
* Accessibility assessment report
* Comparative analysis table of AI tools