***Human Computer Interaction Proposal***

**Project Title:** Task Management Application

**Students Names/IDs:**

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**Objective:**

The objective of this project is to design and implement a task management application for PC, allowing users to create, manage, track tasks efficiently and have extra features that makes the user stay on one app. The app will support user-based task assignments, prioritization, deadlines, and completion tracking within a simple, intuitive interface.

**Motivation:**

This project is motivated by the need for a straightforward, distraction-free task management tool for individuals. Existing solutions are either complex or lack certain features. The expected outcome is an application tailored for individuals to manage their tasks efficiently and whichever way they want, having extra features (like study techniques, handle tasks on a repetitive manner) that benefit the user while still not being overwhelming.

**Background:**

The project incorporates Human-Computer Interaction (HCI) principles, to design a user-friendly application that’s customizable enough to meet the user needs and feelings. Used technologies are Qt Framework along Cascade Styling Sheet (CSS) for responsive and beautiful UI, and Python object-oriented programming principles to create scalable code that’s easy to work on as a team.

**Approach:**

1. **Requirements Analysis**:

**Who we aim** :

we aim the users in specific categories as: (Student, Employee, A self-developing person).

**What are the functionalities that we offer for users** :

* For **Students** : we offer many functionalities as (task creation, schedule creation, reminder for repetitive tasks, study techniques)
* For **Employees** : we offer many functionalities as (task creation, reminder for repetitive tasks, large projects management tools)
* In addition to the previous functions, we allow users to : Edit, remove, add, set due dates, set priority to and track each task created.
* Adding insights and analytics as a good tracking tool to evaluate the progress of users numerically and adding tips for improvement.

1. **GUI Design**: Design a streamlined, user-friendly interface using **Qt Designer** (External tool), prioritizing ease of navigation and effective display of task priorities.
2. **Backend Development**: Using **Python**, developing the logic to manage, store and manipulate tasks with different functionalities (in .**Json** files ) as well as handling other features as progress tracking and insights, studying techniques and deadlines notifications, etc.
3. **Frontend Development**: Using **PyQt** (a set of Python bindings for the **Qt** application framework) that integrate backend logic with the GUI, ensuring that changes to task lists, categories, and deadlines and all the features are displayed responsively.
4. **Testing**: Conduct usability tests to refine functionality, focusing on ease of use and efficiency.

**Deliverables:**

1. **Source Code** includes:

Python codes that manage the backend of the app (.py files).

UI files that represent most of the frontend of the app (.ui files).

1. **Documentation files** that include Intended ideas, features and our progress.
2. **Design Sketches.**

**References:**

[PyQt5 Reference Guide — PyQt Documentation v5.15.7](https://www.riverbankcomputing.com/static/Docs/PyQt5/)

[PyQt5 - Introduction](https://www.tutorialspoint.com/pyqt5/pyqt5_introduction.htm)

[Qt Widgets Designer Manual](https://doc.qt.io/qt-6/qtdesigner-manual.html)

[Python 3.13.0 Documentation](https://docs.python.org/3/)

**Milestones:**

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| ***Date*** | ***Milestone*** |
| ***November 02, 2024*** | Submit Proposal |
| ***November. 16, 2024*** | Full UI Design |
| App UI with no functionality (tabs, layouts, CSS) | |
| ***November. 30, 2024*** | App database and task creation and management |
| Creation the app storing system and fully functioned main page | |
| ***December. 28, 2024*** | Final Presentation |
| Completed app with all the intended features and designs | |