Object Oriented Programming in Java

Project Milestones

**Contents**

**1. Introduction 1**

**2. Group Members 1**

**3. Project Documentation**

**4. Milestones**

1. **Introduction**

In this era of Technology, there have been several moments which made us question, “How can mankind come with something like this”. The Invention of Airplanes was one of these moments, which did appear like the end of technological development but then technology made us struck with its next revolutionizing Invention known as Unmanned Arial Vehicle (UAV) commonly known as drones.

As part of **Java-OOP Project** we are delighted to get to know a little bit more about Drones, and build an application which fetches data from Django based Webserver and renders in our app. Our Aim is to get this app working using the fundamentals of object-oriented programming in java and at the same time we are trying to make the app Interactive using buttons and Several widows, ensuring that the App doesn’t look cluttered. A Java based tool known as “Swing” is used for Frontend development.

Interestingly, the rendered data also contains Dynamic data which changes in regular Interval, this makes the app standout in terms of data Rendering. The written code deals with the server Restrictions, authenticate using basic Authentication credentials and makes sure that the app does not send too many requests which saves the server from getting abused.

After Successfully completing the development, our Team would learn:

1. How to coordinate in a team
2. How to divide Tasks Ideally
3. How to solve Problems together ensuring smooth development
4. How to think of a feature and research together in case we don’t have programming knowledge of something.
5. **Group Members:**

|  |  |
| --- | --- |
| **Responsibilities** | **Name** |
| **Frontend Team** | Mohit, Bilal, Utkarsh |
| **Backend Team** | Andrej, Yun See |
| **Designing Team** | Whole Group |

**\*\*Besides above listed Tasks there used to be a a group meeting at least once per week where opinions of the code was asked and improvements were done, this was a complete Group Task and each participant had equal Participation\*\***

1. **Milestones:**
2. **Things that have been achieved so far:**
3. Visual Representation (Wireframe) of the App using Balsamiq

(Discussed Collectively in 2 meets)

1. UML diagram of the Backend

(Andrej and Yun See)

1. Backend: data can be successfully fetched from the API

(Andrej and Yun See)

1. Frontend: Basic Windows and Team decided to learn tools of swing first

(Mohit, Bilal, Utkarsh)

\*\*Apart from that, version control of the App has been initialized using private repository of GitHub and access of the repository is confined to group members only. Various branches are used to develop individual features and then merged to master branch of the Repository \*\*

1. **Thing We are planning to achieve for the next Submission:**
2. Frontend: Successfully connecting frontend with backend and achieving 70% of the designs in the wireframe.
3. Backend: Making the code clean and code reviewing. Solving unwanted exceptions and bringing the backend product to 90% of the desired Product.

**3.Problems arise during the last milestone phase:**

a. We encountered difficulties in gathering data from various web pages, primarily due to our limited knowledge of the correct format for writing query parameters in URLs. Our code consistently succeeded in accessing information from the first page but failed to retrieve data from subsequent pages. This challenge was ultimately overcome by relying on intuition and a deeper examination of the rules governing endpoints, as well as a more comprehensive understanding of the conventions for query parameters and variables within URLs.

b. We had programmed buttons in our graphical user interface (GUIs) to facilitate the transition between different windows. However, despite our efforts, the buttons did not function as intended. Although the code was written in accordance with our existing knowledge and seemed correct, the buttons remained unresponsive.

\*\*Below are all the referenced diagrams used for development\*\*

A paper with writing on it

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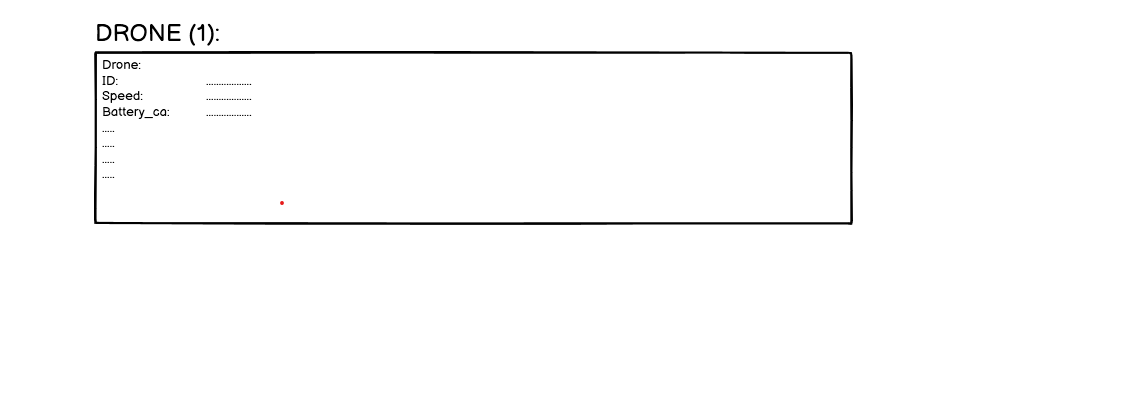
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**A screenshot of a computer screen

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