**TEKNOFEST**

**AEROSPACE AND TECHNOLOGY FESTIVAL**

**FIGHTER UAV COMPETITION**

**PRELIMINARY DESIGN REPORT**

**TEAM NAME**

**APPLICATION ID**

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# BASIC SYSTEM SUMMARY (15 POINTS)

## Aircraft System Description

In this section, the system’s mission description and features are briefly explained.

## Mission Requirements

In this section, the tasks derived from the rules in the technical documentation that the aircraft system must fulfill should be determined.

## System Performance Features

In this section, aircraft’s performance values should be explained. Values like flight time, cruising speed, camera resolution, capacity of the image processing computer should also be included.

# ORGANIZATION SUMMARY (15 POINTS)

## Team Organization

In this section, the organizational chart of the team and the tasks of the units are briefly mentioned.

## Timeline and Estimated Budget

In this section, the scheduling of the competition timeline, the determination of milestones and the estimated budget to be prepared will be included.

# CONCEPTUAL DESIGN SUMMARY (40 POINTS)

## Mission Requirements and Aircraft Design Requirements

The specification that the aircraft system must have to meet the requirements listed in the Basic Mission Requirements section should be explained.

## Conceptual System Architecture

In this section, the system architecture will be described schematically. The functions of the units in the architecture will be explained in one sentence.

## Selection Criteria and System Compatibility of Subsystems

In this section, the selection criteria of the electronic equipment (engine, battery, in-flight computer, etc.) specified in the system architecture and the communication and compatibility of units with each other will be explained.

## Task Conceptual Design

This section should briefly explain how to perform flight missions.

### **The Conceptual Design of Autonomous Lockdown**

In this section, issues such as how to perform autonomous locking, how to evaluate the data from the server, how to determine the target will be explained without going into too much detail.

### **Autonomous Kamikaze Conceptual Design**

In this section, how to do the kamikaze task, how to identify and read the target QR code, diving strategy will be explained without going into too much detail.

## Interface Conceptual Design

In this section, the interface design on the Ground Control Station side will be briefly explained. (May be supported with images.)

# AIRCRAFT DESIGN SUMMARY (20 POINTS)

In this section, the comparison between the design of the aircraft by the team and the use of store-bought products will be made and the selection of whether the aircraft to be used will be an original design or a store-bought product will be explained.

# REFERENCES

This section should include the sources used in the report.

**Report Layout (10 POINTS)**

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| **NOTE ON REPORT DRAFTS:** |
| **- All reports should be written in accordance with academic reporting standards.**  **- Information about the contents of the report are stated above.**  **- All reports should include "Contents" and "References".**  **- Each report should contain a cover page.**  **-The team name and page number should be written in the footer of the pages, except the cover page, Fighter uav competition 2023 should be written in the header.**  **-Font: Times New Roman, Point: 12, Line Spacing: 1.15**  **-All texts should be aligned to both sides. (Justify)**  **-Page layout: A4 Type and Margins 2.5 cm**  **-The report should not exceed 15 pages.** |