

# IOWA STATE UNIVERSITY

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## STRATOSHIELD TEAM CHARTER

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STRATOSHIELD

THOMAS HOUSLEY

MATTHEW MEHRTENS

BRADLEY NORDWALL

PATRICIA OVONO

STEPHEN PETERSON

LUCAS TAVARES VASCONCELLOS

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PROFESSOR

PROFESSOR TRAVIS GRAGER

*College of Engineering*

*Aerospace Engineering*

*AERE 4610 Modern Design Methodology with Aerospace Applications*

SEPTEMBER 13TH, 2024

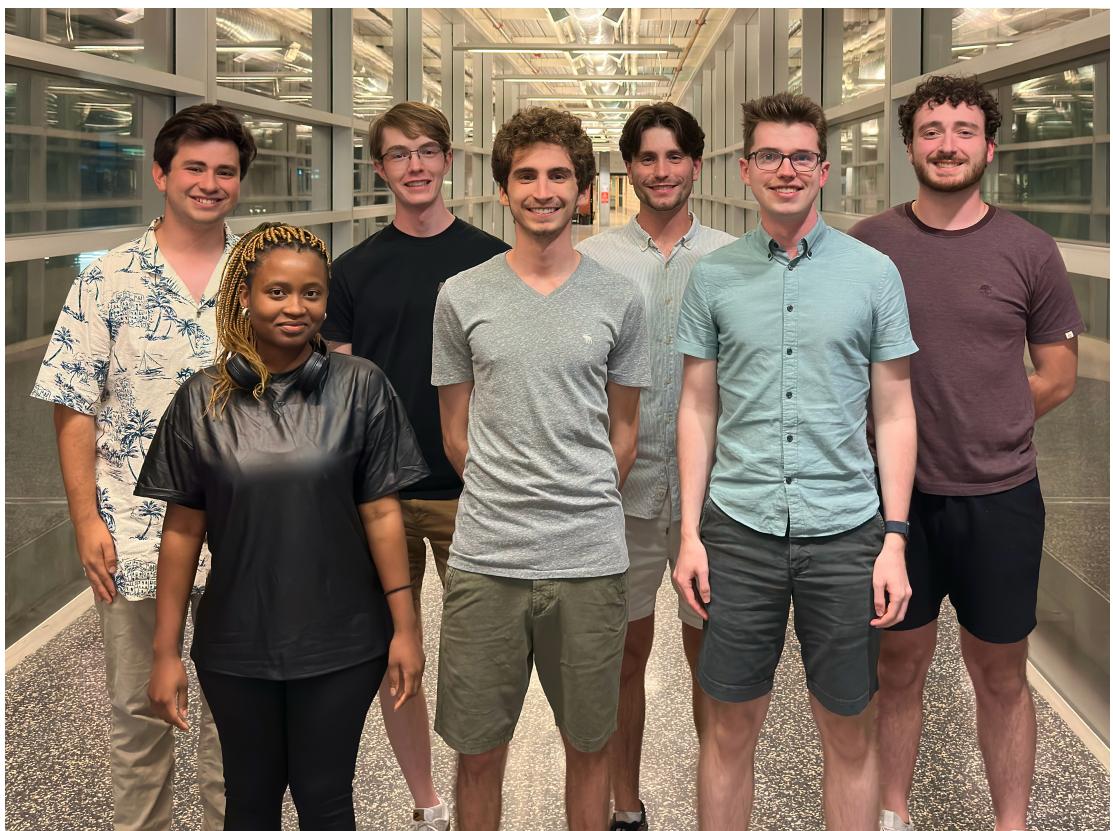
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# TEAM ORGANIZATION

## 1.1 Team Photo

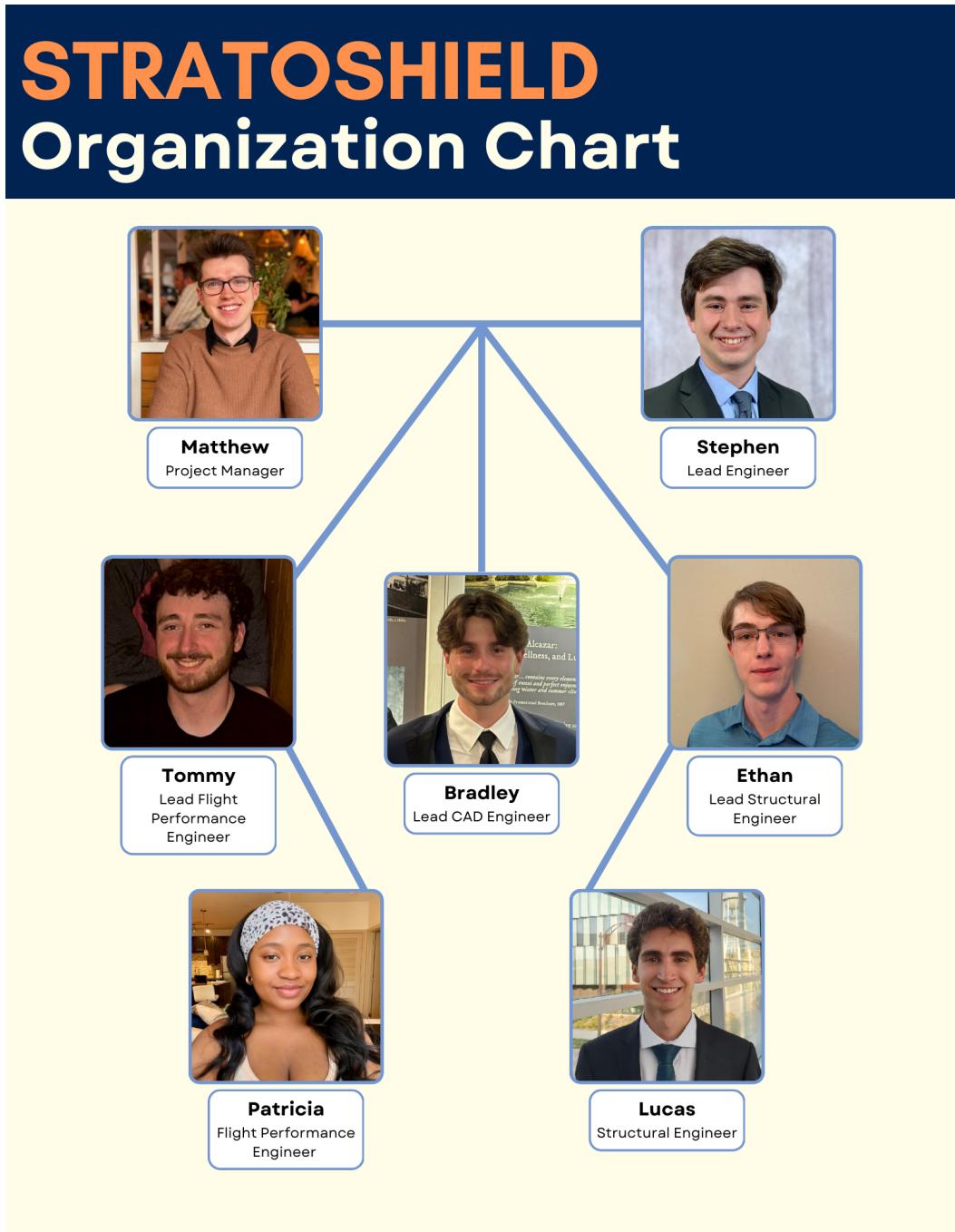
Using a ranked choice voting system, Fall 2024 AERE 4610 Team 1 decided on the name **StratoShield**. StratoShield's group picture can be found in [Figure 1.1](#).



**Figure 1.1:** StratoShield group picture. Team members from left to right are Stephen Peterson, Patricia Ovono, Ethan Witt, Lucas Tavares Vasconcellos, Bradley Nordwall, Matthew Mehrtens, and Thomas Housley.

## 1.2 Organization Chart

StratoShield's organization chart can be found in [Figure 1.2](#).



**Figure 1.2:** *StratoShield organization chart.*

# TEAM CHARTER

## 2.1 Meetings and Attendance

- All members shall attend scheduled team meetings, be on time, and be prepared to discuss any action items they are responsible for.
- If a member is unable to attend a meeting, they shall send a message to the team (or a team lead) in a timely and appropriate manner.
- If a member is unable to attend a meeting, they shall contact a team lead after the meeting for a briefing and to understand any action items they may have been assigned.
- At a minimum, the team shall meet twice weekly for stand-ups—i.e., 15-minute status meetings.
- Meeting notes, minutes, and agendas shall be captured and shared via **OneNote** for each meeting.

## 2.2 Engineering Process

- Action items shall be recorded in **YouTrack** and reviewed at stand-ups.
- The team shall practice *scrum*, an agile project management framework.
- The team shall follow the principles of agile project management.
- Major decisions shall be tracked in a decision log.
- All binary/non-text files (*e.g.*, **SolidWorks** part/assembly files, CFD analysis files, pictures, **Ansys** files, *etc.*) shall be stored and versioned in **Teams/SharePoint**.
  - Files that are subject to change shall have a version number appended to the file name that follows traditional *semantic versioning*.
    - \* Semantic versioning: v\${major version}.\${minor version}.\${patch number}
    - \* **nose\_cone\_v1.0.0.sldprt** — initial part
    - \* **nose\_cone\_v1.0.1.sldprt** — patch
    - \* **nose\_cone\_v1.1.0.sldprt** — minor change
    - \* **nose\_cone\_v2.0.0.sldprt** — major change

- Major or minor versions shall be documented in a versioning spreadsheet.
- All text-based files (*e.g.*, scripts, L<sup>A</sup>T<sub>E</sub>X documents, configuration files, *etc.*) shall be stored and versioned in **GitHub**.
- All formal reports and presentations shall be drafted in L<sup>A</sup>T<sub>E</sub>X.

## 2.3 Decision Flow

- Minor decisions shall be made by the respective subsystem lead.
- Major decisions shall be cleared by the lead engineer and/or project manager.
- The lead engineer shall decide whether a decision should be discussed with the team or other subsystem teams.
- The **Project Manager** shall be responsible for...
  - scheduling team meetings and morale events.
  - scheduling task/assignment deadlines, assigning task priorities, and assigning tasks to subsystem teams.
  - managing and tracking the budget.
  - process change decisions.
  - drafting reports.
- The **Lead Engineer** shall be responsible for...
  - overall system design and integration.
  - ensuring requirements are satisfied.
  - managing and tasking engineering subsystem teams.
  - assisting with subsystem engineering.
- The **CAD** subsystem team shall be responsible for...
  - CAD modelling.
  - CAD assembly.
  - 3D rendering.
- The **Flight Performance** subsystem team shall be responsible for...
  - control surfaces and control dynamics.
  - flight stability.
  - aerodynamic performance and analysis.
  - propulsion performance and analysis.
  - CFD analysis.
- The **Structures** subsystem team shall be responsible for...
  - weight calculations and analysis.
  - material design.
  - structural integrity and analysis.
  - manufacturing.

## 2.4 General

- All team members shall participate to the fullest extent possible in the work of the team and complete any assigned action items on time.
- If a team member feels they or someone else on the team is contributing more or less than they should, they shall bring this to the attention of the project manager.
- The team shall periodically engage in morale events.
- As a team, we shall review and update these norms quarterly to ensure they are current and reflect the team's needs.