# Welcome Packet

## Mission Statement

The United States Space Force (USSF) protects critical assets in space, such as GPS and weather satellites, as part of its mission to secure the nation's interests in space. The USSF was established in 2019 by Congress with bipartisan support and is the first new branch of the armed services since 1947.

The U.S. Space Force is responsible for connecting everything from cell phones to traffic signals; communication satellites play an integral role in our daily lives. Through space tech and ground tactics, we ensure each satellite is secure from intrusions—such as space debris and other external threats—through comprehensive cyber operations and space-domain awareness.

## Hackathon Goal

Your challenge is to develop a secure and resilient system that accesses, retrieves, and displays satellite data using the custom API provided for this competition. Your solution should effectively present this data through your chosen platform—whether that's a **website, mobile app, command-line interface (CLI), or GUI**.

## Hackathon Phases

### Brainstorming and Planning

#### Data Communication Plan

This step is about deciding the platform you'll use to display the satellite data retrieved from the API. Deciding on the programming language or framework you'll use, such as Python, JavaScript, or Java. When planning your data communication, consider taking a look at the API documentation at the bottom of this packet.

#### Project Plan Presentation

Building on your **Data Communication Plan**, this is a structured outline that will be **presented to the judges**. This plan should detail how your solution will function and can in various formats, such as, Flow diagram, PowerPoint presentation, Word document, etc.

Your **Project Plan** should highlight:

- Key features of your solution.
- Technologies and tools based on your Data Communication Plan.

- The overall flow of your project, from retrieving data from the API to displaying it on your chosen platform.

This plan will help the judges understand the thought process behind your solution and how you intend to bring it to life.

## Development

This phase is where you'll focus on the hands-on work of coding, developing, and implementing your solution. The goal is to build a functional program that uses the provided API to securely retrieve and display satellite data. While the following points highlight key areas to address, they are not meant to limit your creativity—feel free to explore additional features and innovative solutions.

- **Present the data**: Implement code to retrieve and display satellite data from the API.
- **Interact with Endpoints Requiring Authentication**: Interact with API endpoints that require Basic HTTP Authentication and OAuth2 to expand upon data retrival capabilities for your solution.
- **Set up logging**: Implement a logging system to track critical operations such as API calls, authentication attempts, and user interactions.
- **Develop error handling**: Build mechanisms to ensure your solution can recover from common API issues (e.g., no results, connection failures).

## Final Touches and Submission

This phase focuses on refining your solution and preparing it for submission. It's your opportunity to test your system thoroughly, ensure it operates as intended under various conditions, and then present your work in a clear and professional manner.

### Test and validate your solution

Validate that your program can handle edge cases and maintain functionality under unexpected conditions. This is your chance to iron out any bugs and make final optimizations to improve performance and reliability.

### Prepare Your Final Presentation

Summarize your project in a **clear and professional presentation**. Your presentation should cover:

- **Key Features:** Highlight the main components of your solution, such as data retrieval, logging, and error handling.
- **Technical Overview:** Briefly explain the technologies and frameworks used and how they contribute to the overall functionality.
  Be sure to communicate not only what your system does, but also why it matters.

Visual aids, such as diagrams or screenshots, can help illustrate your points and make your presentation more engaging.

## Judging Process

Judging will take place throughout the competition, with assessments occurring at key points during your progress. There are two specific stages where judges will evaluate your work:

**Phase 1 Completion**: After you have completed the **Brainstorming and Planning** phase, a judge will review your **Data Communication Plan** and **Project Plan**.

**Phase 3 Completion**: Upon completing the **Final Touches and Submission** phase, judges will conduct a final assessment of your overall solution, focusing on functionality, security, error handling, and the quality of your presentation.

There are no strict time limits for completing each phase—you are encouraged to work at your own pace. When you are ready for a judge to assess your completed phase, please notify us through the designated **Discord channel**.

## Next Steps

**Read the API Documentation:** Get familiar with the API endpoints and authentication methods. (https://api.spaceforce.sh/docs)

**Example API Responses:** View example responses from the API to kickstart your development. (https://spaceforce.sh/examples.pdf)

**Stay in Touch:** Join our Discord for announcements and support throughout the event. Use @Judge to communicate with us directly. (https://discord.gg/AWGkBPFVYw)