**Task 1: Calculate Team Effort-Hour Capacity**

**Objective:**

The objective of this document is to outline the design decisions for creating a data structure that efficiently calculates the effort-hour capacity of a team, considering individual team member details. This design fulfills the user story requirements.

**Design Choices:**

**1. Data Structure Selection:**

* The system will utilize a dictionary-based data structure to store individual team member details.
* Each team member's details will be encapsulated within a nested structure, allowing for easy organization and retrieval.

**2. Key Attributes:**

* Time Off: The number of hours or days the team member is off during a sprint.
* Commitments to Sprint Ceremonies: The time commitments of the team members to various ceremonies during a sprint.
* Daily Availability: The number of hours the team member is available daily.

**3. Efficiency Consideration:**

* The design will be structured to enable efficient retrieval of individual team member details.
* Consideration will be given to easily calculate individual effort-hour capacities based on the provided details.

**Implementation Plan:**

1. **Data Structure Initialization:**

* Implement a function to initialize an empty dictionary to store individual team member details.
* The dictionary structure should use team member names as keys and their details as values.

1. **Adding Team Member Details:**

* Develop a function to add team member details to the dictionary.
* Parameters should include the team member's name, time off, commitments, and daily availability.

1. **Calculating Individual Effort-Hour Capacity:**

* Implement a function to calculate the individual effort-hour capacity of a team member.
* Consider time off, commitments, and daily availability in the calculation.

1. **Testing**:

* Create unit tests to validate the correctness of the implemented functions.
* Include tests for dictionary initialization, adding team member details, and calculating individual effort-hour capacities.

**Conclusion:**

This design document outlines the choice of a dictionary-based data structure for storing individual team member details, meeting the user's requirements. The implementation will follow the outlined plan, with testing ensuring the robustness of the system.