**6487095 Siravit Trisirinan**

## Create a Science Plan

Use case description

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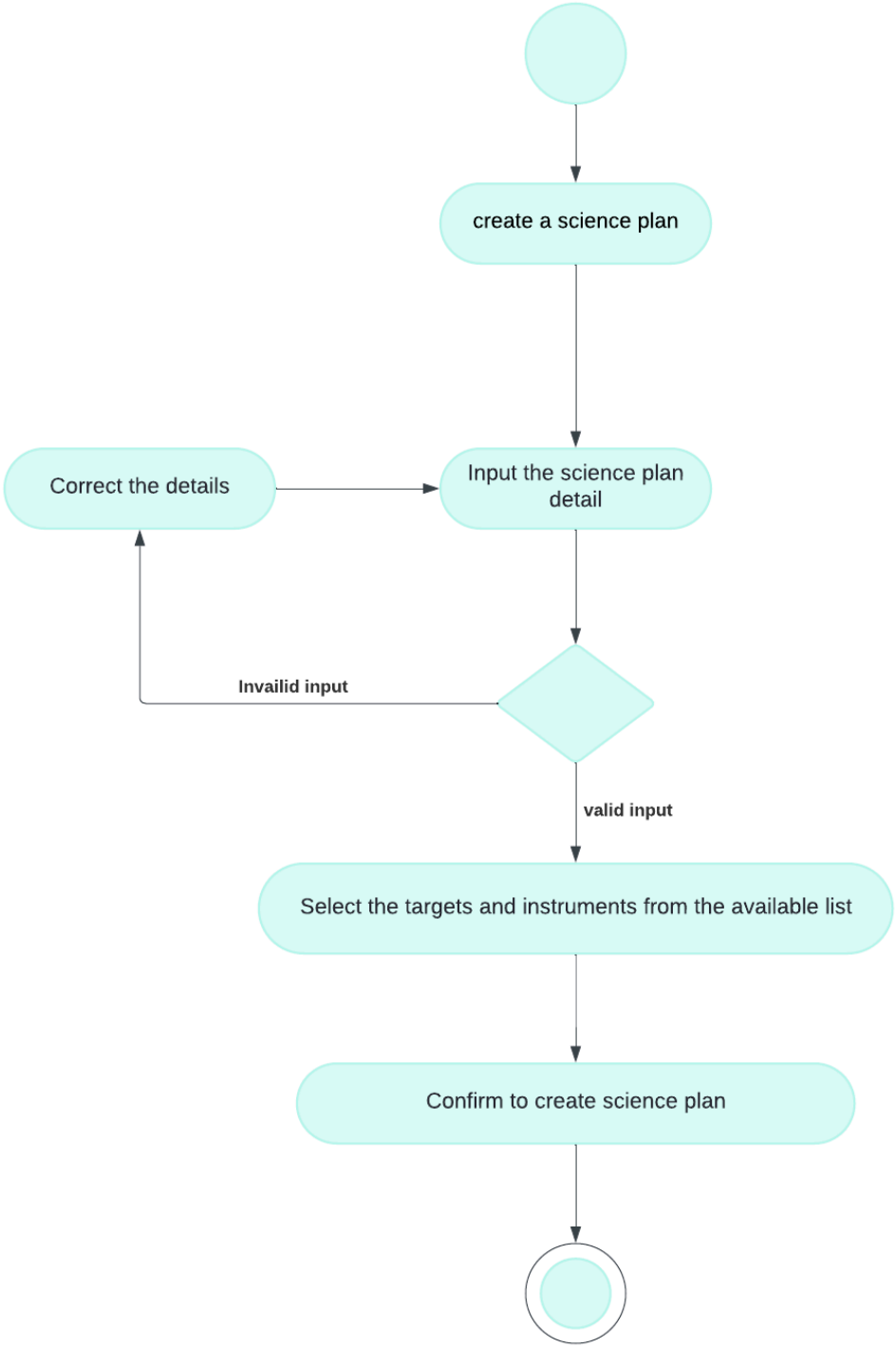
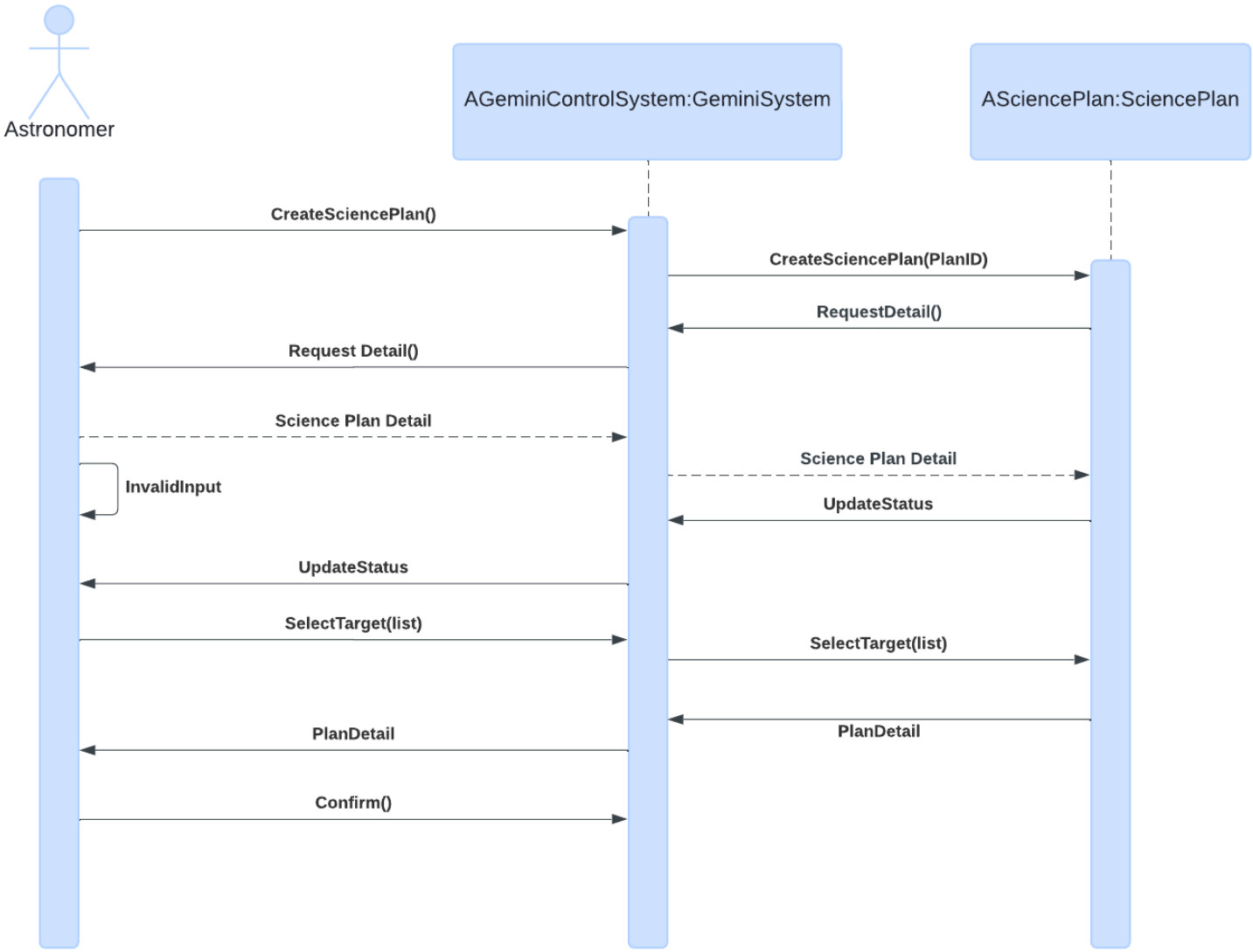
|---|---|---|
| **Use Case Name:** CreateASciencePlan | **ID:** U001 | **Important Level:** High |
| **Primary Actor:** Astronomer | **Use Case Type:** Essential | |
| **Stakeholders and Interests:** Astronomers - interested | | |
| **Brief Description:** This use case describe how astronomer create science plan step by step | | |
| **Trigger:** When astronomer want to initiate new science plan<br><br>**Type:** Functional | | |
| **Relationships:**<br>- Association: Astronomer, Observatory Scheduler<br>- Include: Access star Catalogs<br>- Extend:<br>- Generalization: Submit a Science Plan | | |
| **Normal Flow Event:**<br>1. Astronomer create a science plan<br>2. Astronomer input the science plan detail<br>3. Astronomer select the targets and instruments from the available list<br>5. Astronomer confirm to create science plan | | |
| **SubFlows:** | | |
| **Alternate/Exceptional Flows:** If astronomers input the invalid detail, then the system will ask to re-input again. | | |

Activity Diagram



Sequence Diagram



## Collect Astronomical Data

Use case description

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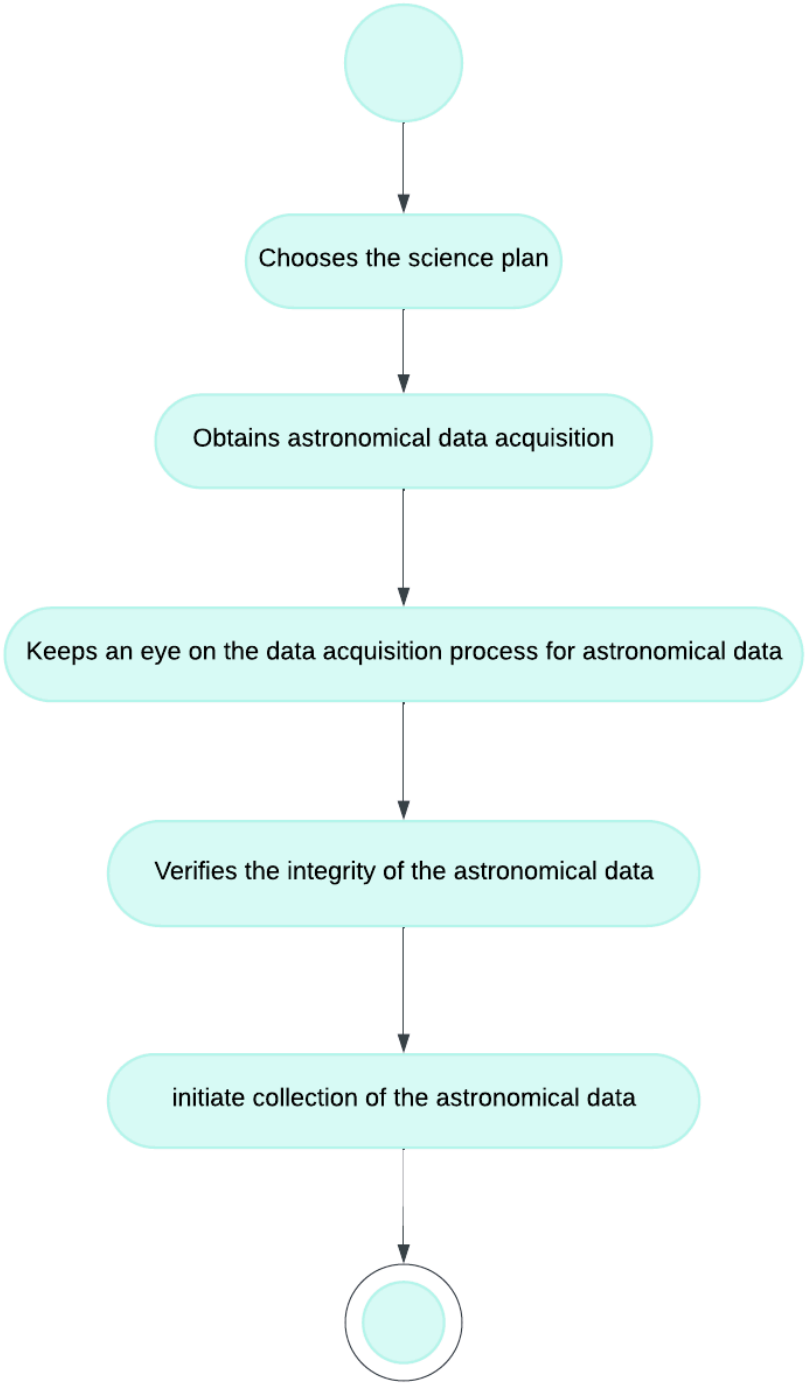
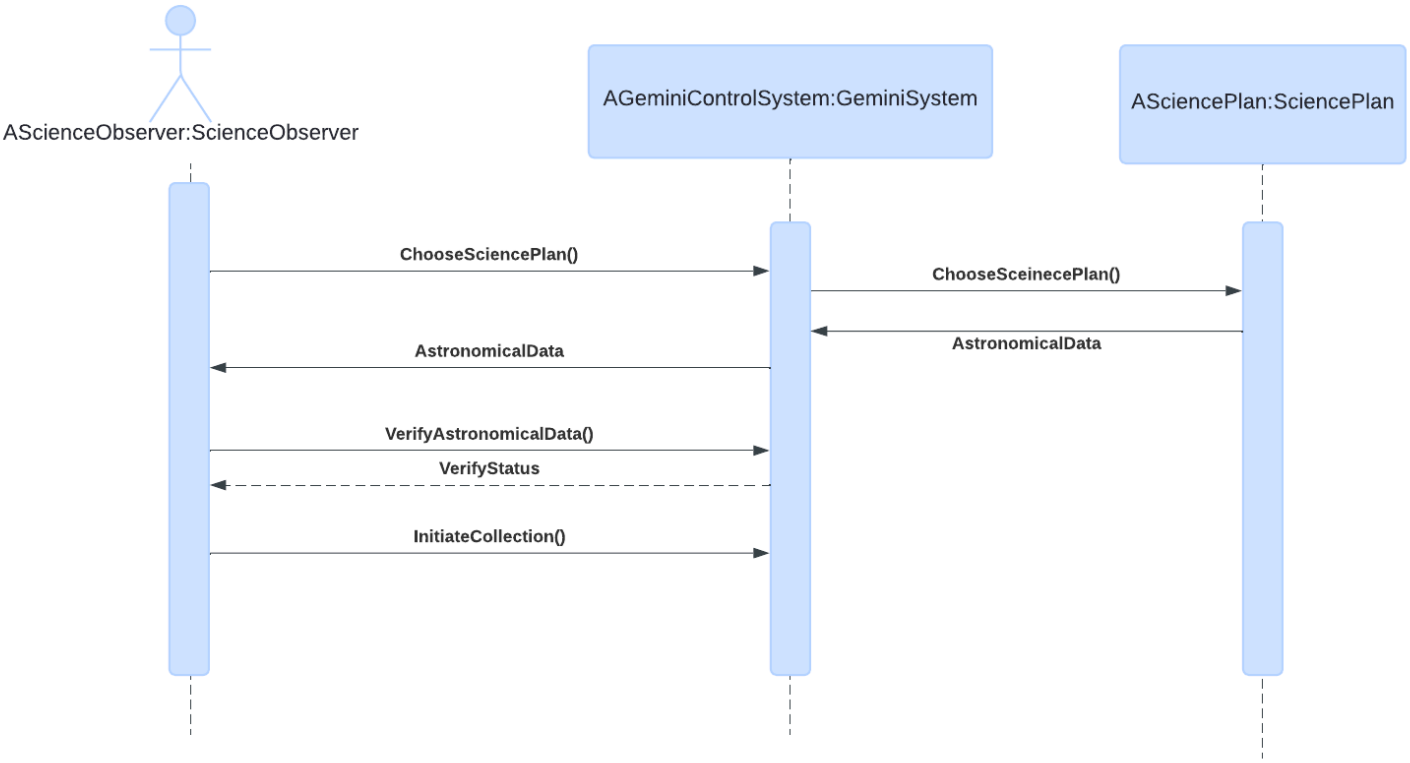
|---|---|---|
| **Use Case Name:** CollectAstronomicalData | **ID:** U002 | **Important Level:** Medium |
| **Primary Actor:** Science Observer | **Use Case Type:** Detail, Essential | |
| **Stakeholders and Interests:** Science observer - want to collect astronomical data | | |
| **Brief Description:** This use case describe how science observer collect astronomical data | | |
| **Trigger:** The astronomers collect astronomical data<br><br>**Type:** External | | |
| **Relationships:**<br>- Association: Science observer<br>- Include:<br>- Extend:<br>- Generalization: collect astronomical data | | |
| **Normal Flow Event:**<br>1. The Science Observer chooses the science plan.<br>2. The Science Observer obtains astronomical data acquisition.<br>3. The Science Observer keeps an eye on the data acquisition process for astronomical data.<br>4. The Science Observer verifies the integrity of the astronomical data.<br>5. The Science Observer initiates the collection of the astronomical data with a click. | | |
| **SubFlows:** | | |
| **Alternate/Exceptional Flows:** | | |

Activity Diagram



Sequence Diagram

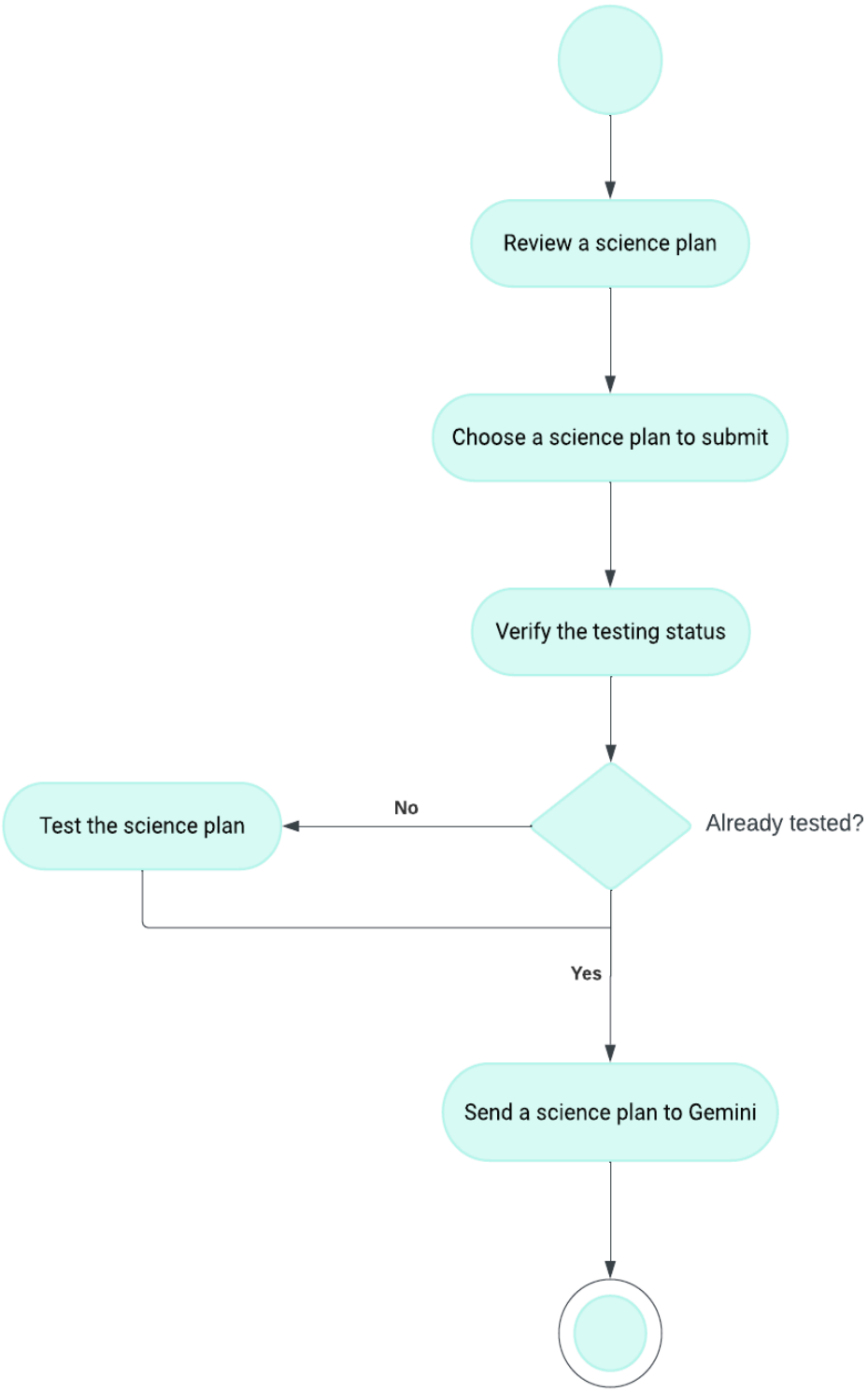


## Submit A Science Plan

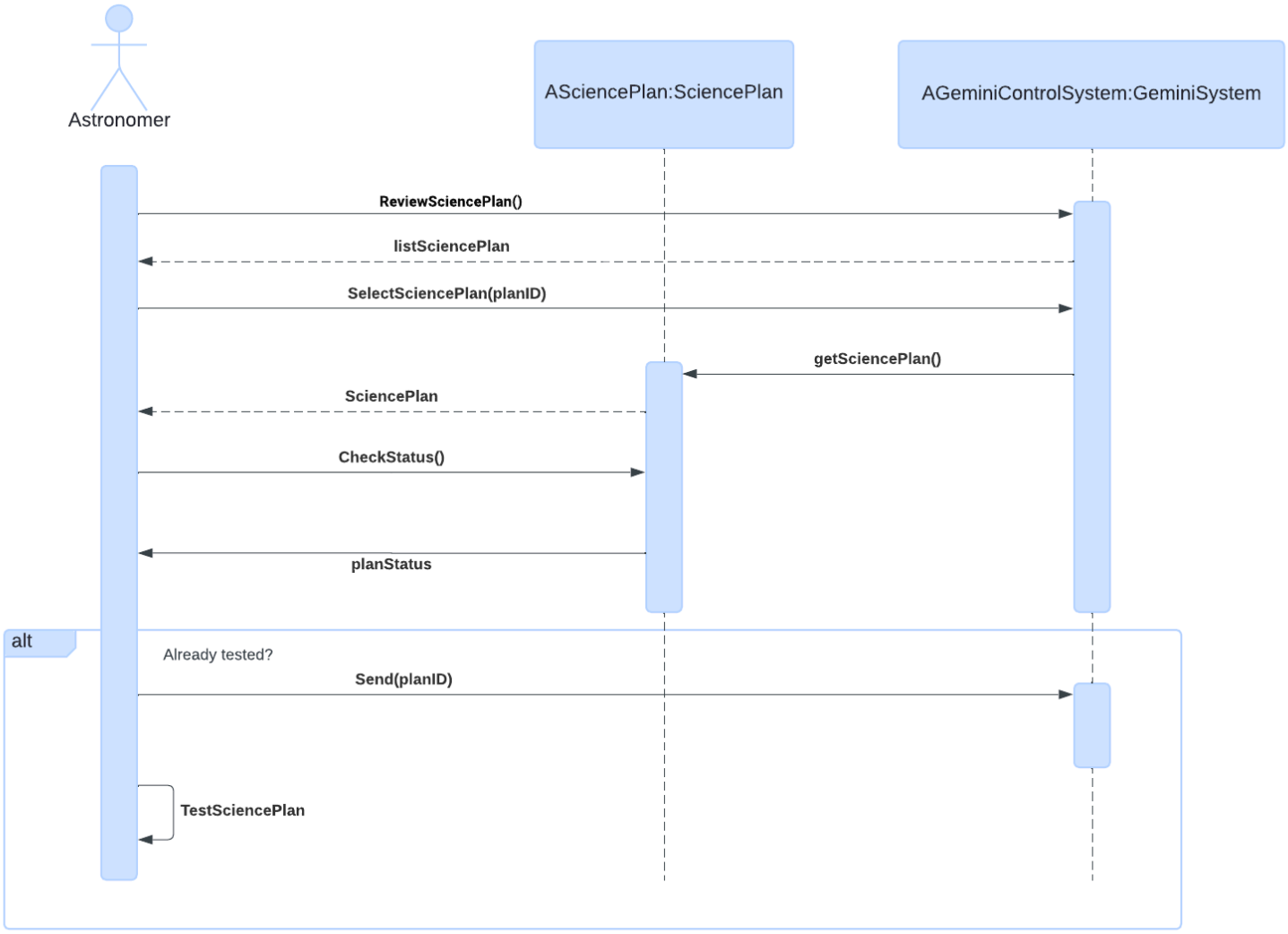
Use case description

| | | |
|---|---|---|
| **Use Case Name:** SubmitASciencePlan | **ID:** U003 | **Important Level:** Medium |
| **Primary Actor:** Astronomer | **Use Case Type:** Detail, Essential | |
| **Stakeholders and Interests:** Astronomers - want to submit a science plan. | | |
| **Brief Description:** This use case describe how to submit science plan to system | | |
| **Trigger:** The astronomers submit a science plan.<br><br>**Type:** External | | |
| **Relationships:**<br>- Association: Astronomer<br>- Include:<br>- Extend:<br>- Generalization: | | |
| **Normal Flow Event:**<br>1. Astronomers review a science plan.<br>2. Astronomers choose a science plan to submit.<br>3. Astronomers verify the testing status.<br>If the science plan has not been tested, they test the science plan.<br>4. Astronomers send a science plan to Gemini. | | |
| **SubFlows:** | | |
| **Alternate/Exceptional Flows:** | | |

Activity Diagram



Sequence Diagram



# Class Diagram