Use case description

Use Case Name: Create a science plan	ID: 01	Importance Level: High
Primary Actor: Astronomer		Use Case Type: Detail , Essential
Stakeholders and Interests: Astronomer - Create a science plan		
Brief Description: This use case describers how to create a science plan		
Trigger: When astronomers enter data to create science plans, the system checks if there are duplicate science plans. And enter the information completely or not? Type: External		
Relationships: Association: Astronomer Include: Extend: Generalization:		
Normal Flow of Events: 1. After Astronomers login, the system shows all science plans 2. If you want to create a new science plan you can click the link “Create Science Plan” to Input information to create a science plan. 3. When you click the submit button, If you fill out incomplete information and press submit. The system will notify you, "Do you want to save this draft?"		
Subflows: 2.If you want to create new science plan you can Input information to create a science plan by including the following details: 1.1 Input name creator of science plan 1.2 Input submitter 1.3Input fundingInUSD: the amount of funding in dollars 1.4 Input objective		

1.5Input starsSystem 1.6 Input startDate and endDate 1.7 Input telescopeLocation 1.8 Input data processing requirements - File type - File quality - Image processing (B&W, color, contrast, brightness, saturation)
Alternate/Exceptional Flow:

Use Case Name: Create an observing program	ID: 02	Importance Level: High
Primary Actor: Science Observer		Use Case Type: Detail, Essential
Stakeholders and Interests: Science Observer - create an observing program		
Brief Description: science observer transform validated science plan to observing program		
Trigger: There is a science plan in the system that has already been validated. Type: External		
Relationships: Association: Science Observer Include: Extend: Generalization:		
Normal Flow of Events: 1. Science Observer received the science plan that has been validated. 2. Select the science plan to convert into an observing program. 3. Input observing program data in accordance with the science plan. 4. Submit an observing program to the system.		
Subflows: 3. Input observing program data in accordance with the science plan 3.1 Input Gemini Location 3.2 Input Optics Primary 3.3 Input F-Stop 3.4 Input Optics Secondary RMS		

3.5 Input Science Fold Mirror Degree 3.6 Input Science Fold Mirror Type 3.7 Input Module Content 3.8 Input Calibration Unit 3.9 Input Light Type 3.10 Input Tele Position Pair Direction 3.11 Input Tele Position Pair Degree 3.12 Input Validation Status
Alternate/Exceptional Flow: The system has detected that the observing program data has been entered incompletely or incorrectly - In the case that all fields are not filled in, Science Observer will not be able to submit observing programs to the system. - In the case that the information is incorrect, Unable to create an observing program.

Use Case Name: Collect astronomical data	ID: 03	Importance Level: High
Primary Actor: Science Observer		Use Case Type: Detail , Essential
Stakeholders and Interests: Science Observer - Collect astronomical data		
Brief Description: Science Observer can collect astronomical data		
Trigger: When the approved plan has been executed Type: External		
Relationships: Association: Science Observer Include: Extend: Generalization:		
Normal Flow of Events: 1. Bring the completed sci plan to browse Astronomical data 2. Collect Astronomical Data		
Subflows:		
Alternate/Exceptional Flow:		