

Use Case: UI Display

ID: 1

Level: Medium

Description: Validating the various UI components when the program is started.

Actors: User

Stakeholders and Interests: User and Owner

Precondition:

1. Program is started

Trigger:

1. Double-clicking the jar file or Running the CApp.java in the IDE

Post-Conditions:

1. Program should start running without errors
2. UI should be rendered with Start button, Stop button, label field with value 'Max Duration', text field with default value 0, label field with value 'options' for rule selection, dropdown menu with values Rule 1, Rule 2 and Rule 3, and a hexagonal grid with seed at the center.

Main Scenario:

1. Double-clicking the jar file or Running the CApp.java in the IDE
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Use Case: Start Button functionality

ID: 2

Level: High

Description: Validating the start button functionality when clicked.

Actors: User

Stakeholders and Interests: User and Owner

Precondition:

1. Program is started
2. UI is rendered
3. Value for Max duration is entered

Trigger:

1. Clicking on the start button

Post-Conditions:

1. Simulation should start running.
2. The UI should display the generation of various stages of crystal growth.
3. On reaching the Max duration, the simulation should stop

Main Scenario:

1. Run the program by double-clicking the jar file or running the CApp.java in the IDE
2. Enter value for Max Duration and selection the rule
3. Click on the start button

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Use Case: Rule selection

ID: 3

Level: Medium

Description: Validating the different crystal patterns when different Rules (options) are selected

Actors: User

Stakeholders and Interests: User and Owner

Precondition:

1. Program is started
2. UI is rendered
3. Value for Max duration is entered
4. Value for options is selected (Example Rule 2)

Trigger:

1. Clicking on the start button

Post-Conditions:

1. Simulation should start running.
2. The UI should display the generation of various stages of crystal growth.
3. On reaching the Max duration, the simulation should stop

Main Scenario:

1. Run the program by double-clicking the jar file or running the CAApp.java in the IDE
2. Enter value for Max Duration and selection the rule
3. Click on the start button
4. Observe the pattern displayed
5. Enter a new value for Max Duration and rule
6. Click on the start button
7. Observe the pattern displayed