**Trigger**

* The goal that the user case is designed for

**Primary Actor**

* Main entities that are directly involved in achieving goal

**Supporting Actors**

* Additional entities that can influence achieving the goal but are not directly involved

**Preconditions**

* Conditions that need to be satisfied before the process starts

**Process Steps**

* Step by step actions the primary actor does in order to achieve the goal

**Minimal Guarantees**

* The outcome in the scenario that the goal is only partially done

**Success Guarantees**

* The outcome in the scenario that the goal is fully done

|  |  |
| --- | --- |
| **Use Case 1: Drag firefly wing from toolbox to sandbox** | |
| **Trigger** | The child needs to choose a wing from the toolbox |
| **Primary Actor** | Child |
| **Supporting Actors** | * Toolbox * Sandbox * FireflyX |
| **Precondition** | * The child needs to have completed the tutorial * The firefly does not have a wing yet * The child must set the firefly speed |
| **Process Steps** | 1. The child drags the wing to sandbox environment. |
| **Minimal Guarantees** | The wing is not added to the firefly in the sandbox environment |
| **Success Guarantees** | A wing is added to the firefly |
| **Use Case 2: Drag firefly tail from toolbox to sandbox** | |
| **Trigger** | The child needs to choose a tail from the toolbox |
| **Primary Actor** | Child |
| **Supporting Actors** | * Toolbox * Sandbox * FireflyX |
| **Precondition** | * The child needs to have completed the tutorial * The firefly does not have a tail yet * The child must have chosen a tail light beat-rest pattern from the choice. |
| **Process Steps** | 1. The child drags the tail to sandbox environment. |
| **Minimal Guarantees** | The tail is not added to the firefly in the sandbox environment |
| **Success Guarantees** | A tail is added to the firefly |
| **Use Case 3: Pinch to set firefly wing size** | |
| **Trigger** | The child wants to adjust the wing size of the firefly |
| **Primary Actor** | Child |
| **Supporting Actors** | * Firefly * Sandbox * FireflyX |
| **Precondition** | * The child needs to have completed the tutorial * The firefly has wings |
| **Process Steps** | 1. Tap to select the wing that the child wants to edit the size for. 2. Pinch or reverse pinch wing to set desired size. 3. Tap anywhere to unselect |
| **Minimal Guarantees** | The Wing size remains at the previous size |
| **Success Guarantees** | The Wing size changes to desired size |
| **Use Case 4: One finger drag to set firefly wing speed** | |
| **Trigger** | The child wants to change the firefly wing speed |
| **Primary Actor** | Child |
| **Supporting Actors** | * Firefly * Sandbox * FireflyX |
| **Precondition** | * The child needs to have completed the tutorial * The firefly has wings * The child must tap the wing |
| **Process Steps** | 1. Use the slider in the toolbox to change the wing speed |
| **Minimal Guarantees** | The Wing speed remains at the previous speed |
| **Success Guarantees** | The Wing speed changes to desired speed |
| **Use Case 5: Create multiple fireflies** | |
| **Trigger** | The child wants to create multiple fireflies |
| **Primary Actor** | Child |
| **Supporting Actors** | * Toolbox * Firefly * Sandbox * FireflyX |
| **Precondition** | * The child needs to have completed the tutorial * There must be less than 5 fireflies in the sandbox environment |
| **Process Steps** | 1. The child assembles a firefly 2. The child can keep assembling until he reaches 5 on the sandbox environment. |
| **Minimal Guarantees** | The amount of fireflies remains the same or only a partial amount of what is desired is added |
| **Success Guarantees** | The desired amount of fireflies is created |
| **Use Case 6: Drag to replace firefly tail light** | |
| **Trigger** | The child wants to replace the existing firefly tail light |
| **Primary Actor** | Child |
| **Supporting Actors** | * Sandbox * Firefly * Toolbox * FireflyX |
| **Precondition** | * The child needs to have completed the tutorial * The firefly has a tail light |
| **Process Steps** | 1. 1.Drag new tail light over old tail light. |
| **Minimal Guarantees** | The tail pattern remains at the previous pattern |
| **Success Guarantees** | The tail pattern changes to desired pattern |
| **Use Case 7: Drag to Replace firefly wing** | |
| **Trigger** | The child wants to replace the existing firefly wing |
| **Primary Actor** | Child |
| **Supporting Actors** | * Sandbox * Firefly * FireflyX |
| **Precondition** | * The child needs to have completed the tutorial * The firefly has a wing |
| **Process Steps** | 1. Drag new wing over old wing |
| **Minimal Guarantees** | The wing remains at the same |
| **Success Guarantees** | The wing changes to the desired wing |
| **Use Case 8: Drag to Replace firefly body** | |
| **Trigger** | The child wants to replace the existing firefly body |
| **Primary Actor** | Child |
| **Supporting Actors** | * Sandbox * Firefly * FireflyX |
| **Precondition** | * The child needs to have completed the tutorial * The firefly has a body |
| **Process Steps** | 1. Drag new body over old body |
| **Minimal Guarantees** | The body remains at the same |
| **Success Guarantees** | The body changes to the desired body |
| **Use Case 9: Delete entire firefly** | |
| **Trigger** | The child wants to delete the entire firefly |
| **Primary Actor** | Child |
| **Supporting Actors** | * Sandbox * Firefly * FireflyX |
| **Precondition** | * The child needs to have completed the tutorial * The firefly is in the sandbox environment |
| **Process Steps** | 1. Drag firefly to trash bin |
| **Minimal Guarantees** | The firefly is not deleted |
| **Success Guarantees** | The firefly is deleted |
| **Use Case 10: Delete firefly wing** | |
| **Trigger** | The child wants to delete the firefly wing |
| **Primary Actor** | Child |
| **Supporting Actors** | * Sandbox * Firefly * FireflyX |
| **Precondition** | * The child needs to have completed the tutorial * The firefly is in the sandbox environment * The firefly has a wing |
| **Process Steps** | 1. Tap the wing of the firefly 2. Drag firefly wing to trash bin |
| **Minimal Guarantees** | The wing is not deleted |
| **Success Guarantees** | The wing is deleted |
| **Use Case 11: Delete firefly body** | |
| **Trigger** | The child wants to delete the firefly body |
| **Primary Actor** | Child |
| **Supporting Actors** | * Sandbox * Firefly * FireflyX |
| **Precondition** | * The child needs to have completed the tutorial * The firefly is in the sandbox environment * The firefly has a body |
| **Process Steps** | 1. Tap the body of the firefly 2. Drag firefly body to trash bin |
| **Minimal Guarantees** | The firefly body is not deleted |
| **Success Guarantees** | The firefly body is deleted |
| **Use Case 12: Delete firefly tail** | |
| **Trigger** | The child wants to delete the firefly tail |
| **Primary Actor** | Child |
| **Supporting Actors** | * Sandbox * Firefly * FireflyX |
| **Precondition** | * The child needs to have completed the tutorial * The firefly is in the sandbox environment * The firefly has a tail |
| **Process Steps** | 1. Tap the tail of the firefly 2. Drag firefly tail to trash bin |
| **Minimal Guarantees** | The firefly tail is not deleted |
| **Success Guarantees** | The firefly tail is deleted |
| **Use Case 13: Listen to firefly(single sequence)** | |
| **Trigger** | The child wants to listen to the firefly |
| **Primary Actor** | Child |
| **Supporting Actors** | * Canvas * Firefly * Playback * FireflyX |
| **Precondition** | A firefly has to be created in the sandbox |
| **Process Steps** | 1. Flick the firefly to the canvas |
| **Minimal Guarantees** | The firefly stays in the sandbox and does not play sound |
| **Success Guarantees** | The firefly is released in the canvas and plays sound |
| **Use Case 14: Listen to multiple fireflies(multiple sequence)** | |
| **Trigger** | The child wants to listen to multiple fireflies in sequence |
| **Primary Actor** | Child |
| **Supporting Actors** | * Canvas * Playback * Fireflies * FireflyX |
| **Precondition** | The child must have created multiple fireflies in the sandbox |
| **Process Steps** | 1. Flick the first firefly from the sandbox to the canvas 2. Flick the remaining firefly from the sandbox to the canvas |
| **Minimal Guarantees** | The child can listen to some of the fireflies |
| **Success Guarantees** | The child can listen to all the fireflies |
| **Use Case 15: View existing canvas** | |
| **Trigger** | The child needs to view the existing canvas |
| **Primary Actor** | Child |
| **Supporting Actors** | * Canvas * FireflyX |
| **Precondition** | * The user is in the main menu screen * The firefly is in storage * The firefly has not been corrupted |
| **Process Steps** | 1. The child taps on the start from the main menu 2. The app opens the selected composition |
| **Minimal Guarantees** | None |
| **Success Guarantees** | The existing canvas will open |
| **Use Case 16: Add firefly Body (Set body sequence, Set body instrument) from toolbox to sandbox** | |
| **Trigger** | The child needs to add a firefly body |
| **Primary Actor** | Child |
| **Supporting Actors** | * Toolbox * Sandbox * Firefly * FireflyX |
| **Precondition** |  |
| **Process Steps** |  |
| **Minimal Guarantees** |  |
| **Success Guarantees** |  |
| **Use Case 17: Create 5 fireflies at the same time** | |
| **Trigger** | The child wants to create 5 fireflies at the same time |
| **Primary Actor** |  |
| **Supporting Actors** | * Toolbox * Sandbox * Fireflies * FireflyX |
| **Precondition** |  |
| **Process Steps** |  |
| **Minimal Guarantees** |  |
| **Success Guarantees** |  |
| **Use Case 18: Listen to previous tracks from the playback history** | |
| **Trigger** | The child wants to listen to previous tracks |
| **Primary Actor** | Child |
| **Supporting Actors** | * Playback History * FireflyX |
| **Precondition** | * The child must have created multiple fireflies that represents a track |
| **Process Steps** |  |
| **Minimal Guarantees** | The previous track was not played |
| **Success Guarantees** | The previous track was played |
| **Use Case 19: Mute playback** | |
| **Trigger** | The child wants to mute the playback |
| **Primary Actor** | Child |
| **Supporting Actors** | * Canvas * Playback * Firefly/Fireflies * FireflyX |
| **Precondition** | * The playback is not muted |
| **Process Steps** |  |
| **Minimal Guarantees** | The playback remains unmuted |
| **Success Guarantees** | The playback becomes muted |
| **Use Case 20: Adjust the volume of playback** | |
| **Trigger** | The child wants to adjust the volume of the playback |
| **Primary Actor** | Child |
| **Supporting Actors** | * Playback * FireflyX |
| **Precondition** |  |
| **Process Steps** |  |
| **Minimal Guarantees** | The volume remains unchanged. |
| **Success Guarantees** | The volume is changed. |
| **Use Case 21: Reset workspace** | |
| **Trigger** | The child wants to reset the workspace and get rid of all fireflies |
| **Primary Actor** | Child |
| **Supporting Actors** | * Workspace * FireflyX |
| **Precondition** |  |
| **Process Steps** |  |
| **Minimal Guarantees** | The workspace remains unchanged |
| **Success Guarantees** | The workspace is reset |
| **Use Case 22: Flick firefly from sandbox to canvas to play** | |
| **Trigger** | The child needs to release the firefly to the canvas and play its rhythm |
| **Primary Actor** | Child |
| **Supporting Actors** | * Sandbox * Canvas * Firefly * Playback * FireflyX |
| **Precondition** |  |
| **Process Steps** |  |
| **Minimal Guarantees** |  |
| **Success Guarantees** |  |
| **Use Case 23: Save album** | |
| **Trigger** | The child wants to save the album |
| **Primary Actor** | Child |
| **Supporting Actors** | * FireflyX |
| **Precondition** | * There must be an existing track saved |
| **Process Steps** |  |
| **Minimal Guarantees** | The album is not saved |
| **Success Guarantees** | The album is saved |
| **Use Case 24: Load album** | |
| **Trigger** | The child wants to load the album |
| **Primary Actor** | Child |
| **Supporting Actors** | * FireflyX |
| **Precondition** | * The child has a saved album to load |
| **Process Steps** |  |
| **Minimal Guarantees** | No album is loaded |
| **Success Guarantees** | The album is loaded |

1. Drag firefly wing from toolbox to sandbox
2. Drag firefly tail from toolbox to sandbox
3. Pinch to set firefly wing size
4. One finger drag to set firefly wing speed
5. (Create multiple fireflies)
6. Drag to replace firefly tail pattern
7. Drag to Replace firefly wing
8. Drag to Replace firefly body
9. Delete firefly
10. Delete firefly wing
11. Delete firefly body
12. Delete firefly tail
13. Listen to firefly(single sequence)
14. Listen to multiple fireflies(multiple sequence)
15. View existing canvas
16. Add firefly Body (Set body sequence, Set body instrument) from toolbox to sandbox
17. Create 5 fireflies at the same time
18. Listen to previous tracks from the playback history
19. Mute playback
20. Adjust volume of playback
21. Reset workspace
22. Flick firefly from sandbox to canvas to play
23. Save album
24. Load album

Systen Walkthrough

Splash Screen

MainMenu

Start