

**CS6334 – Virtual Reality**  
**Final Prototype**  
**Updates Document**  
**Team 4 – S.A.D.V.R.**

**Usability issues mentioned in the preliminary prototype:**

- 1. Difficult to know what the tasks are and what to do once you encounter a task*  
To remove this issue, we created a task manager in the final prototype. The task manager shows all the tasks that have been completed in green, and the remaining tasks in red. The task manager can be opened using the in-game menu. We also added multiple audio cues that play when an user completes a task. This audio cue describes the next task to the user.
- 2. No button cues for performing task. Needed help from team members to figure out what needed to be done*  
We have mentioned the buttons to be used in the start game menu.
- 3. The instructions inside the game are not clear and not visible on the screen. I got confused about the directions as what task I exactly need to execute!*  
We have added multiple audio cues in the final prototype to give instructions to the users. This was not present in the preliminary prototype.
- 4. A lot of controls to keep track of, simple grab and drop can maybe be done with the same button*  
In the final prototype, we have simplified the buttons to be used to play the game. Now we have only two buttons that need to be used i.e. the “X” and “A” button on the bluetooth controller.
- 5. The objects are not clear so that we get confused in which direction we need to go. To avoid confusion they can set a direction bar in the top.*  
We have added audio cues in the final prototype to avoid confusion.
- 6. The game still continues even when all the tasks are completed. There is no proper end to it. We have to end the game manually. \**  
We have added a timer to add a win/lose situation in the game. If the user completes all the tasks in the given timeframe, a canvas appears on the screen that shows a

“Congratulations” message to the user. If the user is unable to complete the tasks in the given time, we display a canvas that shows a “Time-up” message. The game ends in both the situations.

7. *To do the certain things like to do the tasks it's confusing like how long or how many times I need to press the button.*

We added a green spinner that appears when the player is fixing an issue to that the issue is being fixed.

8. *Lack of settings for what button to press*

We have provided a menu at the start that describes which button to press to perform various tasks. In the final prototype, we have reduced the number of buttons to be used to 2.

9. *The tool selecting menu was not working(stuck), if we are using it by standing at the edge of the wall. \**

In the final prototype, we have removed the inventory since it was not being used much.

10. *When I started fresh game, tools were not on the table. They were scattered on the floor. I had to find and pick up the tools from the floor and there weren't all tools also, some were missing. It shows even though the game was fresh it is not starting as a new task. that's a glitch. Need to work on this. \**

We have solved this problem in the final prototype using colliders.

11. *The user cannot know which place he is in the spaceship and does not know where the issue is and what can be used to solve it. \**

We have provided audio cues and task manager list in the final prototype so that the user knows what all tasks are to solved.

12. *No proper instructions regarding the tasks*

We have provided audio cues for the same.

13. *Interaction Changes of better experience. Mapping of buttons with mind model can be improved. Good use of Ok button.*

We have mapped all the functionalities to 2 buttons in the final prototype.

14. *Menus overlap.*

In the final prototype, we have solved the issue of the overlapping menus. Now, when one menu is opened, and the user tries to open a new menu, the previously opened menu gets closed automatically.

*15. One tool is being used for all the fixes.*

Various tools have been added to fix the issues, such as fire extinguishers for putting off the fire, pliers to fix the damaged wires.

*16. The grab message does not work (inventory full message). It works only after seeing the option and closing the menu. \**

Removed the inventory in the final prototype as it wasn't being used much.

*17. The progress screen - again an instruction message just to let the player know that they can check their progress there. \**

We have implemented a task manager in the in-game menu, so that the players can check their progress.

*18. There is a wait time between the door opening/task being done, maybe a simple instruction can be displayed to let the play know.*

We have implemented a green spinner which appears while the task is being done.