Homelessness Simulator Requirements Summary

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Homelessness Simulator is a simulator game that showcases what it is like to be homeless in Chicago, featuring different hazards and struggles homeless individuals go through.

Product Use Cases

The use cases of the homelessness simulation primarily focus on the groups of people who will be testing the simulation, such as the homeless and non-homeless populations, and the Chicago Coalition for the Homeless (CCH) who will be monitoring the testing and reporting any feedback from both populations during or after testing to the development team for improved updates.

Functional Requirements

The functional requirements of the project state that the project must be based off of interviews of the consenting individuals who are experiencing or have experienced homelessness, be easy to set up by members of the CCH for sanctioned, in-house use or easy to set up for unsanctioned use outside of the CCH and run on at least Windows 10, and accept feedback from the users and testers to send back to the developers during on-site usage in written form or via email during unsanctioned use.

Data Requirements

The data requirements of the simulation will require being able to save the state of the simulation and utilize records of Chicago weather and temperatures to simulate weather conditions that the interviewees talked about. The simulation should also be able to record the different items that the user finds throughout their testing in the inventory and be able to keep them there until the user deploys them.

Performance Requirements

The simulation should be able to react to the user's input and interactions in a timely manner and run smoothly on the user's device with a framerate no less than 30 frames per second with the ability to traverse the map quickly. The loading screens of the simulation should be less than or equal to 3 seconds, and the storage needed to contain the simulation's assets should be no greater than 500 MB. The simulation should be able to respond to user input within 40 milliseconds.

Dependability Requirements

The simulation should be resistant to crashes, and should be tested regularly to ensure that in the possibility that it does crash, any progress that has been made in the simulation has been saved and not lost. The simulation should be available for use 24/7, and in the chance that the resources needed to run the simulation are low, the simulation should reduce the number of assets loaded while still following the performance requirements. The simulation codebase should also be free of any code that opens up hardware to potential damage and lifespan reduction.

Maintainability and Supportability Requirements

The simulation should be able to run on Windows 10+ systems, and be updated with new assets and data within a week of receiving them. Anyone who wishes to receive help about the simulation for any reason can contact a help desk of individuals who can assist the user with the simulation. The simulation should be maintained for at least four years after launch.

Security Requirements

Only the developers should be able to alter the simulation, and the user should not be able to manipulate the data or files of the simulation. The data of the simulation should be saved properly with little room for corruption, and the privacy of the users who download the simulation is guaranteed.

Usability and Humanity Requirements

The usability and humanity requirements of the simulation require that the user, regardless of age and disability, is able to navigate around the simulation, interact with objects, and see how their actions affect the simulation and their stats. The user should be able to navigate the simulation's controls with little difficulty, and be able to recognize which controls and buttons are associated with a particular action.

Look and Feel Requirements

The simulation itself should be consistent with its imagery, styles, and purpose. The colors and fonts should be consistent, easy to read, and easy to understand, while the appearance of the simulation should be educational, informative, and serious. It should be a simulation that is purely to educate and increase likelihood of donations to the CCH to help fight against homelessness.

Operational and Environmental Requirements

The main site where the simulation will be utilized is in the CCH office in order to use on-site with their mission. The simulation will also have a download available for use by users at home on their own devices, and it should be able to run successfully provided the system is running Windows 10+. The simulation should have monthly updates for a year in order to properly respond to feedback from users and testers and make adjustments as necessary.

Cultural and Political Requirements

The simulation should be respectful and mindful of the homeless population and the interviewees who have contributed to the creation and basis of the simulation. The simulation is meant to be educational and serious about the content it portrays, and should not make light of or be mocking the experiences of the homeless. The simulation should not be affiliated with any sort of politician nor receive political funding of any kind.

Legal Requirements

The simulation must credit everyone who wishes to be credited that had participated in the creation and basis of the simulation. Those who do not will have their identities kept anonymous from the project. The simulation should comply with copyright and trademark laws. There should be means to alter aspects of the simulation should it become in violation of said laws.

Requirement Acceptance Tests

The requirement acceptance tests revolve around making sure that each requirement is fully met, and ranges from ensuring the confidentiality of interviewees, complying with copyright laws, and ensuring that the simulation can run on systems without lag and taking too much storage for assets and data, with the purpose of ensuring that the simulation runs smoothly for people of all ages and abilities.