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| **VR Project Design Document** | |  | | --- | | 09|22|2022  **Eduardo Alvarez** | |

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| **1**  **App Info** |  | |  |  | | --- | --- | | Tentative Title: |  | | |
|  | |  |  | | --- | --- | | **✓** | Education & Training | | |  |  | | --- | --- | |  | Mental Health & Fitness | |
| |  |  | | --- | --- | |  | Travel & Discovery | | |  |  | | --- | --- | |  | Media & Entertainment | |
| |  |  | | --- | --- | |  | Productivity & Collaboration | | |  |  | | --- | --- | | **✓** | Gaming | |
| |  |  | | --- | --- | |  | Art & Creativity | | |  |  | | --- | --- | |  | Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |

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| **2**  **Pitch** |  | To goal is for users to learn:   |  | | --- | | How to cook mexican food | |
|  | This will be especially educational in VR b/c:   |  | | --- | | the user will prepare food as if he were a chef. | |
|  | At a high level, during the app, users will:   |  | | --- | | Prepare mexican food by their own by cutting ingredients, mixing them, cooking them, etc. | |
|  | This experience will be targeted at devices with:   |  |  |  |  | | --- | --- | --- | --- | | 6 | degrees of freedom,  giving users control over the | movement & rotation | of their head & controllers. | |

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| **3**  **Basics** |  | The app will take place in:   |  | | --- | | A house kitchen with an oven, a table and a frezzer. | | and the user will get around the scene with:   |  |  | | --- | --- | | teleport | movement. | |
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|  | The user will be able to grab:   |  | | --- | | * ingredients * pans, pots. * Knifes, spoons. | | There will be sockets:   |  | | --- | | * Knife´s placeholder * Oven | |

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| **4**  **Events & Interactions** |  | There will be haptic / audio feedback when:   |  | | --- | | * Teleport * Grab a knife, pan, spoon. * Turn on/turn off the oven | | | There will also be 3D sound from:   |  | | --- | | * Freezer engine. * City ambient sound | |
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|  | If the user is holding:   |  |  |  | | --- | --- | --- | |  | and presses the trigger, |  | |  | and presses the trigger, |  | |  | and presses the trigger, |  | |  | | Suggestions: a UI change, a sound/video plays, a particle plays, an object is spawned or destroyed. | | | |
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|  | By default, the left hand will have a:   |  |  | | --- | --- | | Direct | interactor. | | and the right hand will have a:   |  |  | | --- | --- | | Direct/Ray | interactor. | | |
|  | And you will be able to toggle on a Ray interactor using the thumbstick. | | |
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|  | The main menu will be located:   |  | | --- | | In front of the user when the app loads. | | | and from the main menu, the user will be able to:   |  | | --- | | * Read instructions for movement. * Learn about app objectives. | |
|  | [Optional] There will be additional UI elements for:   |  | | --- | |  | | | |

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| **5**  **Optimization & Publishing** |  | To make the user experience more accessible / comfortable:   |  | | --- | |  | | | |
|  | Given that this app is targeting the [headset model], target metrics are:   |  |  |  | | --- | --- | --- | | Frames per second: | >= 72 | FPS | | Milliseconds per frame: | < 13.8 | ms (= 1,000 / FPS) | | Triangles per frame: | 750 k - 1 M | tris | | Draw calls per frame: | 80 - 200 | batches | | | |
|  |  | Lighting strategy: | | |
|  |  | |  |  | | --- | --- | |  | All baked | | |  |  | | --- | --- | | **✓** | Mostly baked with some mixed | | |  |  | | --- | --- | |  | All real-time | |
|  |  | Light probes [will] also be used for more realistic mixed lighting. | | |

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| **6**  **Other features** |  | |  | | --- | | * Kitchen’s furniture with functional doors. * Turn on the oven and cook something | |

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| **7**  **Sketch**  **(Optional)** |  |  |

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| **8**  **Timeline**  **(Optional)** |  | |  |  |  | | --- | --- | --- | |  | Milestone | Date | | 1 | * Refactor measures of the scene’s objects | 10/19/2022 | | 2 | * Haptics and audio feedback for controllers and ambient audio. | 10/20/2022 | | 3 | * Set up interactors | 10/20/2022 | | 4 | * Set up hinge joints for kitchen’s furniture | 10/20/2022 | | 5 | * Oven functionality | 10/26/2022 | | 6 | * Cooking food | 11/03/2022 | | 7 | * Main menu | 11/04/2022 | |