



1950s Building the American Dream - Lustron House

1950s

Design Document

Building the American Dream

Presentation Overview

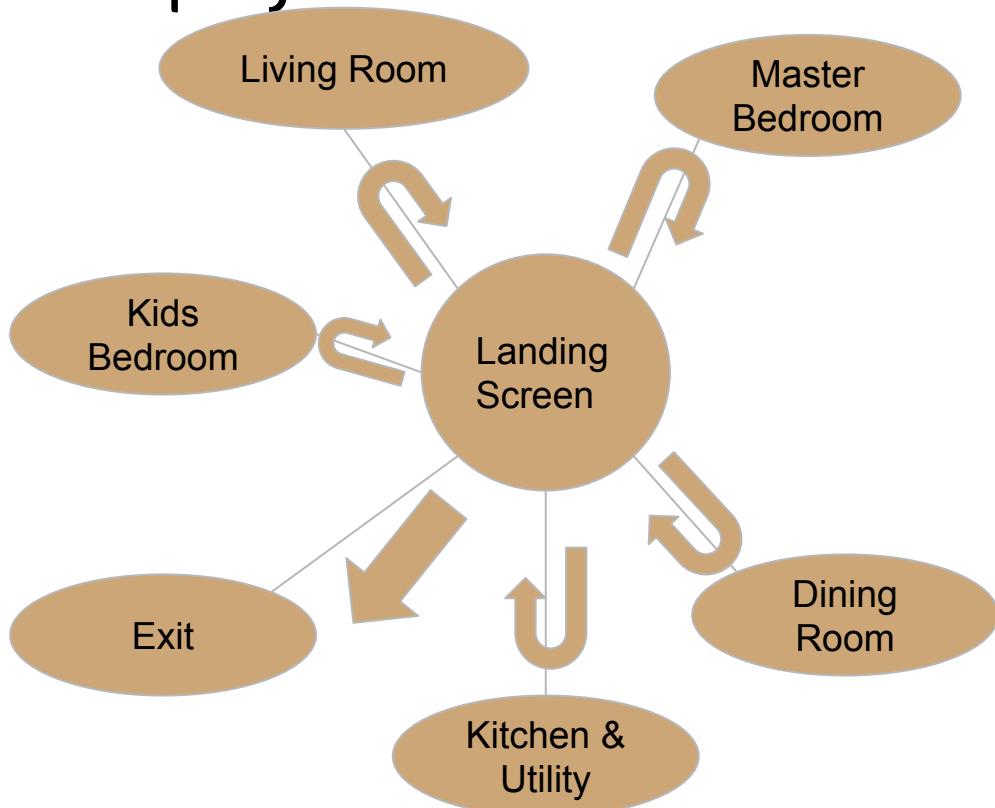
- Overview of initial design - 3
- Feedback - 10
- Design and explanation (screenshots of Unity, any demo pictures) - 11
- Demo video - 27
- Next Steps - 28

1950s Building the American Dream - Lustron House

- Our vision
 - Our application will be a collection of augmented reality (AR) micro-experiences that will enhance the existing exhibit for a range of users.
- Our strategy
 - We will place image targets in noted areas of interest within the house. Each nonlinear interactable will entail a short optional objective that can be completed within that room, and will focus on one part of the 1950s family roles, social issues, or popular culture.

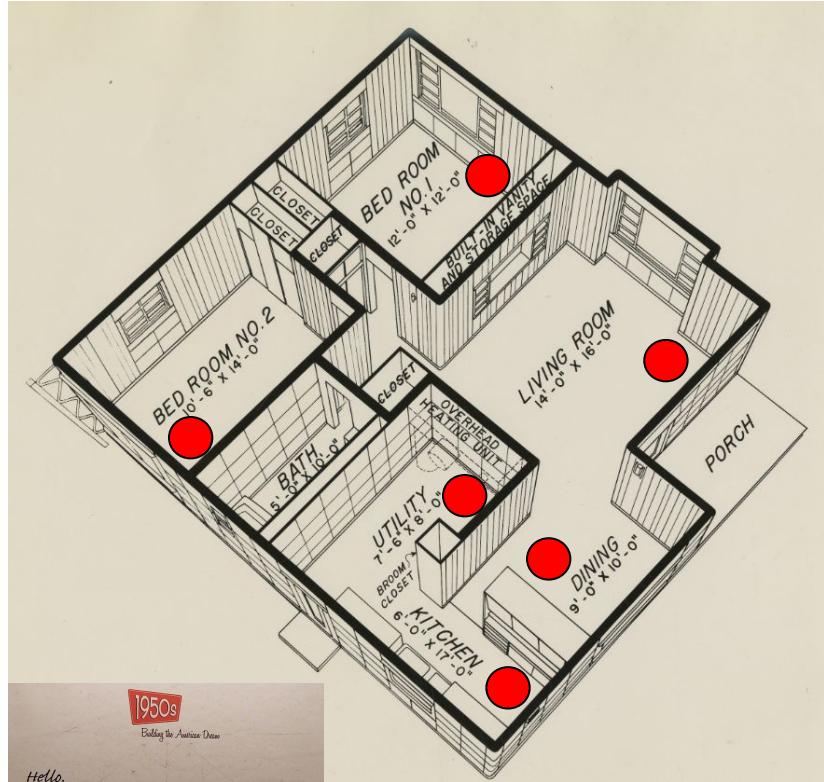
Proposed Features and Gameplay

- Initial landing screen with some directive to scan a target image
- “Micro-experiences”
 - Something that takes 1-2 minutes
 - Upper limit of 7-9 minutes total
 - Doesn’t require movement and distraction
- Not a guided experience



Proposed Unique Features

- There will be different AR interactables placed in interesting locations through the house.
- Each interactable will focus on a different aspect of 1950's life.
- Visitors can interact with as many or as few of the experiences as they want.
- We can stylize the targets as notes written by the family.
- We can customize targets to the specific audience we have.



Concept Arts



Playing songs
from 1950s.

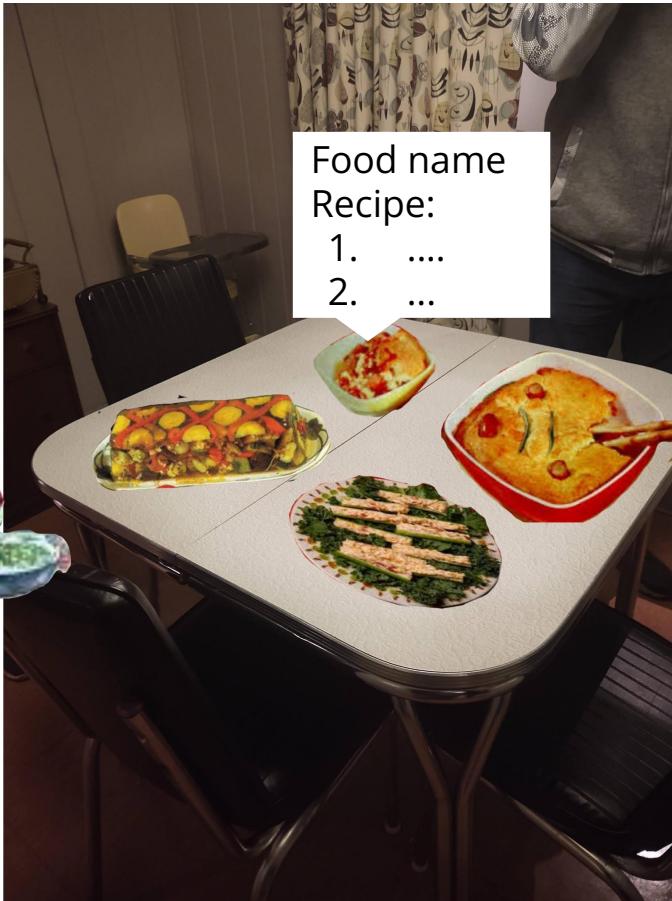
Users can
choose which
song they like.

Showing 3D
musical notes.

Concept Arts



Concept Arts



Feedback we received

Most interesting areas of the house (anecdotally):

Kitchen (food), record player, rotary phone.

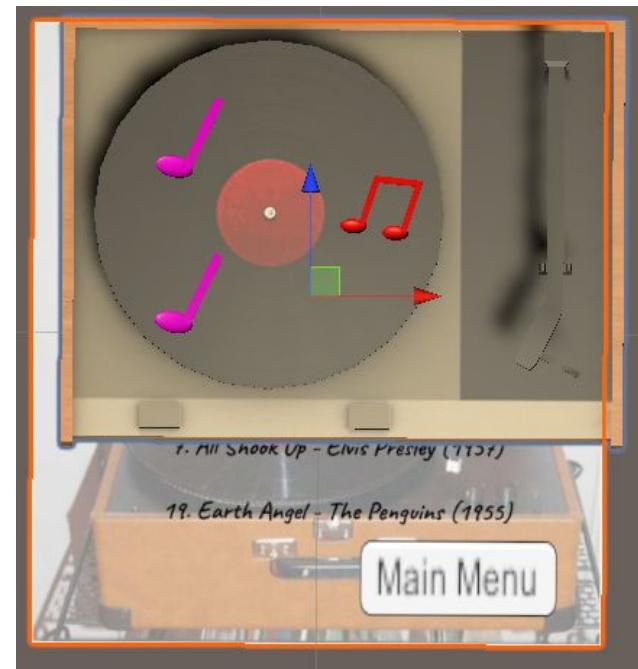
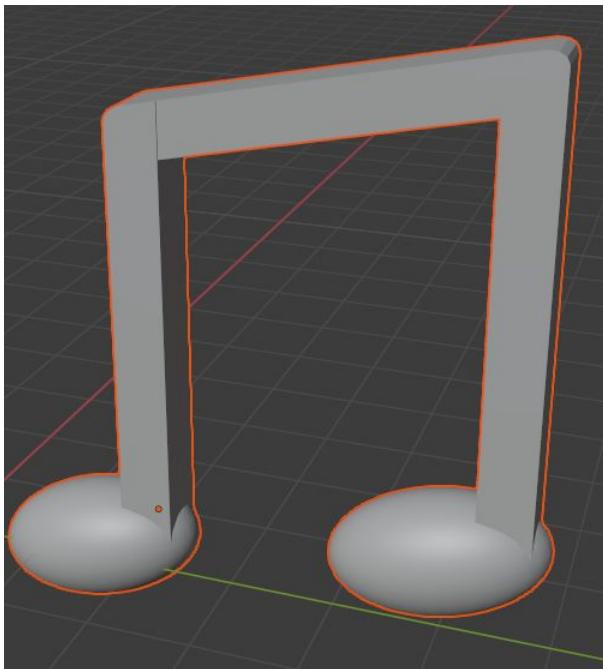
Community board idea scrapped due to scope and time considerations.

Prototyped demoed on (3/16/2021) was favorable.

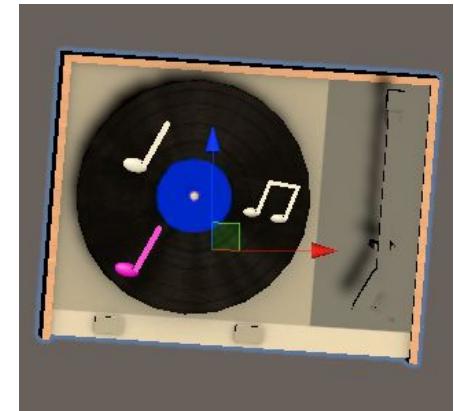
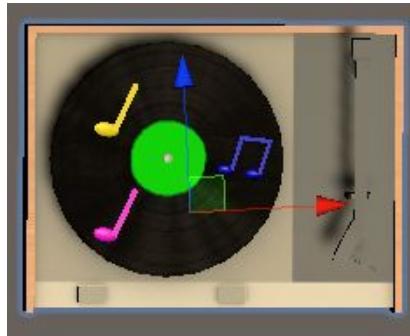
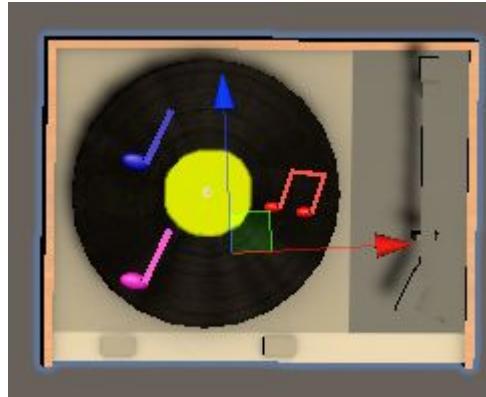
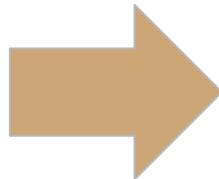
No alterations to existing design.

Opportunities for further enhancement.

Design/Development Process - Record Player



Design/Development Process - Record Player



Design/Development Process - Record Player



Design/Development Process - Record Player

- Features
 - Click the record to change between 4 songs. Click the arm to play/pause.
 - Animated music notes that bob to the music.
- Considerations/Challenges
 - Touch screen functionality to prevent user interference in the experience.
 - Royalties on music selections.
- Opportunities
 - Relieve a liability from the museum.
 - Image targets can be shared online and experienced at home.

Design/Development Process - Main Menu



Design/Development Process - Main Menu



Look for this image

GREATEST HITS OF THE 1950S

- 26. Walkin' After Midnight - Patsy Cline (1958)
- 2. Come Fly With Me - Frank Sinatra (1958)
- 37. I'll Be Seeing You - Billie Holiday (1959)
- 6. In The Mood - Glenn Miller (1953)
- 8. All Shook Up - Elvis Presley (1957)
- 28. Earth Angel - The Penguins (1955)

Press the record to change songs

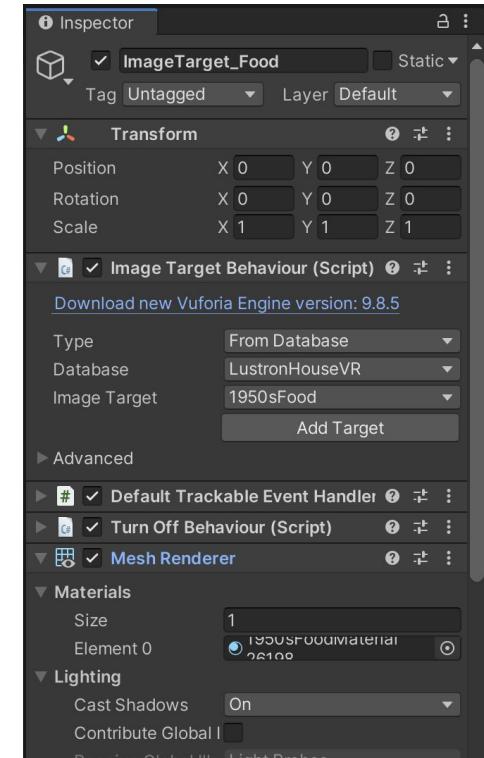
Press the arm to play or pause the song

Design/Development Process - Main Menu

- Features
 - Clicking on one of the rooms of the house will navigate the user to instructions about the specific scene(s).
- Considerations
 - Size of the application as a whole.
 - How to teach the user what to do.
- Opportunities
 - No forced tutorials.
 - Image targets will *hopefully* fit the environment.

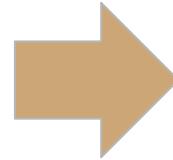
Design/Development Process - Food

Target Image (Vuforia) and food models (Unity Assets Store)



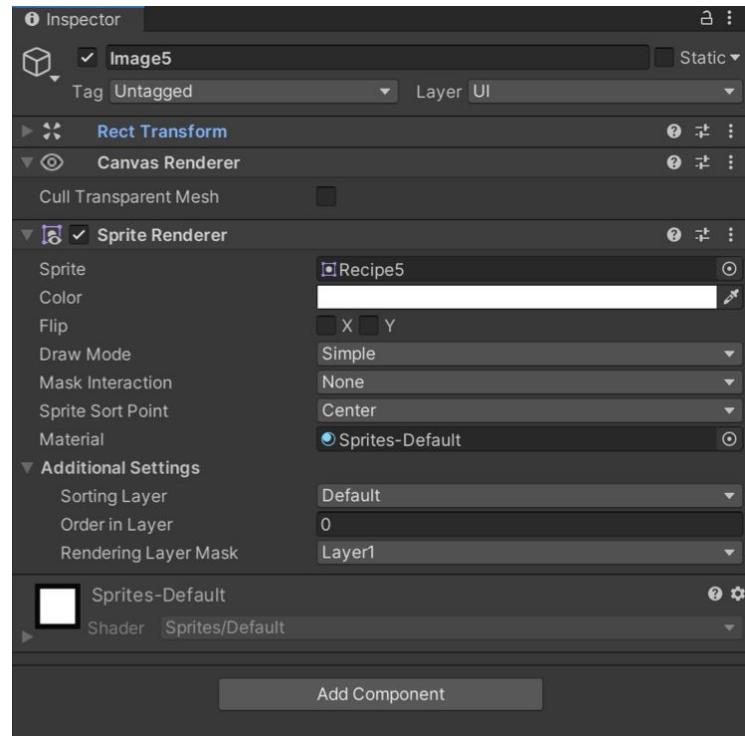
Design/Development Process - Food

Interactions (Lean Touch Asset) -- select/deselect, move, rotate, change scale



Design/Development Process - Food

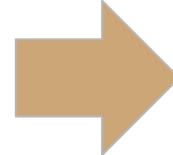
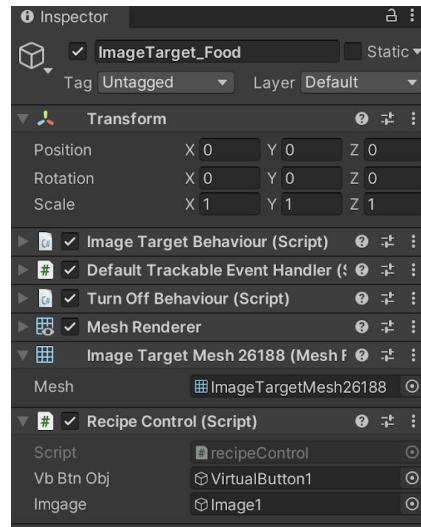
Recipe (Canvas and Sprite Renderer)



Design/Development Process - Food

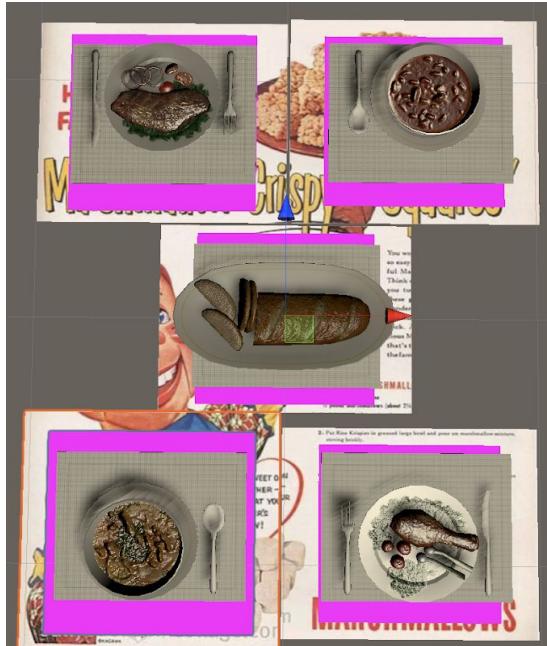
Recipe control (virtual button and script)

Limitation: It only control one recipe.



Design/Development Process - Food

Advanced recipe control (use 5 target images instead of 1 target image)

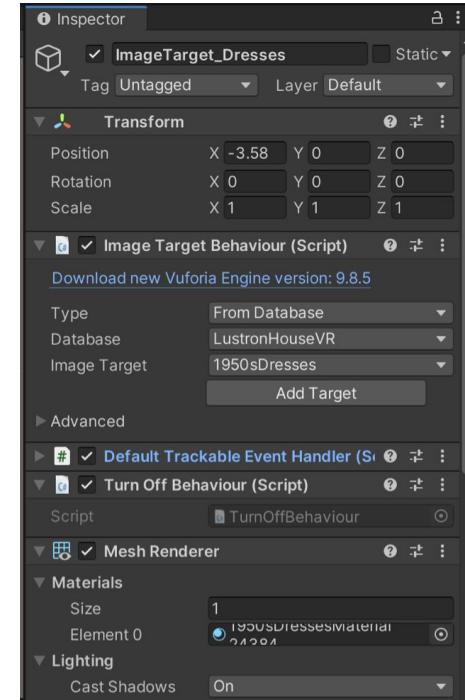


Design/Development Process - Food

- Features
 - Users can tap the items (plates and tableware) on the screen to select the items, and tap again to deselect them.
 - When items are selected, users can move or rotate them or change their size by screen gestures.
 - Users can tap the foods (in front of camera) to see the sample recipes.
- Considerations
 - Creating a scene of family dinner
 - Feeling of home
 - Interactivity
- Opportunities
 - Interact with the foods and tablewares just like in home
 - Learn about the ingredients of the foods.
- Techniques
 - Vuforia, Lean Touch, Virtual Button, Sprite Renderer, Unity Assets Store

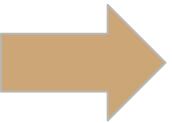
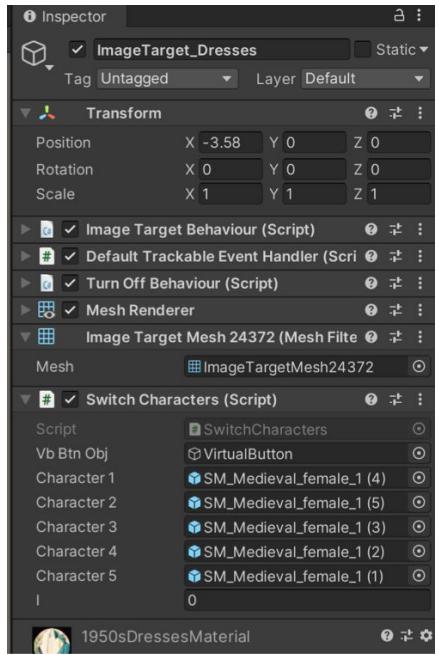
Design/Development Process - Fashion

Target Image (Vuforia) and female model (Unity Assets Store)



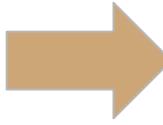
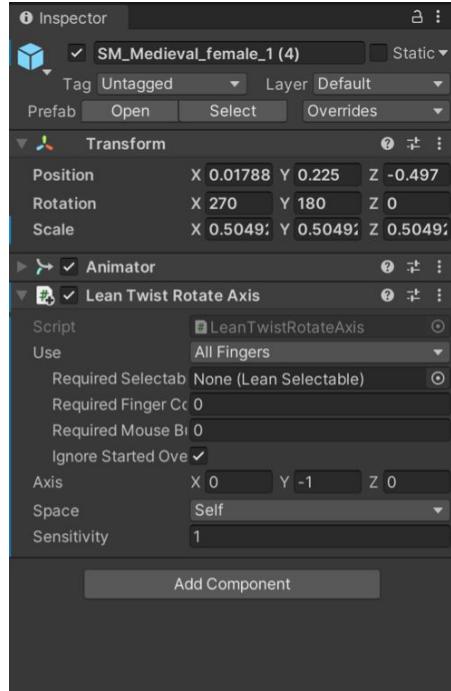
Design/Development Process - Fashion

Switching clothes (Virtual button and script)



Design/Development Process - Fashion

Interactions (Lean Touch Asset) -- rotation by y-axis



Design/Development Process - Fashion

- Features
 - Users can use screen gestures to rotate the model by y-axis to see the clothes in 360 degree.
 - Users can switch clothes by touching the virtual model (in front of camera).
- Considerations
 - Creating a scene of a corner of a family
 - Interactivity
- Opportunities
 - Interact with the model (changing clothes/rotate the model)
 - Image targets can be shared online and experienced at home
- Techniques
 - Vuforia, Lean Touch, Virtual Button, Unity Assets Store

Demo Video



Next Steps

- Additions to the framework would involve:
 - Acquiring assets (image targets, models, audio, visuals, etc.) and bringing them into the Unity workspace.
 - Adding and developing self-contained scenes.
 - Incorporating them into main menu.

Next Steps

- Additions to our current scenes would include:
 - Fashion
 - Patterns of clothing from the 1950s
 - Other styles of clothing, including for men and/or children.
 - Food
 - More food models
 - Detailed recipes
 - Record Player
 - More songs and/or info about music of the 1950s
 - More accurate record player model