Tintash

PROJECT CASE STUDY

WWW.TINTASH.COM

Room Builder

Decorist is an online interior design service that matches the customer with a friendly designer to design a room in their style and budget. The room can be designed in the Room Builder app and photorealistic images shown as a result

2+
Years of Engagement

10+
Team size

$500K+
Project Budget Size

decorist

PROJECT VISION

Decorist was looking to build an application to produce high-quality, photo-realistic, 3D architecture renders.

The idea was to allow their designers to design rooms and envision their furnished versions by augmenting designs with actual Bed Bath and Beyond items.

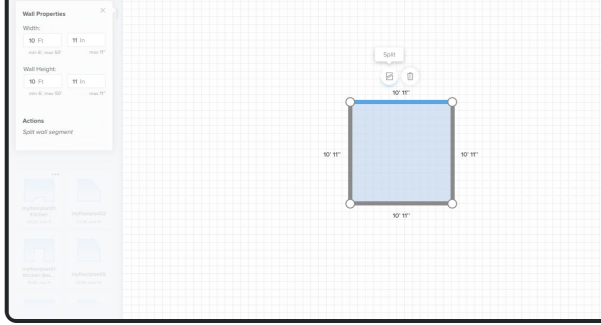
Previously, designers and technical artists at Decorist were manually generating 3D renders. They wanted to automate this process to achieve higher speed and efficiency.

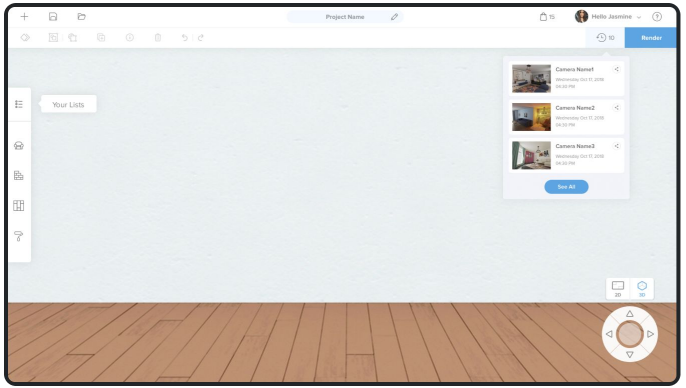
Services we provided

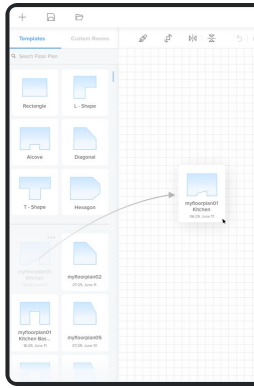
- Unity App Development
- Backend Development
- Project Management
- UX and UI

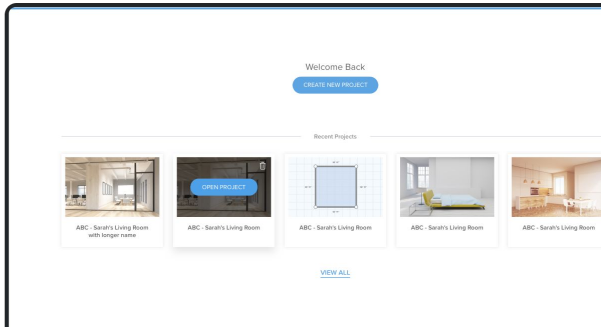
Problems we helped them Tackle

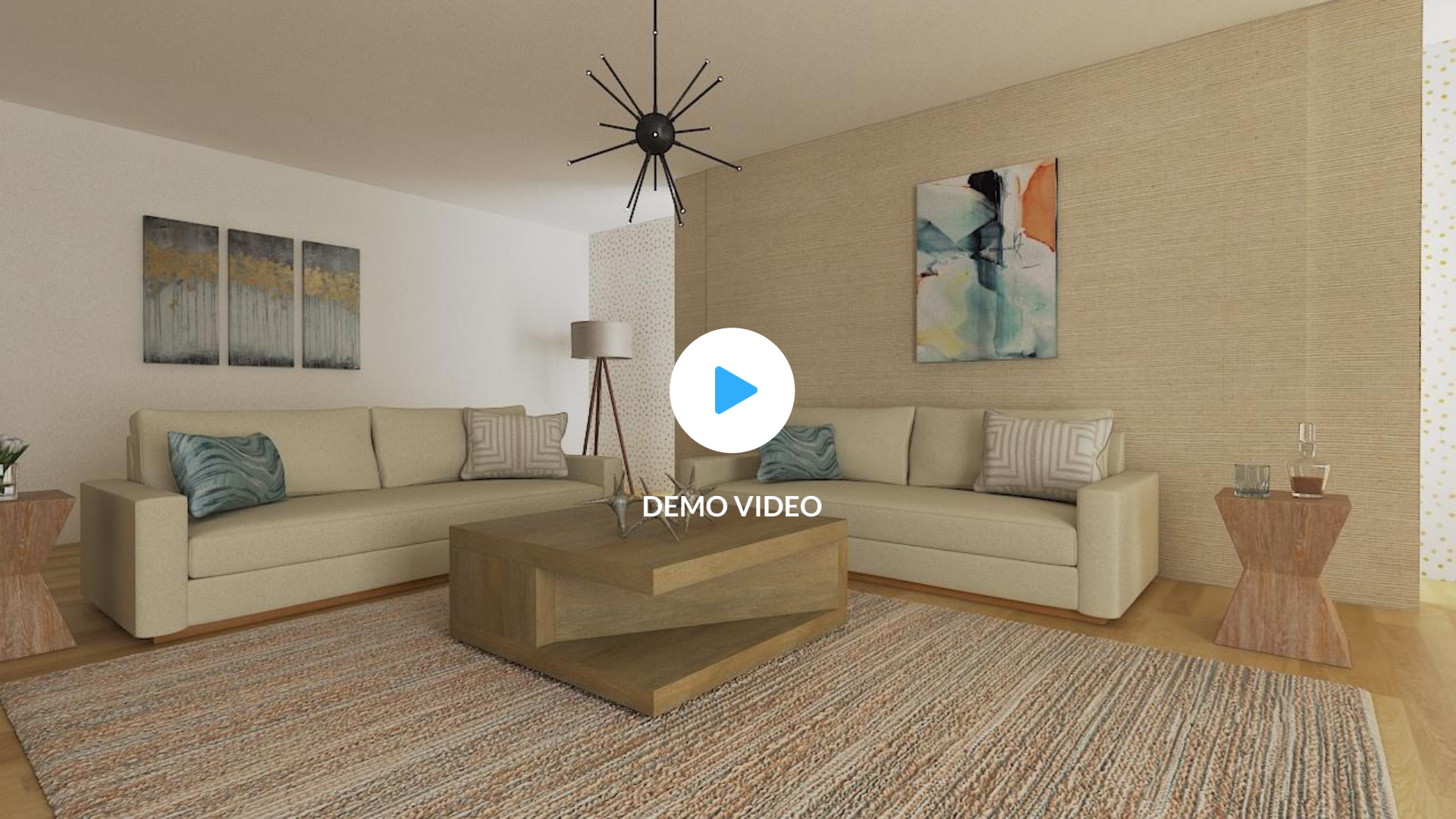
- Tintash developed a tool using Unity, giving Decorist designers the ability to create layout and generate photorealistic imagery with Bed Bath & Beyond products
- Tintash built an automated pipeline of the asset rendering process which added time efficiency to the entire design process.
- Using Room Builder app, we reduced the overall time it takes to design a room and deliver a high-quality render from 2 days to 2 hours.










DEMO VIDEO

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Decorist Room Builder

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THE WORK

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Central to achieving the targeted process time was a need to reduce the rendering time and the time taken to design a room. This involved designing a rendering process that would handle item models efficiently and reduce performance issues in the Unity application.

- Unity App Development
- Backend Development
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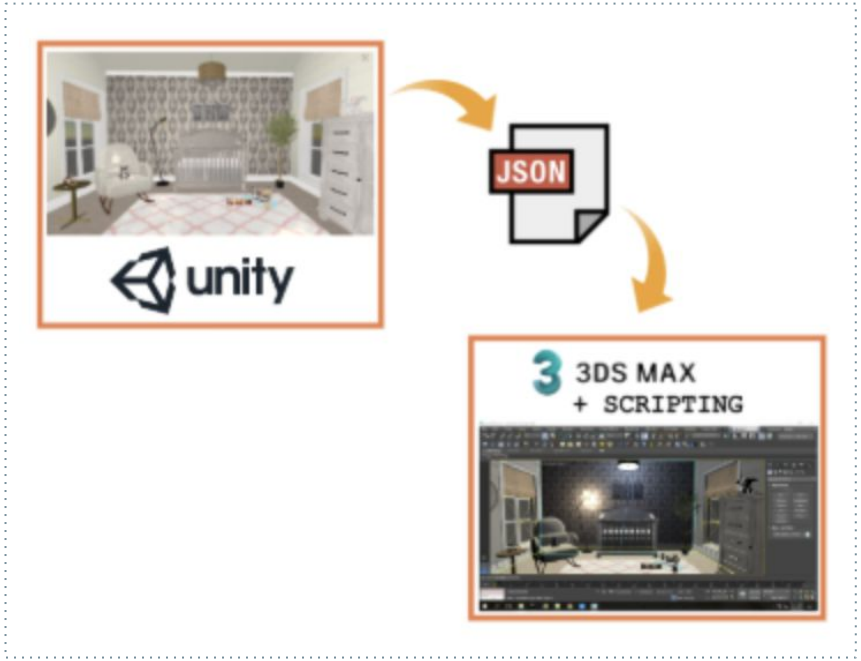
- Quality Assurance

THE CHALLENGES

Challenge #1

Finalising the tech stack and then rapidly prototyping the 3D room creation procedurally in 3ds Max using max scripting.

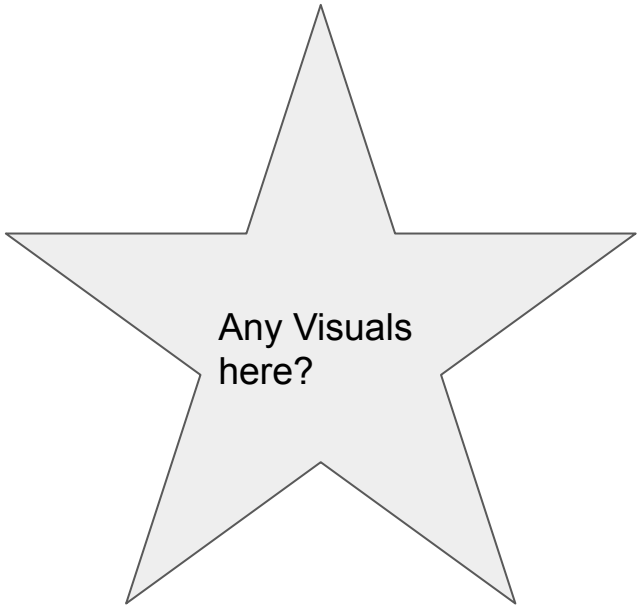


Procedural room generation in 3ds max with json file

THE CHALLENGES

Challenge #2

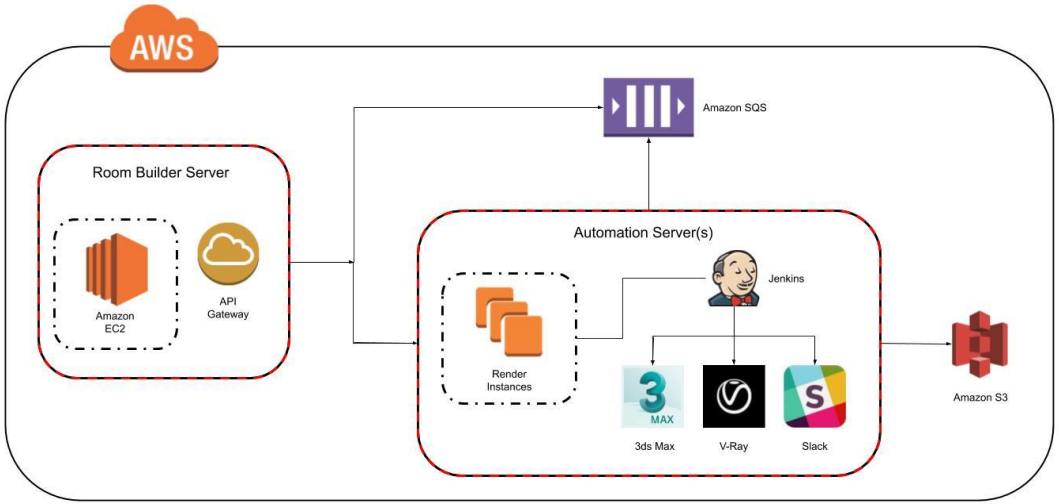
Building a scalable solution for managing multiple render requests using SQS queues and load balancer, and reducing the AWS cost by 50% with an on-demand instance usage



THE CHALLENGES

Challenge #3

Automating pipeline workflows including render generation and converting obj files to unity asset bundles using Jenkins.



Render generation automation using Jenkins

PROCESS

Spec it out: Collaborative Product Design and R&D

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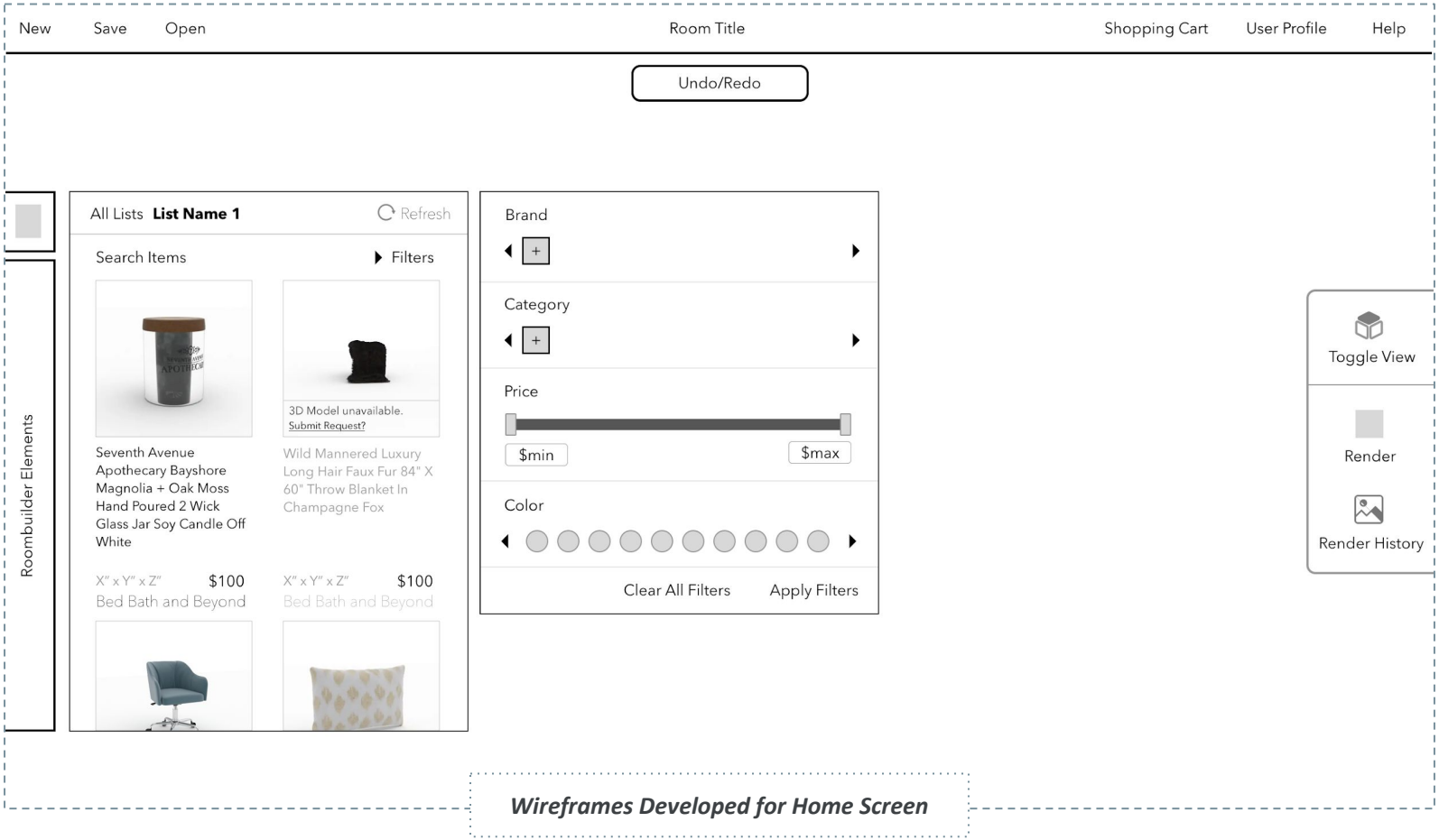

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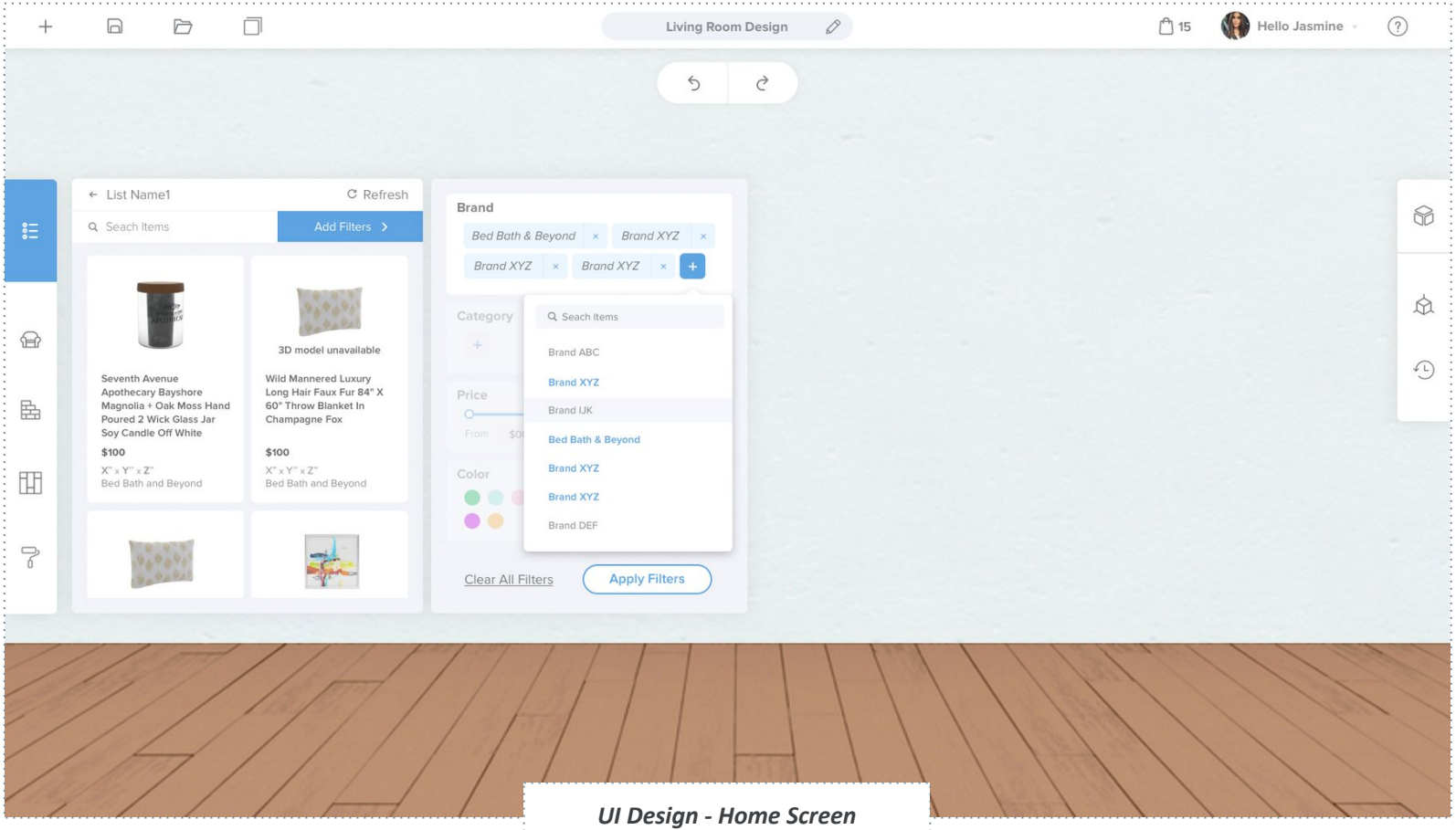

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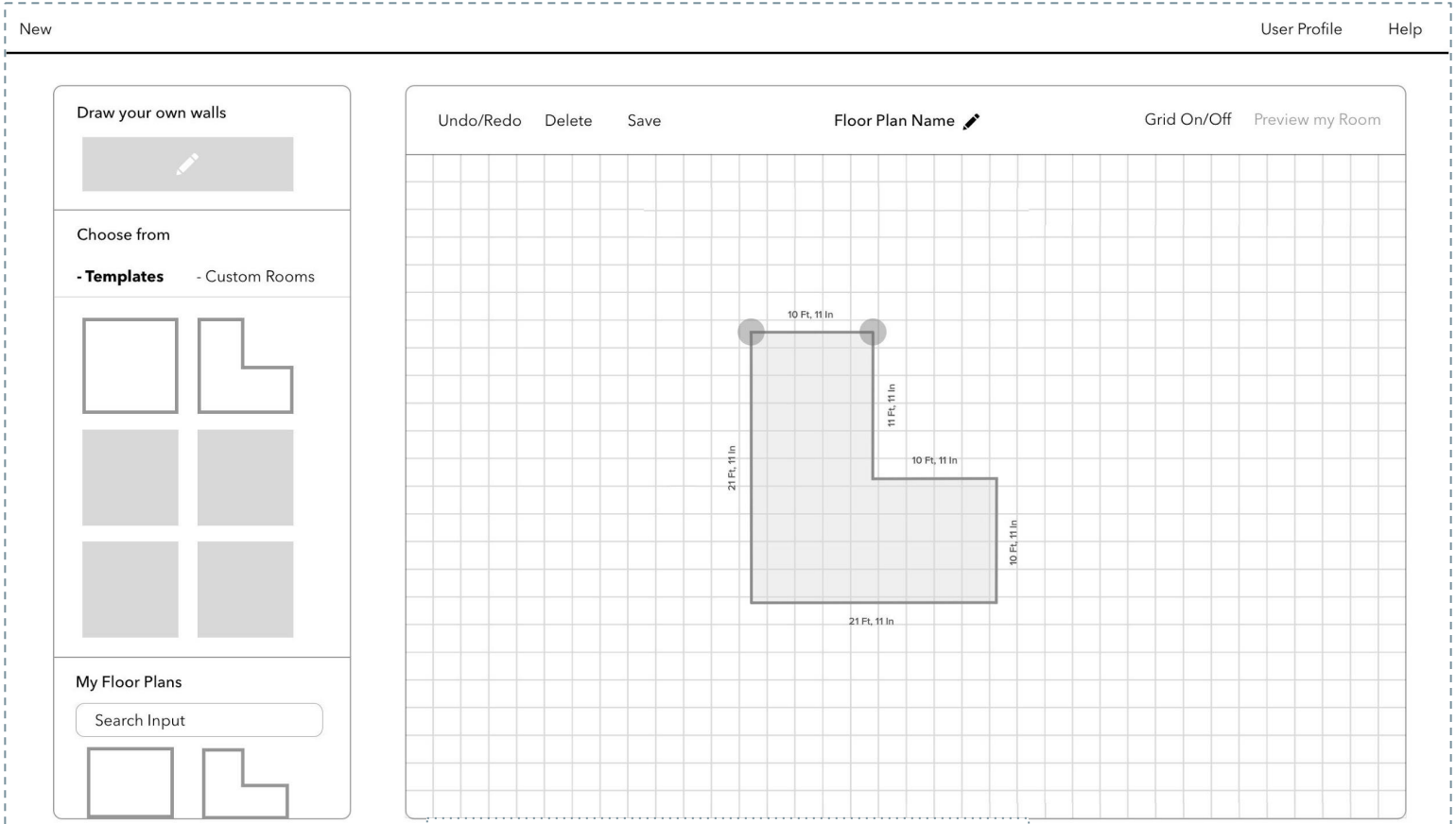
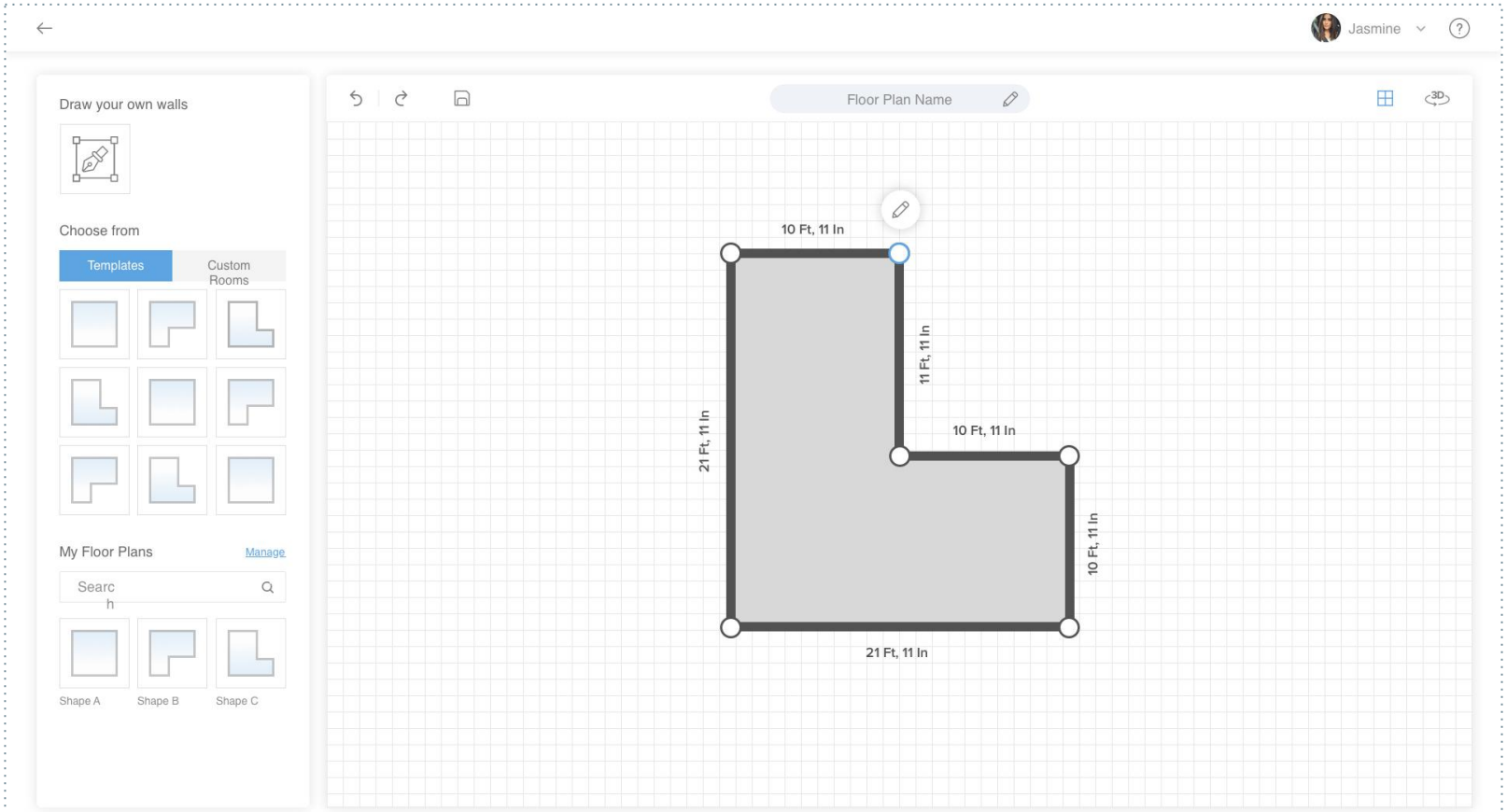


Wireframes Developed for Floor Plan Screen



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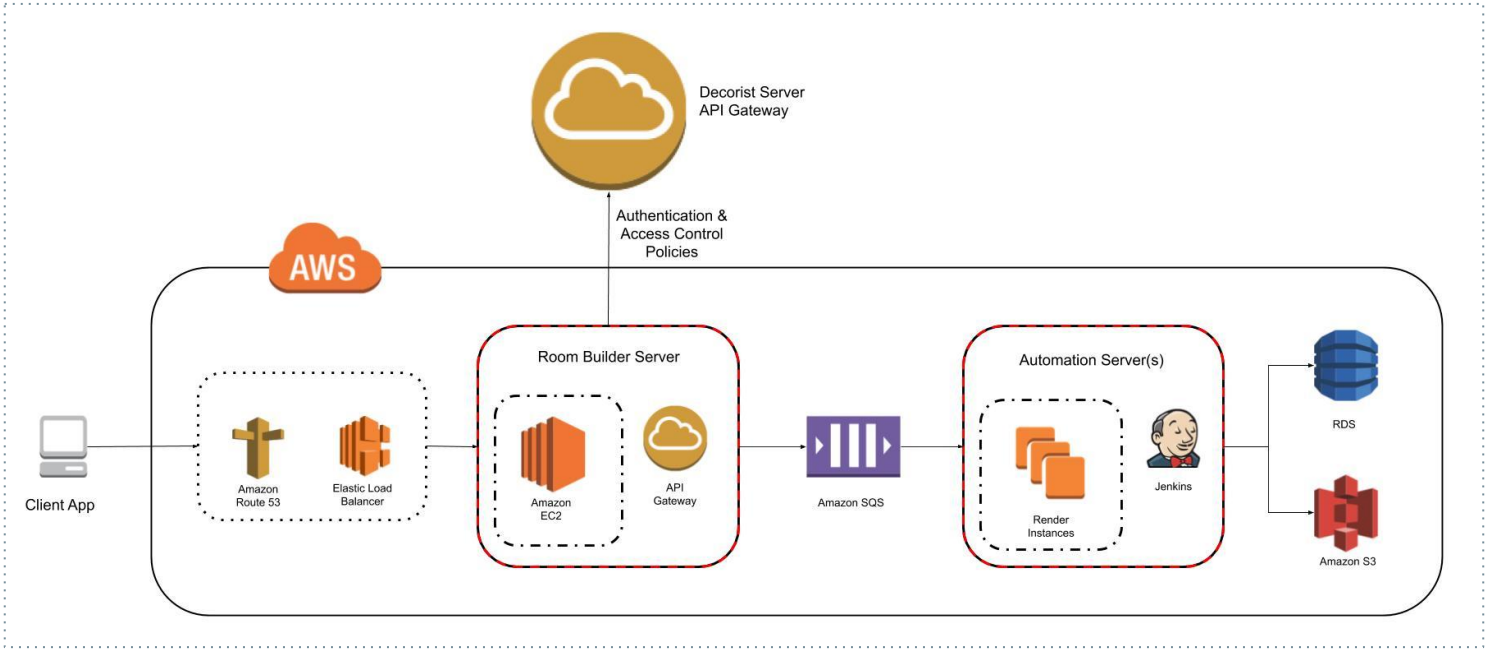

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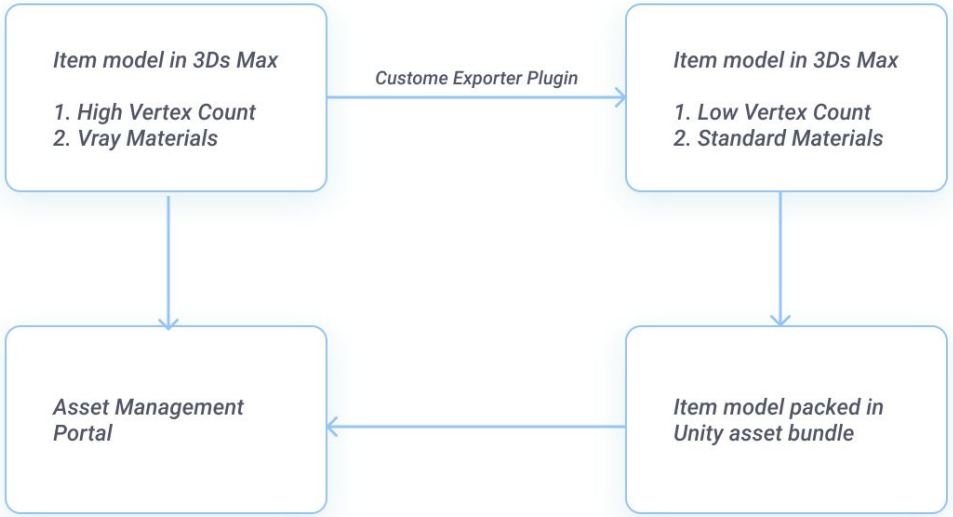

Asset Workflow

PROCESS

Rendering Quality Assurance

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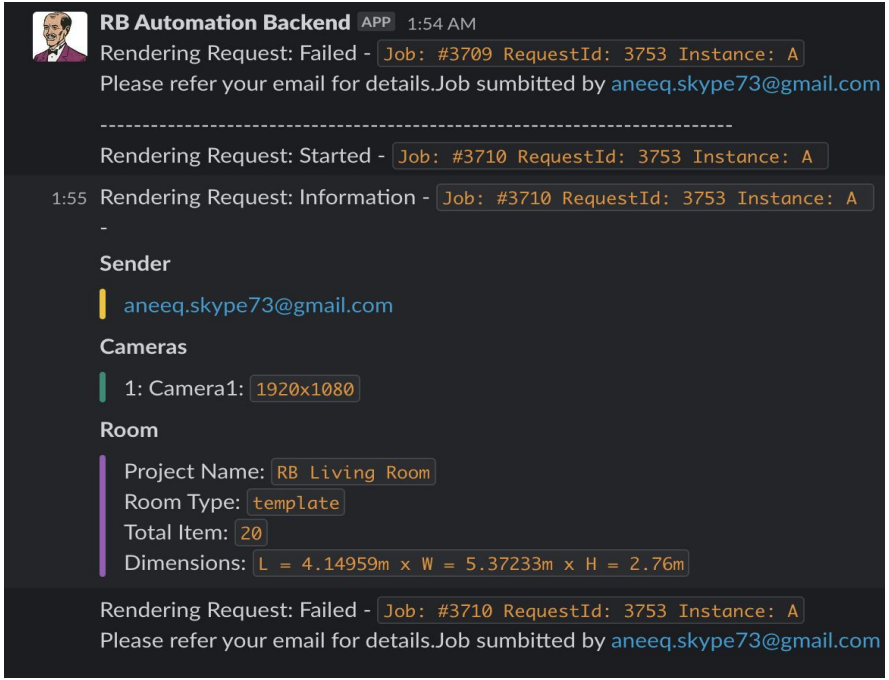

Render Request Failed Scenario

PROCESS

Remote Instance Optimization

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Optimization of Models

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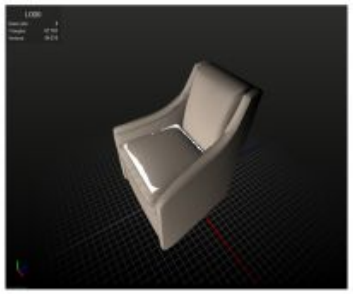

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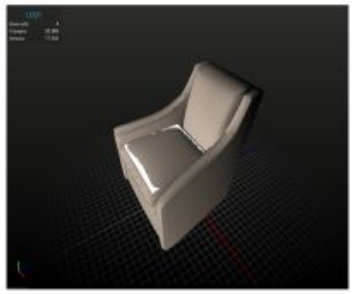

Asset File with Vray Materials

CUSTOM PLUGIN

Asset File with Standard Materials

DEVELOPMENT PROCESS

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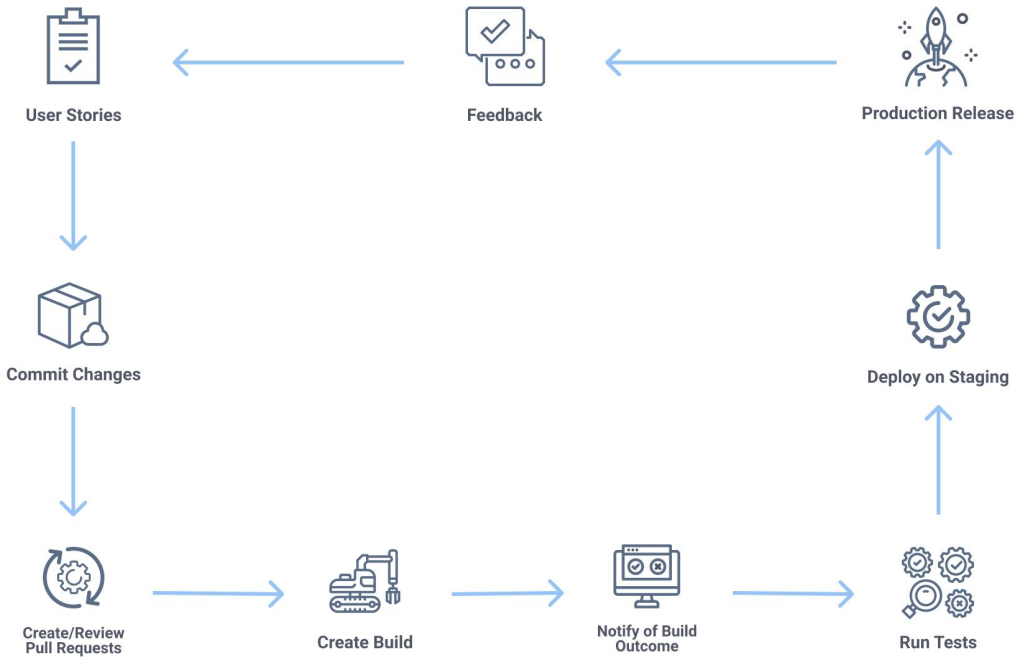

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- WebGL
- Unity
- Jenkins POCs
- Procedural scenes in 3ds max
- Unity asset bundle generation

Duration: 6 weeks
Team size: 4

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- Designer unity app
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THE RESULTS

From Two Days to Two Hours

Over the course of this project, the team addressed all objectives identified by the team.

Render Time

The time taken to render a fully furnished room was reduced to an average of 10-15 mins per room.

Room Design Process

The time taken to design a room was reduced to 30-40 mins which included time taken to load item models being used in the room and resolving any performance issues that might slow down the app.

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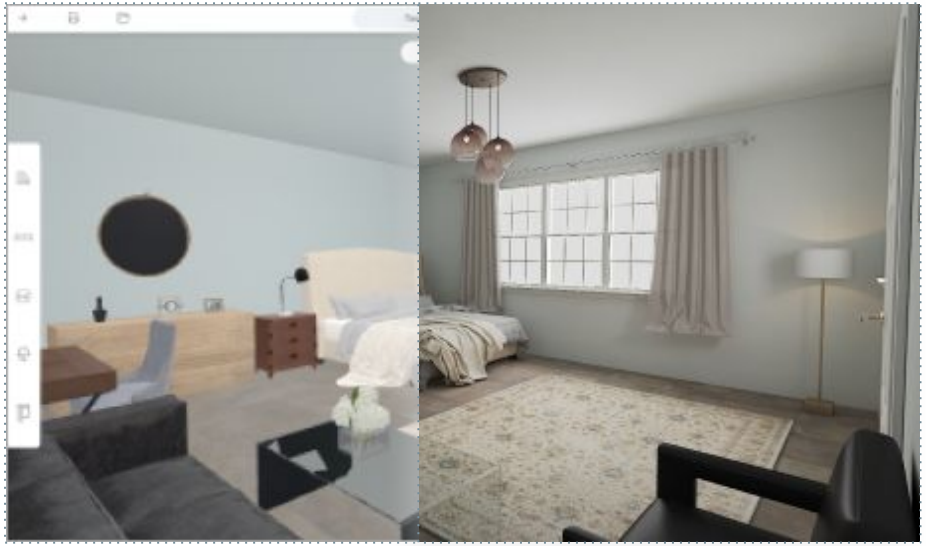
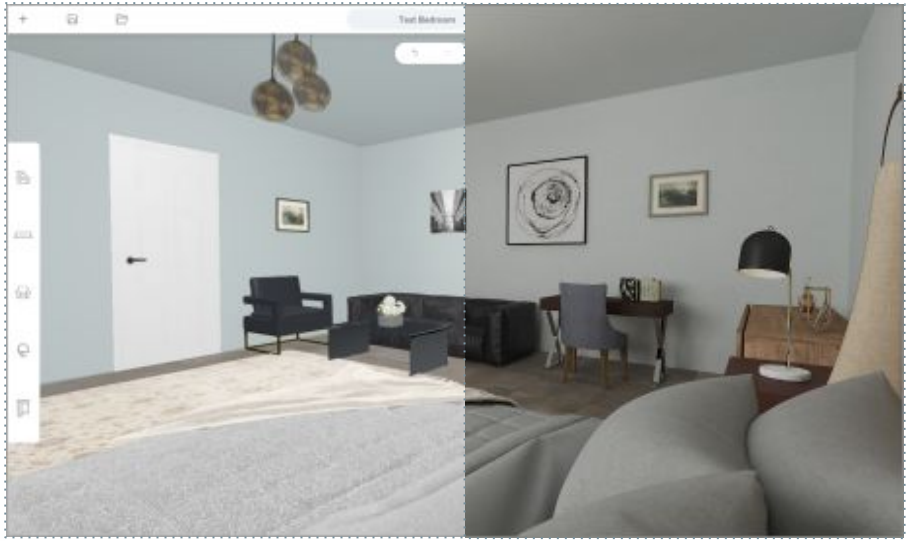
A fully furnished room in unity (left) **and its final Renders** (right)





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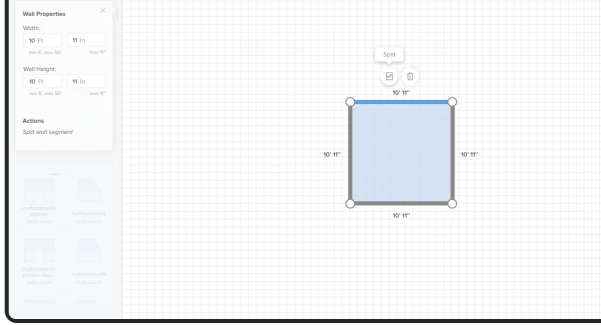

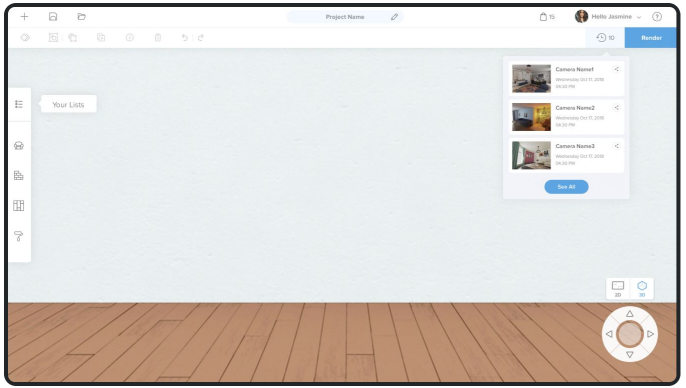

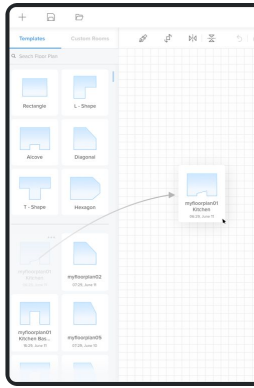

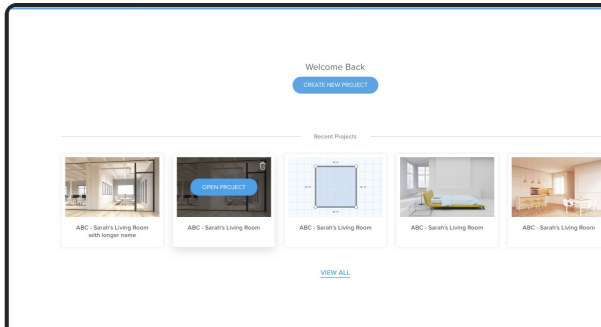

CLIENT REVIEW

decorist

AR Photo & Video Printer

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THE CHALLENGES

Challenge #2

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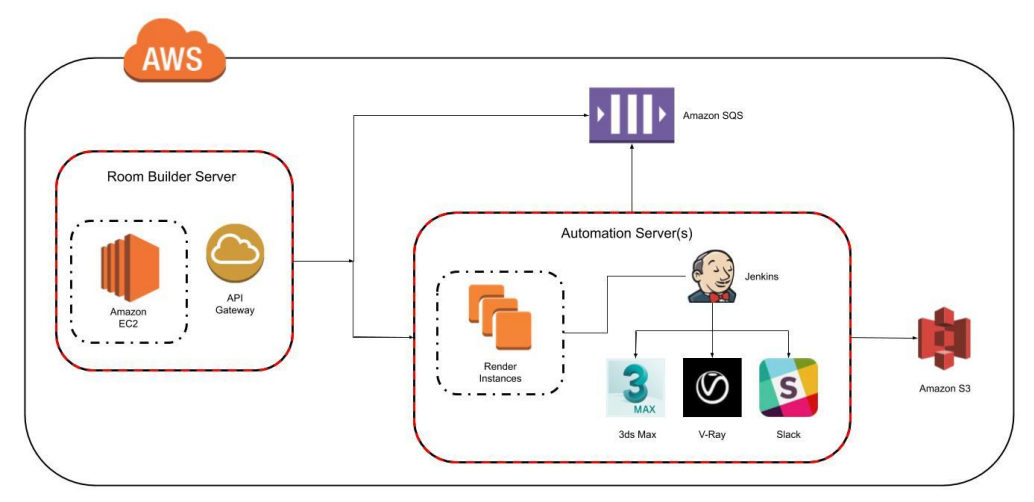
THE CHALLENGES

Challenge #3

Automating multiple pipelines using Jenkins. One was to automate the render generation workflow and the other was to convert obj file to a unity asset bundle.



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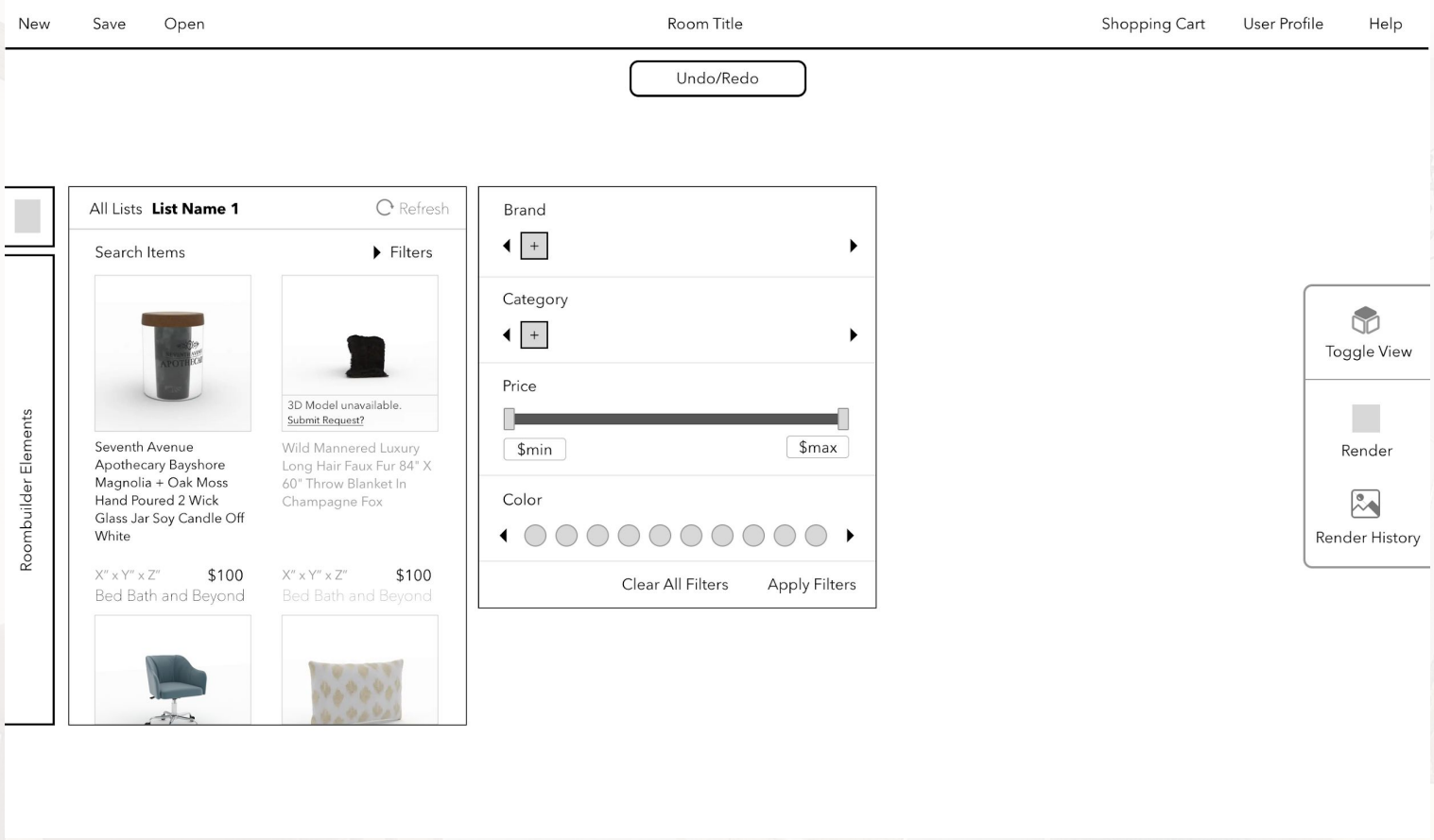

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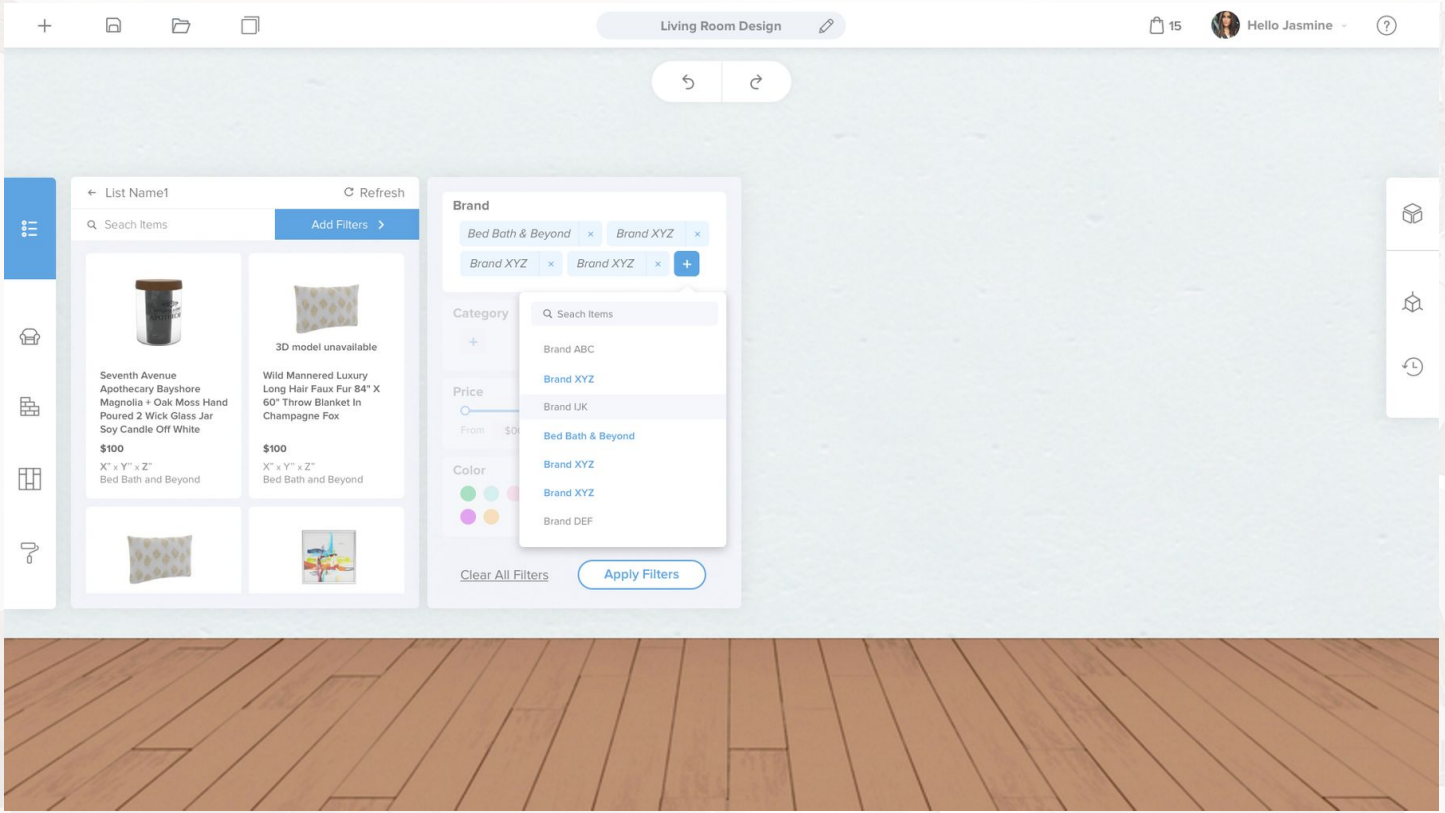

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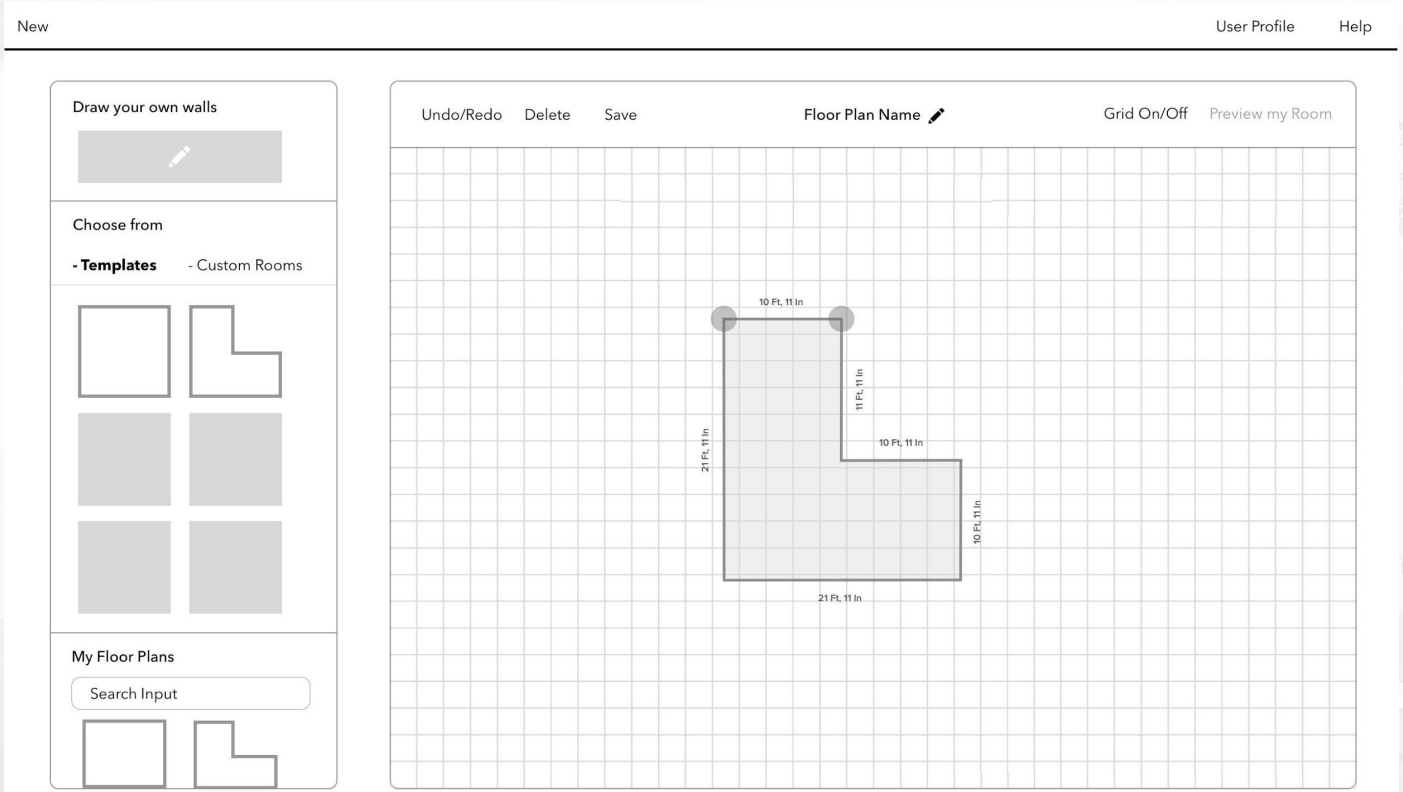

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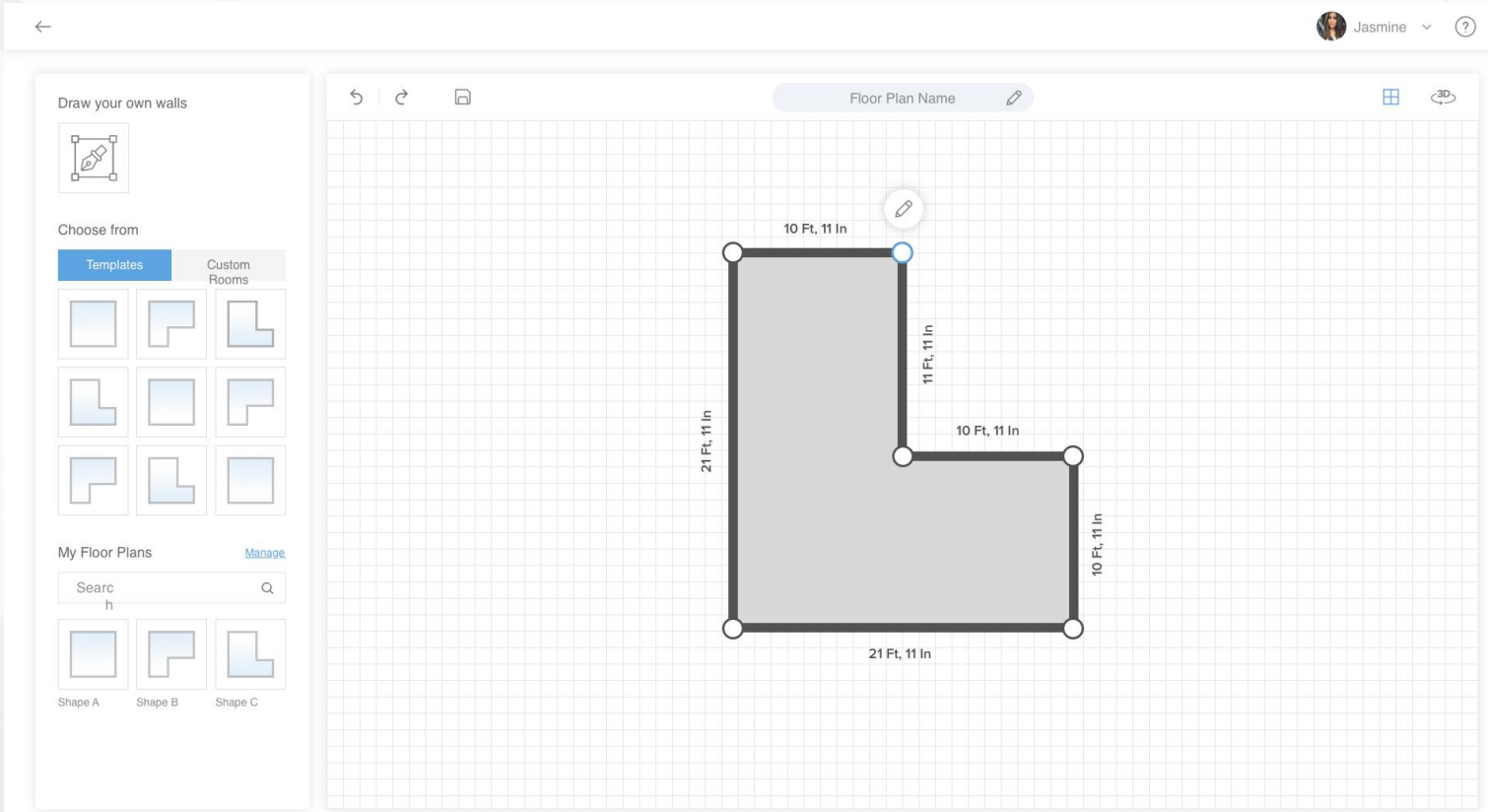

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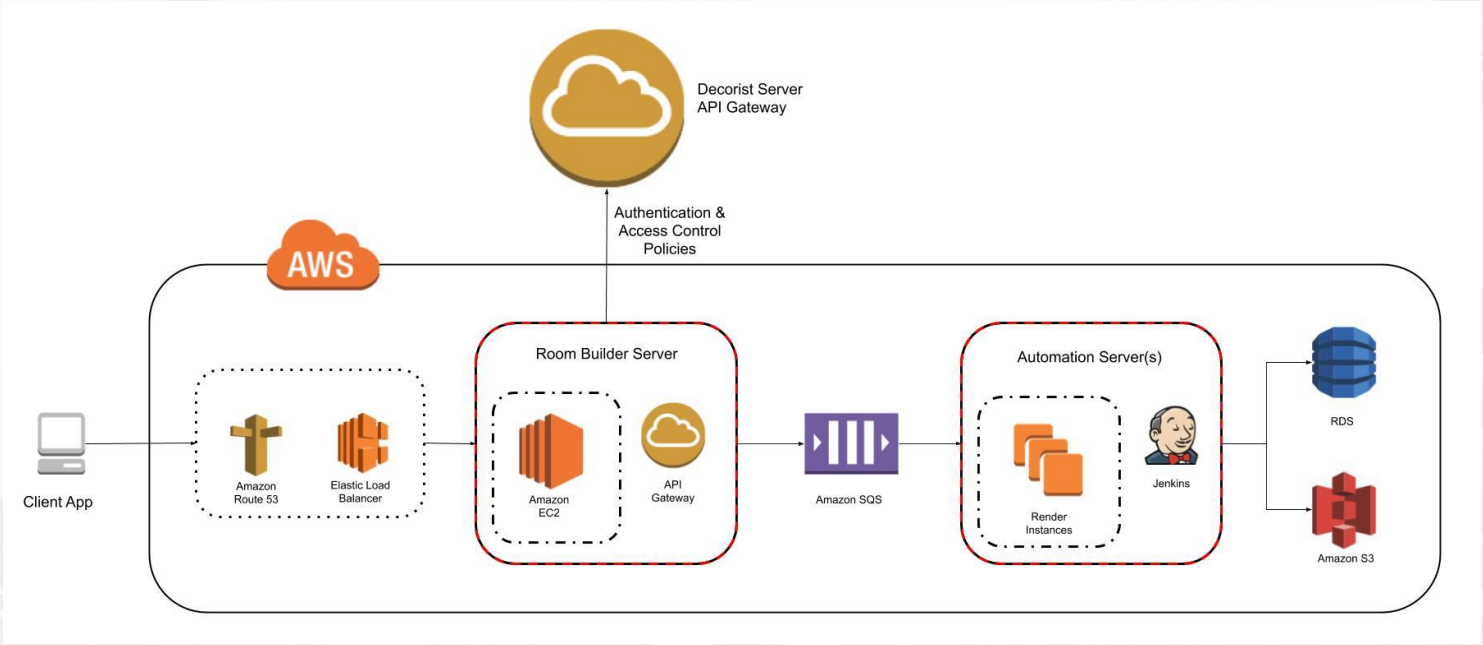

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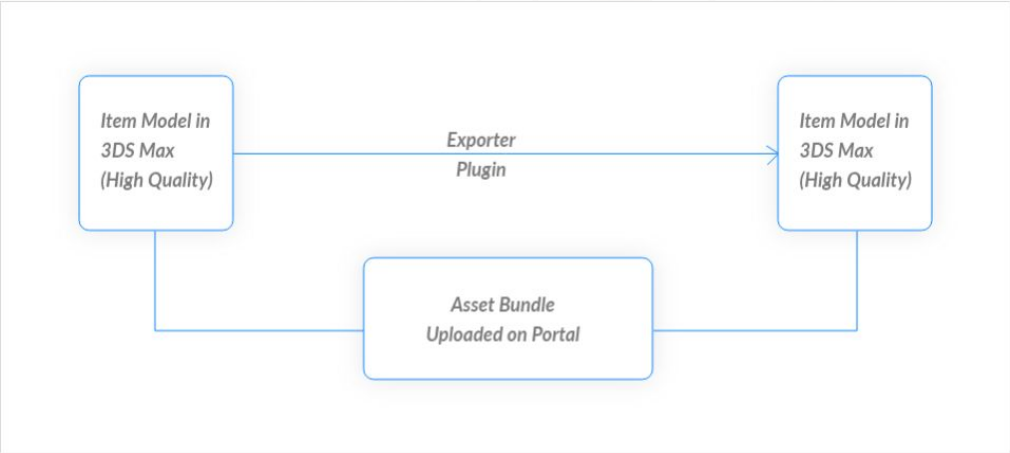

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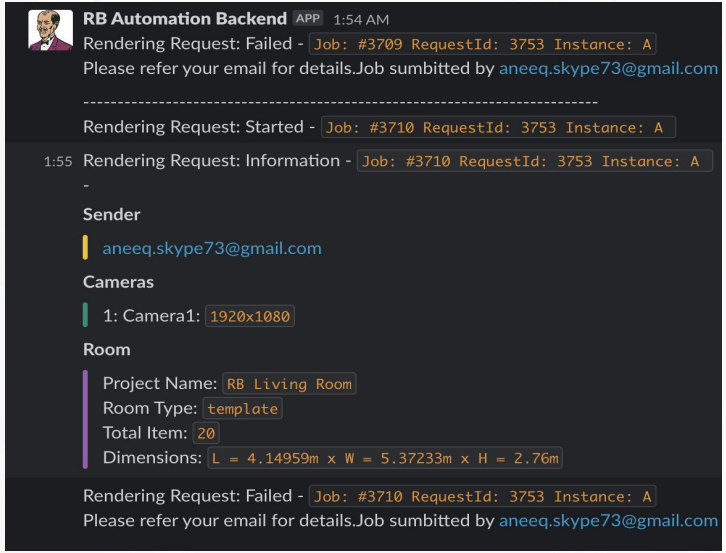

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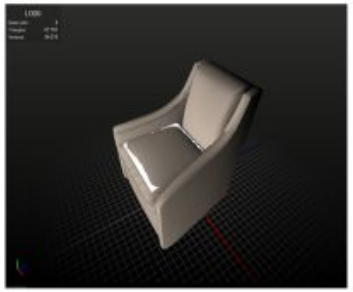

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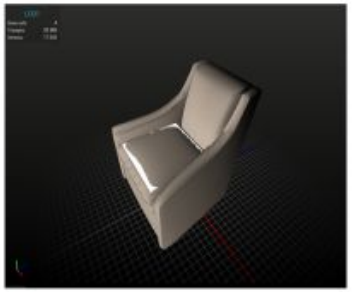

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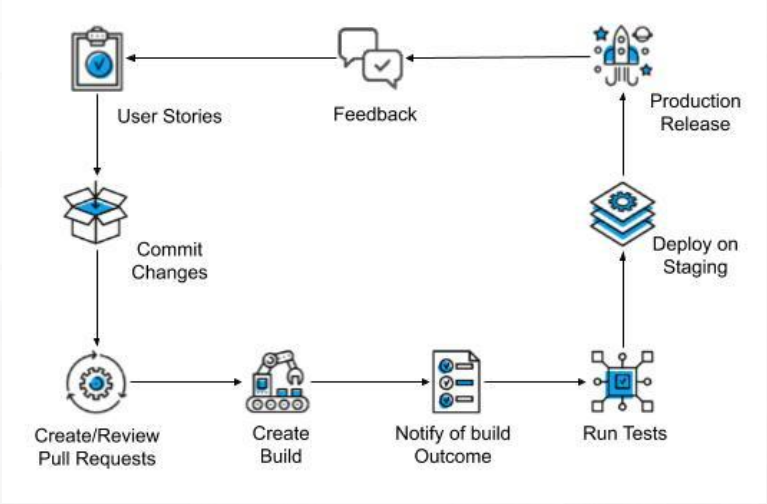

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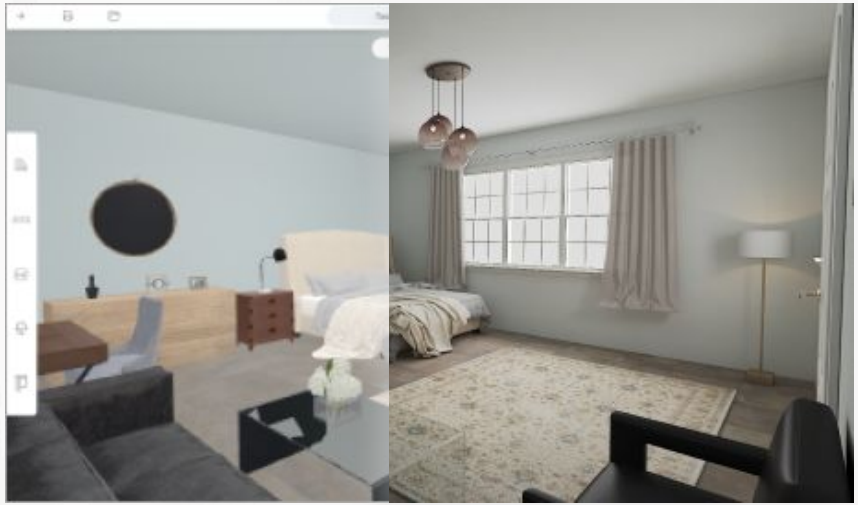
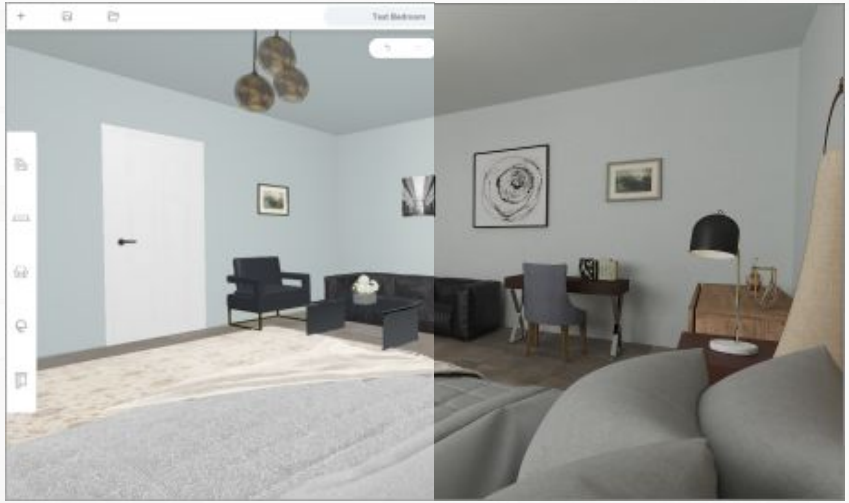
Fulfilling both these objectives allowed us to easily meet the target set by the client for the room design and rendering process. The entire process now takes 1-2 hours only.





A fully furnished room in unity(left) and its final Renders (right)