

Case Study

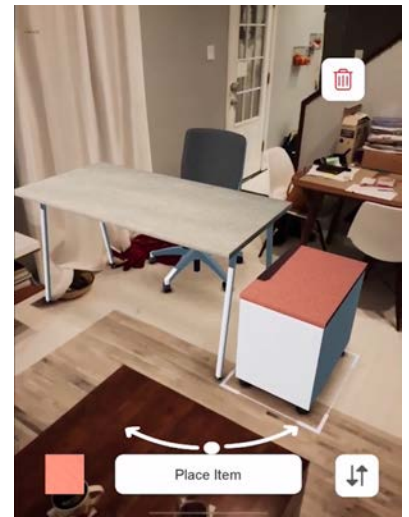
Virtual 3D Design Application

Visualize Future Floor Plans in Virtual 3D Designs From Anywhere

Staples wanted a virtual 3D design application to reduce design time and travel requirements. Another Reality Studio developed a custom app that allows the user to create custom floor plans, space plan layouts, and AR product placement to visualize their entire product catalog. The application lets you select from hundreds of furniture pieces to design your office in virtual 3D. Place the furniture in your space to check fit in real time. Ensure you like the style before purchasing furniture in the app. Measure your space and see a 2D floor plan. Add furniture in 2D and see in 3D or augmented reality. Build Your Future Floor Plan in a Custom App

Key Features: Build Your Entire Floor Plan

- Custom API integration to fit internal software and databases
- High Fidelity Visualizations
- Use the camera snapshot option for photo realistic renderings and pictures. This feature includes shadows, lighting, seamless materials, and post-processing to make your design look like a real photograph
- 100's product available with multiple colors and finishes
- Intuitive user interface
- 2D, 3D, and AR modes
- AR and 2D floorplan and layout editor: Use the camera to build your floor plan in any space within AR mode or easily draw your floorplan layout in 2D. Add doors and windows and once you create your layout you can choose what type of environment it is (office, bedroom, living room, kitchen, outdoor, etc.) to guide you to find product sets of that room type from the company or you can choose single product items),
- 3D Viewer to use standard finger gestures to get a bird's eye view of the design layout in unlimited perspectives
- Backend API Development includes calls between app and customer site with fully functional cart development, user profiles, saved spaces, analytics, each virtual element was tied to sku



Challenges and Core Considerations

- The Another Reality Studio project manager began the project with concept evaluation and feasibility. He collaborated with the client on user design, estimating, and planning to create project milestones and a timeline for completion.



- The developer team lead worked with in house artist to create product models in 3D and depict realistic materials. The developers utilized ARkit in Unreal Engine as the AR framework to create the app functionalities. They used native languages to integrate APIs with the company's internal infrastructure to communicate between app and the company's internal database.
- After project delivery, ARS continued working with the client for maintenance/ support, new projects, and additional feature requests.
- The 3D models were created with 3DS max and Blender, using low-poly optimization techniques. The artist applied UV maps to create seamless materials and separate IDs. Then the artist used substance to create physically based rendering (PBR)materials for photo realistic quality

Impact: Design Your Space with Augmented Reality

- ARS created a custom app that allows the client to utilize augmented reality to view 100s of products on location with AR.
- The client can design their layout space and product in 2D or in AR to survey product needs and fit; full spaces can be viewed in 3D. They can work with a professional designer or purchase the product themselves after checking the design in AR so they can be assured it fits in their space.
- The ARS solution eliminates the need to go onsite to reduce cost and improve the design process.

