# Virtual Arts

# Technical Test

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# Planning

## To-do

* Create Trello board with 3 categories (To Do, In Progress, Completed) and populate with comprehensive list of tasks
* Make spreadsheet of tasks with task ID, task name, estimated task duration, task dependencies and priority
* Research AR integration in Unity

My process for completing this project will be to follow an agile approach and aim to complete the minimum viable project in the shortest time possible. I will assign each task a priority value to indicate its importance over other tasks; using this priority, I will decide which task to tackle next. When I have completed the minimum viable product, I will approach the lower priority tasks and try to improve the aesthetic of the app (i.e. more user-friendly UI, smooth animations).

I will track the completion status of each task using a Trello board and will manage my time using an project plan spreadsheet with Gantt chart. As many of the tasks pose new challenges for me, I must also estimate the time it will take to learn the necessary skills and techniques needed for implementing certain features and add this to that task’s duration. As such, tasks that involve developing crucial features of the app will be given extra time to allow for potential errors and learning time.

# Production

## To-do

See Trello board found here: <https://trello.com/invite/b/biy21vMr/af9eb7ddcd2fe670c0fd3cd8938d2323/va-technical-test>

You can view a full list of commits and download the source files from the GitHub page:  
<https://github.com/JACPro/VA-Test>

# Evaluation

## To-do

* Testing: create a list of test conditions with expected result and actual result – where these do not match, attempt to identify and note the cause of this issue and time permitting, fix it
* Create short demonstration video of app and upload to YouTube as an unlisted video
* Identify weak points of my implementation and use these to create a list of suggested improvements
* Consider what additional features may improve the app, UI or UX and add these to the list of suggested improvements

## Suggested Improvements:

The biggest issue with this project is that I was unable to implement the AR object placement within the given timeframe. The first improvement to address would be implementing this crucial feature.

Following this, the AR experience could be improved with the following additions:

* Light estimation (use the colour of the light in the camera to change the colour of 3D models)
* Surface occlusion (hide parts of virtual objects that should appear physically below real-world objects (e.g. if you place a ball under a table in the AR app, you should not be able to see it through the table from a birds eye view)

General improvements:

* Allow user to select model from a range of models
* Allow user to adjust exploded amount based on their pinch motion (i.e. model explodes as user does pinch motion and explodes to a degree relative to how big their pinch motion is)
* Improve UI and UI animations
* Improve rotation by allowing user to only rotate in X or Y axis at once (thus making rotation easier to understand and making it easier to achieve desired results).