Usability Testing
Software Engineering

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Table 1: Revision History

Date	Version	Change
2025-04-01	1.0	Initial Version

Contents

1 Introduction

To gain a better understanding of how usable the Realm app is, two usability surveys were conducted: one for Rev0 and one for Rev1. Having these done at different stages of development provides the team with a data-backed view on the success of tailoring the app based on user feedback. The results of the first survey were already published in the *VnV Report*, but they will be shown again for comparison purposes. Using the most up-to-date data, future development steps will be outlined based on areas the require the most work from a user perspective.

2 Survey

The survey consists of six questions where participants rate on a scale of 1-5 how much they agree/disagree with a statement relating to their user experience.

The following statements were put forward and rated by the user on a scale from 1 (strongly disagree) to 5 (strongly agree):

1. Navigation between interfaces is intuitive

2. Placing objects in edit mode is easy

3. Generating objects through prompts is easy

4. It is easy to start a tour

5. The app is generally satisfying to use

6. Using the app distracts you from your surroundings

3 Results

This section will analyze the results of the usability survey completed by users who were using the app for the first time.

3.1 Rev0 Survey

Table 2: **Results of Rev0 Usability Survey**

Statement	Average Rating of Statement Accuracy / 5	Analysis
Navigation between interfaces is intuitive	3.833	Most users found the navigation to be intuitive, although navigation seems to be the lowest rated aspect of the functional user experience
Placing objects is easy	3.917	No ratings below a three and an average rating of "Agree" says that this was well received
Generating objects is easy	3.917	Again, no ratings below a three and an average rating of "Agree" indicates that the design works for most users
It is easy to start a tour	4.167	A good indication that the touring experience was designed well
The app is generally satisfying to use	3.667	This was the lowest rating of all our positive statements. We received relevant feedback on the non-uniform look and feel of the app making the app feel like a rushed development
Using the app distracts from the surroundings	3.167	More found the app distracting than not, but the results are somewhat inconclusive given the variance

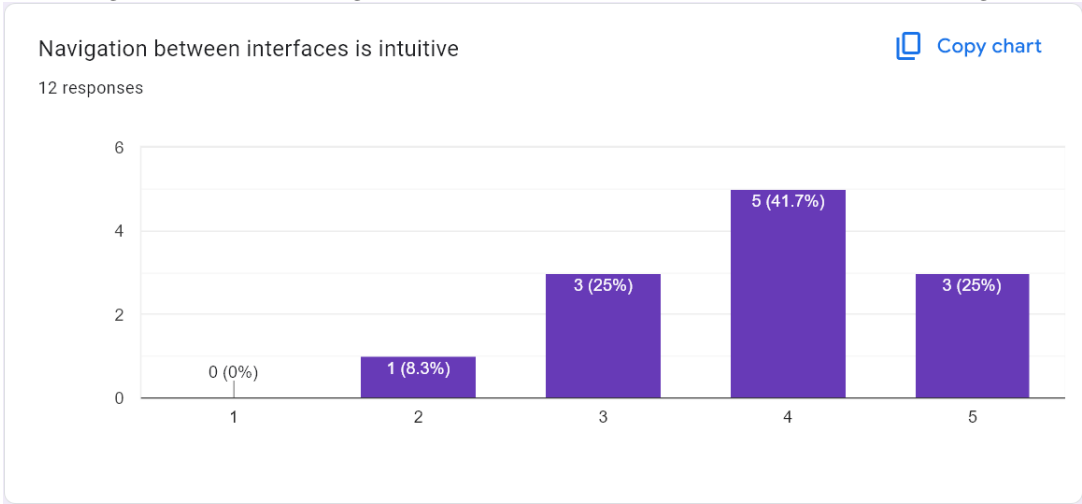Figure 1: Rev0 - "Navigation between interfaces is intuitive" statement ratings

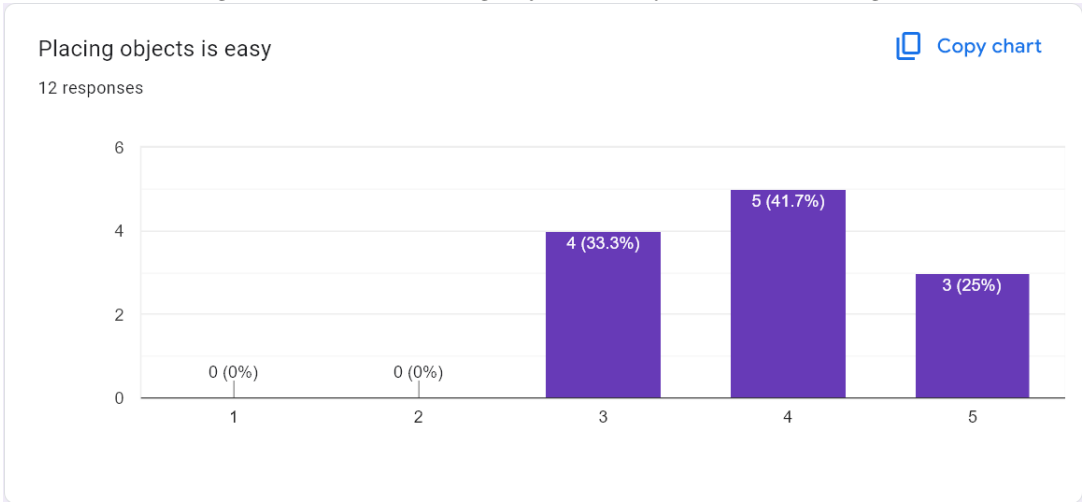Figure 2: Rev0 - "Placing objects is easy" statement ratings

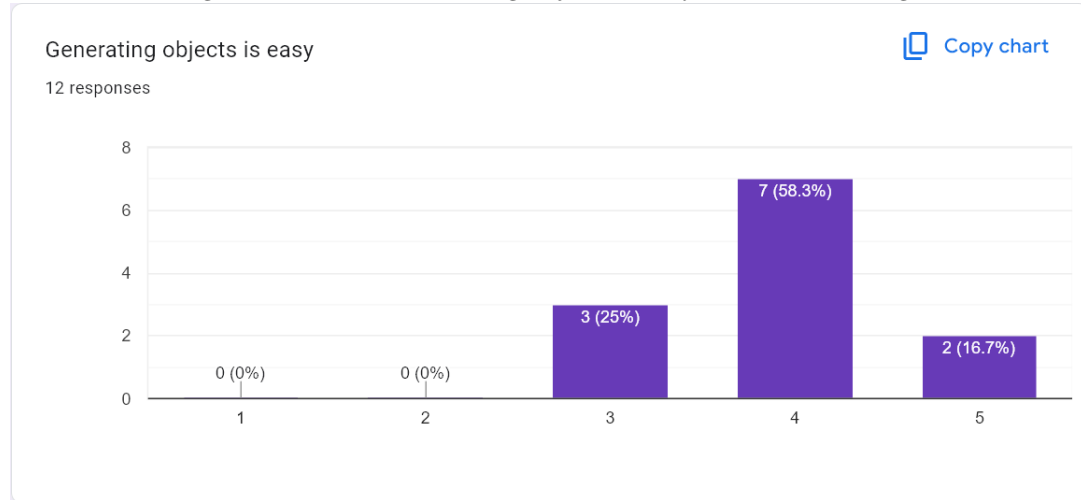Figure 3: Rev0 - "Generating objects is easy" statement ratings

Generating objects is easy   Copy chart

12 responses

Figure 4: Rev0 - "It is easy to start a tour" statement ratings

It is easy to start a tour   Copy chart
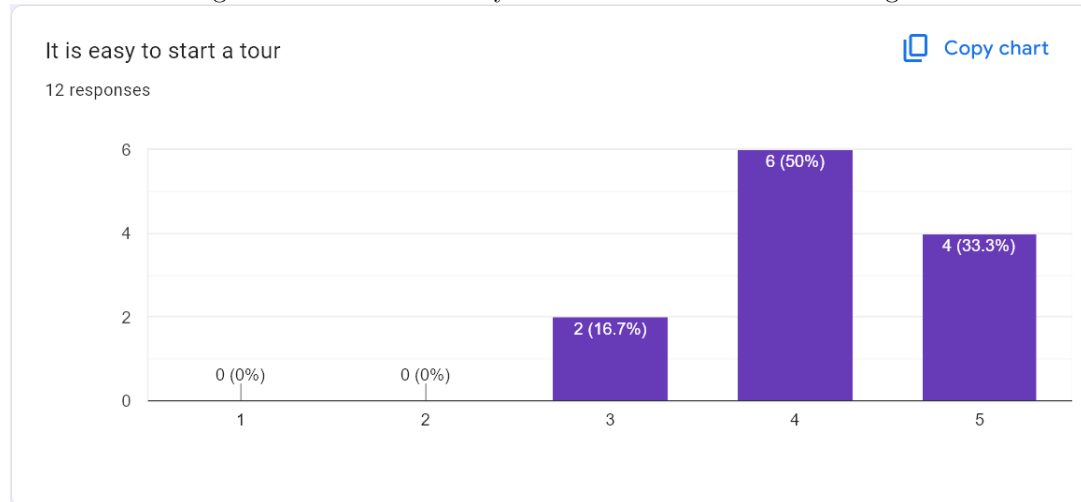
12 responses

Figure 5: Rev0 - "The app is generally satisfying to use" statement ratings

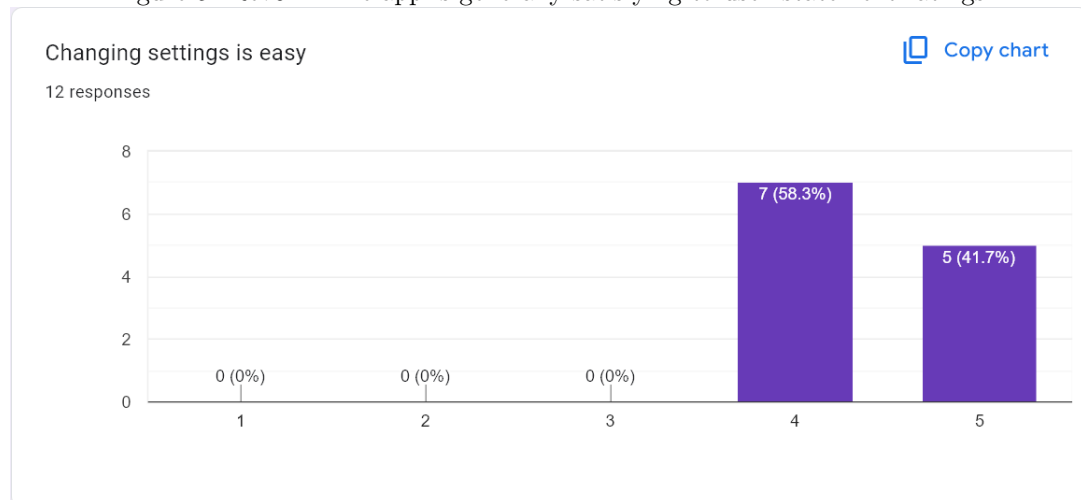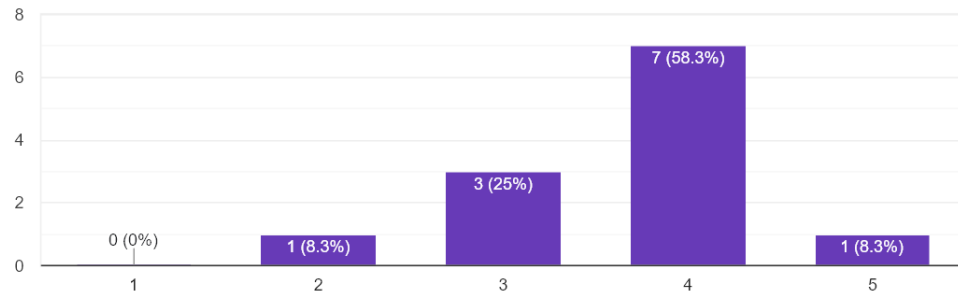Changing settings is easy   Copy chart

12 responses

Figure 6: Rev0 - "Using the app distracts from the surroundings" statement ratings

The app is generally satisfying to use

Copy chart

12 responses

3.2 Rev1 Survey

Table 3: **Results of Rev1 Usability Survey**

Statement	Average Rating of Statement Accuracy / 5	Analysis
Navigation between interfaces is intuitive	4.889	This was the second highest rated user experience. Users seemed to be able to navigate without a problem.
Placing objects in edit mode is easy	4.000	Most users generally agree with this statement with many strongly agreeing. There was some more variance in the response to this statement probably due to the many potential conditions objects can be placed under.
Generating objects through prompts is easy	4.556	Most users strongly agree that prompt generation is easy.
It is easy to start a tour	5.000	This was the highest rated user experience. It makes sense because it is only two simple clicks from the home page to start a tour.
The app is generally satisfying to use	3.889	Most users tended to agree that the app was satisfying overall but most still had feedback on places where it could be improved.
Using the app distracts you from your surroundings	2.556	There was much variance in rating this statement maybe due to the vagueness of the statement itself. Most users disagreed that the app distracts them from their surroundings.

Figure 7: Rev1 - "Navigation between interfaces is intuitive" statement ratings
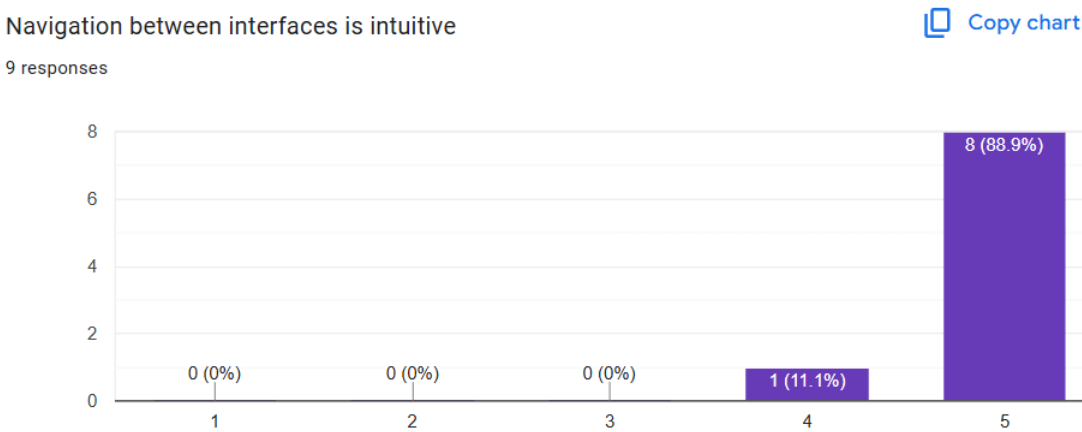

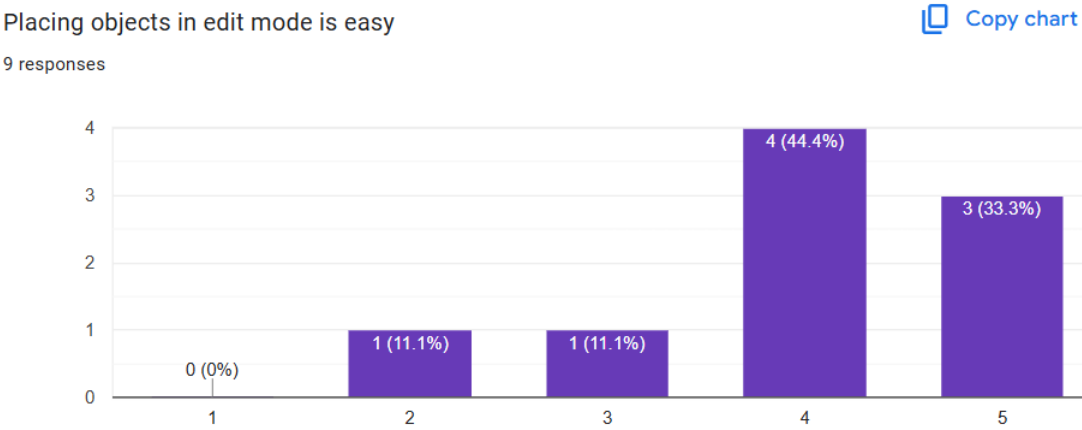Figure 8: Rev1 - "Placing objects in edit mode is easy" statement ratings

Figure 9: Rev1 - "Generating objects through prompts is easy" statement ratings

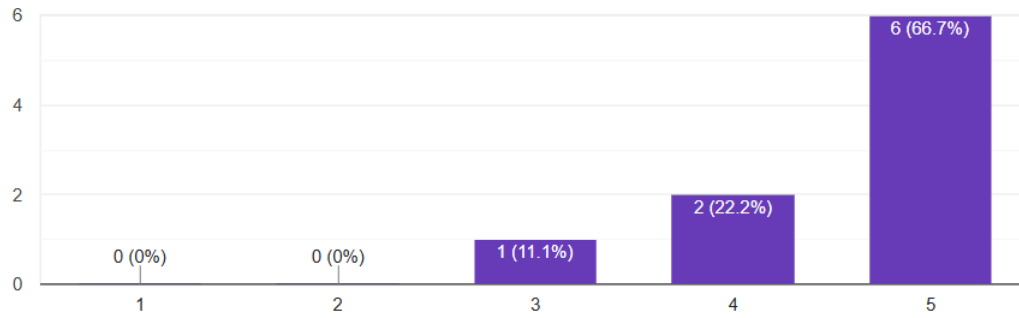Generating objects through prompts is easy

Copy chart

9 responses

Figure 10: Rev1 - "It is easy to start a tour" statement ratings
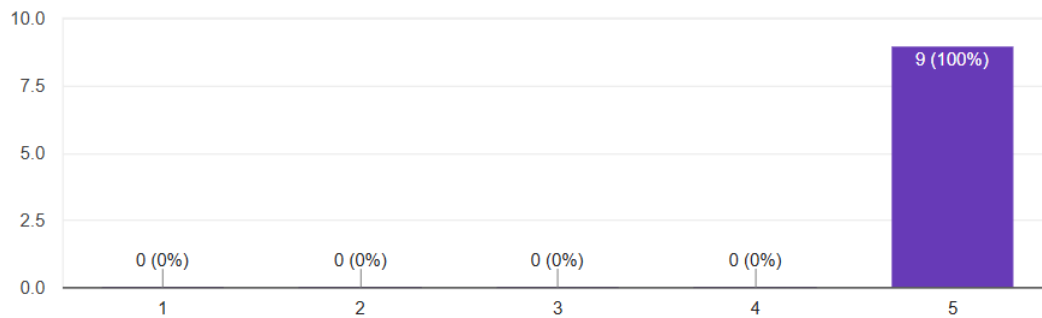
It is easy to start a tour

Copy chart

9 responses

Figure 11: Rev1 - "The app is generally satisfying to use" statement ratings

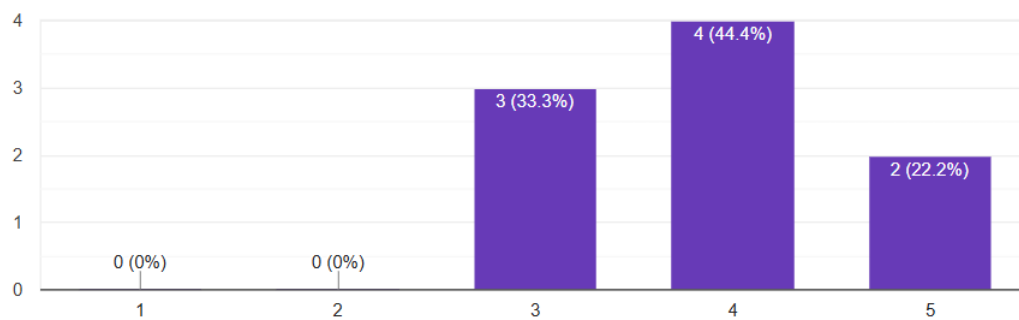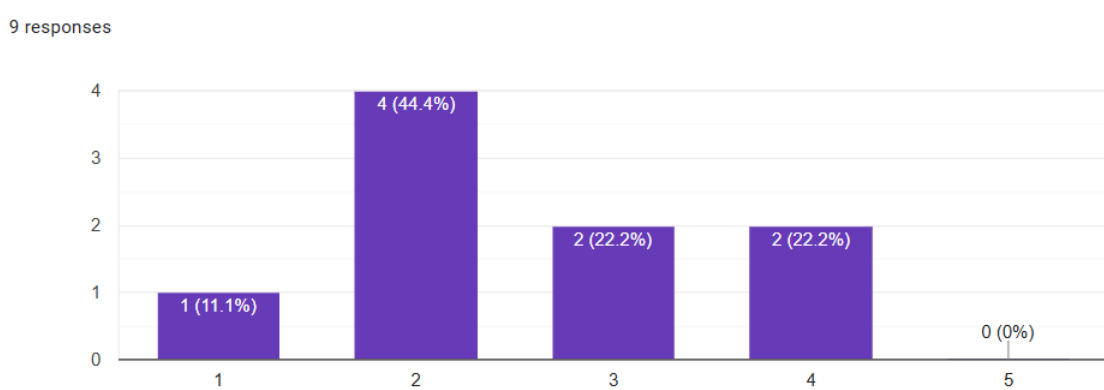The app is generally satisfying to use

Copy chart

9 responses

Figure 12: Rev1 - "Using the app distracts you from your surroundings" statement ratings

Using the app distracts you from your surroundings

Copy chart

9 responses

3.3 Comparison

For each answer a comparison of the results will be conducted.

1. *Navigation between interfaces is intuitive*
   Since Rev0, much effort was put into the app user interface flow. This seems to have translated into increased user satisfaction in Rev1 with almost everyone liking it.

2. *Placing objects in edit mode is easy*
   The AR object placement flow did not change much between Rev0 and Rev1 so the similar results seems to track.

3. *Generating objects through prompts is easy*
   With the overall app UI improvements, also came improvements to the prompt generation screen which users seem to think is easy to use in Rev1.

4. *It is easy to start a tour*
   The app home screen now has a list of tours a user can choose from and preview. From here, they can start the tour. It only takes two button presses, so all users found this very easy.

5. *The app is generally satisfying to use*
   Most people liked the app for the most part in both Rev0 and Rev1 though it seems the rating went slightly down in Rev1.

6. *Using the app distracts you from your surroundings*
   This statement is relatively vague so that could account from the wide spread of ratings in both Rev0 and Rev1. Rev1 users found it less distracting likely due to the hiding of AR virtual planes in tour viewing mode.

4 Conclusion

Through both of the usability tests conducted, users generally liked the app, and it seems they liked it even more after the changes were made to the app UI. There were still quite a few suggestions for improvements and new features that could be made in the future. These include more visual queues when going through the object placement steps and a more robust help feature for users who want to learn more about a specific feature.