• A brief overview of each interface used in the study. Include URLs if appropriate.

1. The other interface is to use a left thumbstick to move and turn the ring cursor.
2. One interface is to use a left thumbstick to move a ring cursor and use a right thumbstick to turn left or right.

While the first method should be very familiar to gamers since it resembles traditional control scheme of many different games, the second method is designed for the first time users. The second method is more intuitive for the first time users, but gives less maneuverability.

• The narrative for each task that you gave to users.

Move a ring cursor and select five discs.

• The script you read from at the beginning of the study.

The purpose of this test is to see if other people can efficiently use the gamepad to “pick” an object on the screen.

You will be given two different methods to pick an object using a gamepad.
Group 1 will be using method 1 first, and group 2 will be using method 2 first.

You can practice each method until you get comfortable with it.

Every person has to fill out the survey after experiment.

Usage:

Common to both method.

You can always use left/right trigger to zoom in/out of the camera.

Press A to select the disc once the ring cursor is on it.

You can always use LB and RB to turn your view.

Method 1:

You can use left stick to move & turn your cursor. While you can move your cursor forward/backward by pushing a thumbstick up and down, you can turn to left/right by pushing a thumbstick left and right.

Method 2:

You have to use a left thumbstick to move your cursor and a right thumbstick to turn.

Every button presses or moves will be recorded for training purposes.
• **Questionnaire forms.**

How many hours a week do you play video games?
- Less than 1 hour
- 1-5 hours
- 5-15 hours
- More than 15 hours

What method did you do first?
- 1st method
- 2nd method

How would you rate the difficulty of using each method?

<table>
<thead>
<tr>
<th>Method</th>
<th>Very Difficult</th>
<th>Very Easy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method 1</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Method 2</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>

If you rated any of the methods below 3, what would be the reason?
(you can choose more than one)

Method 1
- Too many buttons
- Not very responsive
- It moves too slow
- Other reason ( )

Method 2
- Too many buttons
- Not very responsive
- It moves too slow
- Other reason ( )

Which method do you prefer?
- Method 1
- Method 2

Any comments? ( )

• **Description of the metrics used and an explanation of why they were selected.**

Since method 2 is much more similar to many other games, people that are familiar with games might feel that method 2 is more comfortable. This is used to prove/disprove this hypothesis, as well as get the census on what expected audiences are.

We need to measure difficulty of each method. This is to get the general feelings of each method.
Also, if people did not find each method easy, we need to know the reason for it.

Lastly, We want to know if people would prefer method 1 or method 2.

- A summary of the raw data collected (spreadsheets, interaction videos, etc.).

<table>
<thead>
<tr>
<th>Time it takes to select 5 randomly scattered discs (sec)</th>
<th>method 1</th>
<th>method 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>participant 1</td>
<td>12.5</td>
<td>9.4</td>
</tr>
<tr>
<td>participant 2</td>
<td>11.7</td>
<td>9.5</td>
</tr>
<tr>
<td>participant 3</td>
<td>13.5</td>
<td>10.1</td>
</tr>
</tbody>
</table>

| participant 4 | method 2 | 9.7 | 11.3 |
| participant 5 | 11.6     | 20.4 |
| participant 6 | 10.5     | 15.7 |

<table>
<thead>
<tr>
<th>How many hours?</th>
<th>Method tried first</th>
<th>Difficulty method 1</th>
<th>Difficulty method 2</th>
<th>What is difficult? Method 1</th>
<th>What is difficult? Method 2</th>
<th>Which method to prefer?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>n/a</td>
<td>n/a</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>n/a</td>
<td>n/a</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
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<td>n/a</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>n/a</td>
<td>n/a</td>
<td>2</td>
</tr>
</tbody>
</table>
• Visual summaries of the data used to make sense of the results.

![Bar chart showing average time it takes to select 5 randomly scattered discs (sec) for method 1 and method 2.](chart1)

![Bar chart showing average difficulty for method 1 and method 2.](chart2)
• **Interpretation of the results.**

  1. Overall, people preferred method 2 to method 1. However, I did not find strong relationship between users experience in game and preferred method.
  2. People generally thought both methods were easy enough to be learned. This could be because I gave them enough time to play with it.
  3. Generally, method 2 was faster for most of people.

• **Recommendations on how to improve the interfaces.**

  Since there was small correlation between gamer experience and the preference of the interface, I'll stick with method 2. However, I realized that it took people little more time to learn method2, which I, unfortunately, failed to measure. Empirical on how long/descriptive the tutorial should be must be collected next time.