Delay agnostic design report

Summary:

This report will summarize some quantitative data from Zoom, the cross play surveys and qualitative data from surveys to show that our game is playable over remote control on Zoom. We will also list some changes we made to accommodate for the lag we might have depending on the particular user.

Zoom latency data

Receive:

This data was collected from the players screen when they were playing the game through a shared zoom screen.

The latency is 116 ms and FPS is 25 fps. Qualitatively, this was a good experience for the person controlling the zoom screen. Regardless, this can be improved further. See the changes section to see what was changed to improve this.

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Overall Audio Video **Screen Sharing**

Item name	Send	Receive
Latency	-	116 ms
Jitter	-	1 ms
Packet loss - Avg(Max)	-	0.0% (0.0%)
Resolution	-	1202x832
Frame Per Second	-	25 fps

Found a problem? **Send report**

2 player co-op:
This feature allows 2 players to play the game over zoom - one of the requirements of the delay agnostic design feature. Here is a demonstration of this over a zoom session between 2 of our teammates.

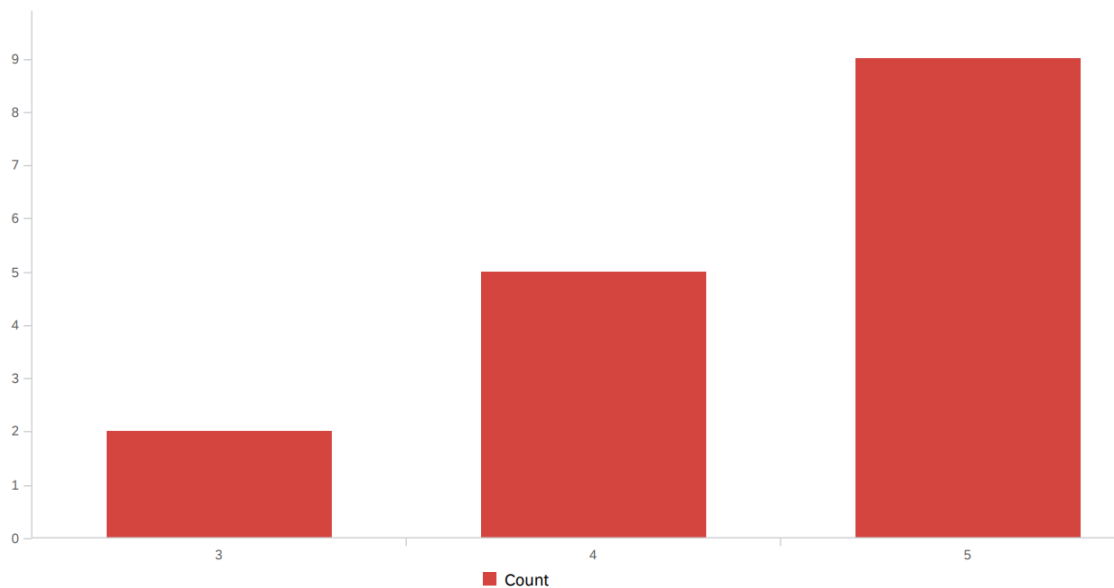Topic: Rachit Malik's Personal Meeting Room
Start Time: Dec 2, 2021 06:43 PM

Meeting Recording:
https://ubc.zoom.us/rec/share/1hs1sDhwUPTGkYT0J9FYpZ4kUZOLodB31xxBANaO3iHbvRvE
hVCHnIpXidCwBnW9.EpJKRXpbmI4wKHZN

Access Passcode: &$?GY0W@

M2 crossplay data

Q7 - Controls: were the game interactions / transitions appropriately smooth?

Q8 - Visuals: are the game visuals responsive to the game events?
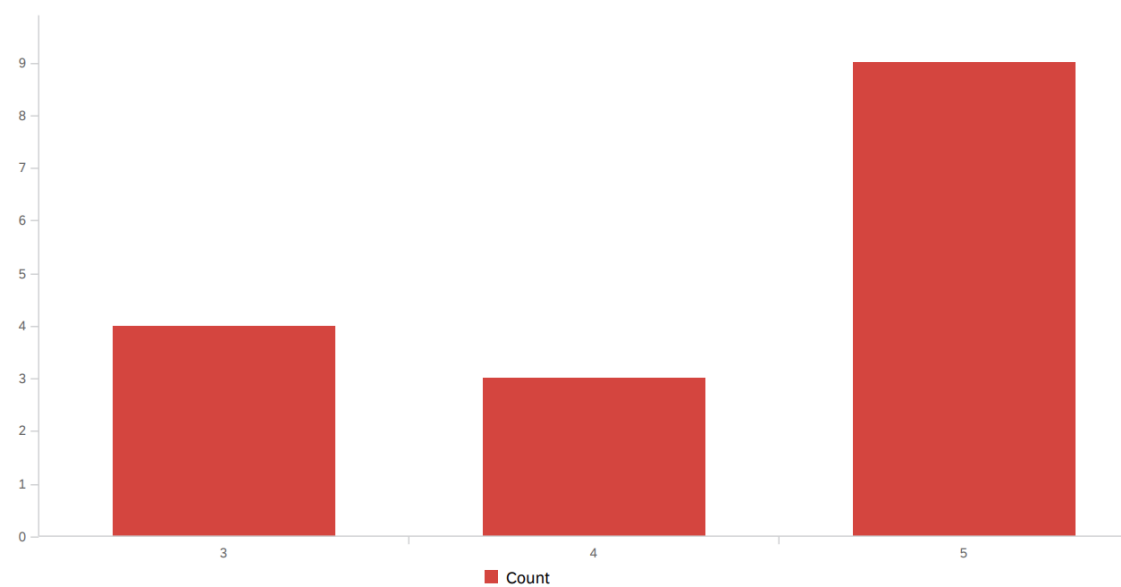
Score	1	2	3	4	5
Controls smoothness (Count, %)	0	0	2 (12.5%)	5 (31.2%)	9 (56.3%)
Visuals (Count, %)	0	0	4 (25%)	3 (18.7%)	9 (56.3%)

	Negative Comments on Lag	Positive Comments on lag free experience
Count	3 (23.1%)	10 (76.9%)

M3 crossplay data

Graphs show that visuals and movements were relatively smooth for most participants when playing over zoom.
No one rated below 3 for the controls and game interactions being smooth, and the number of 4s and 5s increased in this cross play session for the first graph below.
Similarly for the visuals being smooth, we had less number of people rate 3 as compared to the previous milestone.
Overall, this seems to signify the game was smooth despite the small latency on zoom.
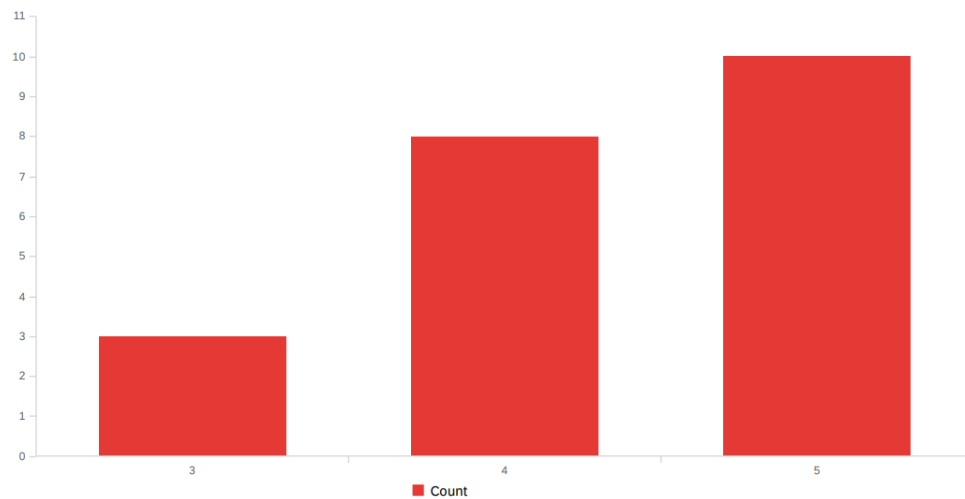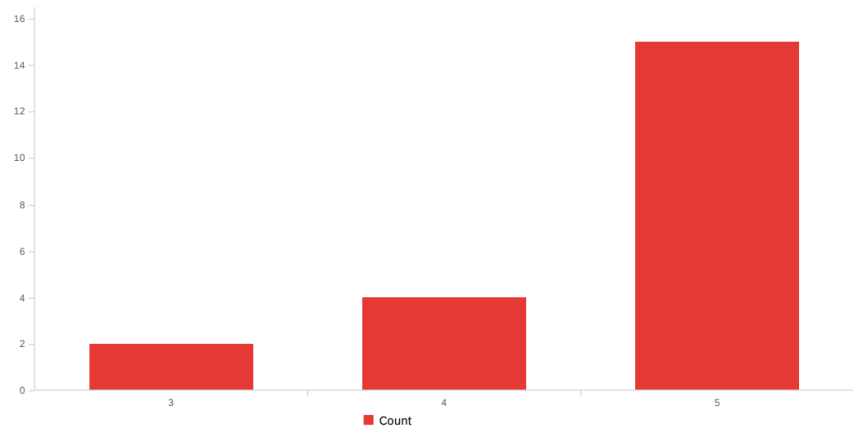
Q7 - Controls: were the game interactions / transitions appropriately smooth?

Q8 - Visuals: are the game visuals responsive to the game events?

Score	1	2	3	4	5
Controls smoothness (count, %)	0	0	3 (14.3%)	8 (38.1%)	10 (47.6%)
Visuals (count, %)	0	0	2 (9.5%)	4 (19.0%)	15 (71.5%)

	Negative Comments on Lag	Positive Comments on lag free experience
Count	2	19
Percentage	9.52%	90.476%

Further changes made to improve
1. We reduced the enemy speed by 33% to potentially counter any minimal lag the player might experience over zoom.
2. We reduced the sword swing speed of the knight.
3. We increased the projectile speed so less accurate aim is needed to compensate for lag.
4. We improved our code to be more efficient in many places such as the pathfinding enemy, title window update optimization, optimized step function improvements.
5. We decreased the enemy projectile speed for swarm and boss to reduce reaction time of players to compensate for lag.