Deciding between games to play is never a fun time.

What if you could get the best of both **strategy** and **adrenaline-boost shooters**?

Power up your Oculus and experience the thrill of dueling an opponent by wielding a weapon at arms-length -- all while plotting the checkmate of the other King.

Introducing **Chess En Garde**!

GAMEPLAY

FPSChess (*right*) started as a student project from DigiPen that combines the age-old strategy game of **chess** with the adrenaline of **first-person shooters** in a PC game.

We sought to draft that same complexity of gameplay together with the **immersion** of true first-person that **VR** brings to the table of gaming, and make both chess dueling an option for all.

FLOW OF CHESS EN GARDE DEMO:

1. Spawn in CHESS MODE. Grab to select and drag first piece as white to make the first opening move.
2. Observe black's move.
3. Repeat steps 1-2 until a piece is taken. On contact, DUEL MODE will launch.
4. In DUEL MODE, grab gun and follow on-screen prompts to holster and shoot when directed.
5. If hit lands on opponent, player will return to CHESS MODE and the opponent piece will disappear from the board.
6. If hit lands on player, player will return to CHESS MODE and player's piece will disappear from the board.
7. If both hits miss, repeat steps 4-6 until a hit is landed.
8. GAME OVER when demo moves run out.

ChessEnGarde

Resume   Quit

IMPLEMENTATION DETAILS

HARDWARE
Oculus Quest 2
Oculus Quest 2 Controllers

SOFTWARE
Unity   *// All scenes and scripting were done in Unity*
Blender   *// Modelling for simple assets were done in Blender*
Unity Asset Store *// Materials, models, and setup templates sourced from UAS*
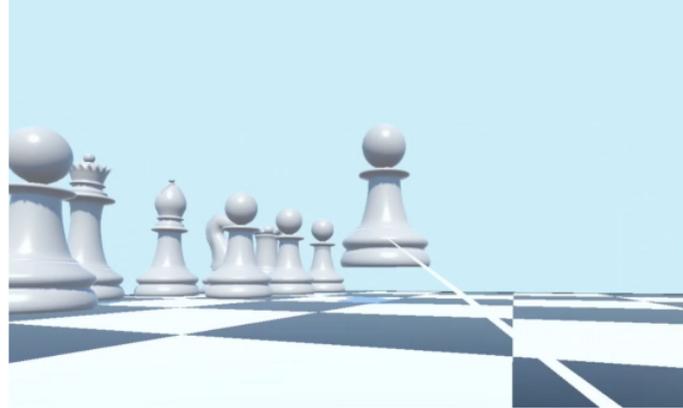
EVALUATION OF RESULTS

USER TESTING RESULTS

We handed our application to friends with no prior explanation and observed what they picked up immediately and what they struggled with or didn't like. We had time to fix some of our noticed bugs (green), but saved others for outside the scope of this short project time (orange). ***Findings include:***

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- Movement and rotation player mechanics is intuitive
- Transitions prompt clearly what the next step is
- Concept is enjoyable and duelling is fun overall

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- *Could use a tutorial that sets up the context starting into the game*
- *"Reel-in" feature would be helpful to adjust distance of piece grab*
- *Black and white pieces are both grabbable, which confuses player role*
- *Duel mode should introduce hand models to make it easier to grab gun*
- *Pieces should not be able to accidentally fall off / get through off the board*

- Compared to FPSChess, Chess En Garde is not as developed or complex in terms of movement mechanics, game design, or environment aesthetics. (yet)

- Considerations include quality of life (motion sickness from VR), a more dynamic duel scene with different types of guns or accuracy etc.

- We intend on continuing this development after the class concludes and we both graduate, so we will further enhance and differentiate our product moving forward! :)

FUTURE PLANS & BUG LIST

(Nonexhaustive) bugs / features that we intend on fixing in the future, from most straightforward to most involved:

- GAME OVER and GAME START screens for game flow
- Prevent other white pieces from being knocked over by the current move
- Player mechanics for rotation / "reeling in" using Oculus controller
- Selection-based chess piece movement instead of drag-based
- Save game state before / after duel so pieces don't revert
- Actually enforce the rules of chess instead of operating on the honor principle
- Bot moves are currently not randomized and are quite limited to reduce the volume of hard-coded numbers in the codebase
- When the player "kills" a piece that is hard-coded, all of the black pieces disappear instead of just the one that was killed
- 2-player mode (ideal)

CONCLUSION

We look forward to continuing to work on our demo of **Chess En Garde**, and build it out to be a cleaner, smoother, and more engaging 3D chess duel game. Obviously there's a lot of bugs, but we spent most of our time learning & putting together an organized basis to continue development moving forward. Maybe you'll see us in the Oculus store sometime after this summer! :)

THANK YOU!