# Secondary Research

By Hrithik Shah

Bavelier’s Ted Talk([[1]](#footnote-1)):

* Video games have an amazing impact on society. A month after the release of Call of Duty: Black Ops, the game had been played for over 68,000 years worldwide.
* Playing video games day in and day out is bad for your health, but playing these games timed intervals can have profound effects on human beings.
* People who don’t play video games have normal eyesight. Whereas people who do, have really good eyesight. This is because they are able to make out small details easily.
* They also have a good attention span as they can differentiate colors and their names quickly.
* Gamers also have good tracking skill which are necessary in everyday life, like when you are driving a car.
* Parietal Cortex, Frontal Lobe, and Anterior Cingulate all are used to control the orientation of attention.
* Playing video games also helps with avoiding car accidents while texting on the phone. People that play action video games can easily switch from one task to another.
* The results depend on the type of game the user plays.

Chatfield’s Ted Talk: 7 ways games reward your brain ([[2]](#footnote-2))

1. Experience bars measuring progress – People will have their own profile character which progresses bit by bit. This gives them motivation.
2. Multiple long and short aims – Breaking things down into slices to keep people wanting to do more.
3. Reward effort – No punishment for putting in effort. Each time you put in some effort, the more credits you get.
4. Feedback – Give users things that they can manipulate. When they get feedback, they can learn how to the same thing in a better way.
5. Element of Uncertainty – Introducing different levels of randomness can increase engagement with users.
6. Neurotransmitter (Dopamine) – Windows of time where learning takes place at a superior level.
7. Staggering System – A system where players solve problems together.

Rochester Research Lab:

* “previous research shows that the simple act of playing action video games for a mere 10 hours can enhance the ability of young adults to search their visual environment for a pre-specified target, to monitor moving objects in a complex visual scene, or to process a fast-paced stream of visual information.” [[3]](#footnote-3)
* Richard Aslin and Professor Newport, “Gathering information from sequences of events is of critical importance for optimal performance in several domains, such as listening to instructions and making decisions under extreme time pressure, or monitoring visual events and making motor responses.” 3
* Daniel Kersten, “our aim is to understand the factors that promote learning, in collaboration with Paul Schrater and Yuhong Jiang.” 3
* Stakeholders include: Daphne Bavelier, Richard Aslin, Daniel Kersten, Steven Hillyard, Wayne Gray, Josh Tenenbaum, Alexander Pouget.

Inspiration Pieces

I want my game to be based on a storyline that is similar to Mission Impossible/James Bond story. The mini games that I would like to incorporate into my game should stretch the brain’s muscles and should engage the users.



First Game [[4]](#footnote-4)

This game could signify a point where the user must stop a missile (this can be represented using the ball) and the user has to find the end point, thus saving the world.

The game will be created like the TicTacToe game that was created in class. The end points can be symbolized using a letter on a grid. And the white bars can just be forward and backward slashes.



Second Game ([[5]](#footnote-5))

This game can signify when the player has to remember a keypad code that was keyed in by the enemy so that the player can get into a locked room.

Again this game can be based on the code of TicTacToe, where the keypad is a grid, and the player had to remember the number that are keyed in.



Third Game ([[6]](#footnote-6))

While an enemy is running away from the player, this game will have the player trying to locate the player. There will be a grid system used, where the player inputs the coordinates of the enemy’s location.

1. Bavelier’s Ted Talk,  <https://www.ted.com/talks/daphne_bavelier_your_brain_on_video_games?language=en> [↑](#footnote-ref-1)
2. Chatfield’s Ted Talk,  <https://www.ted.com/talks/tom_chatfield_7_ways_games_reward_the_brain>  [↑](#footnote-ref-2)
3. Daphne Bavelier’s Rochester Research Lab,  <http://www.bcs.rochester.edu/muri/research_details.html> [↑](#footnote-ref-3)
4. Lumosity’s Pinball Recall, http://www.lumosity.com/press/resources [↑](#footnote-ref-4)
5. Lumosity’s Memory Matrix, http://chuang.pro/archives/2268 [↑](#footnote-ref-5)
6. Finding Hope (game), http://www.bigfishgames.com/games/5960/finding-hope/ [↑](#footnote-ref-6)