Redesign the gaming experience for the visually impaired players

Step 1 Interviews (3 classmates and 3 group members)

Interview 1

-cant think of many options out there for the visually impaired to play games
-Just a few accessibility options
-many games arnt designed with limited or no vision in mind
-with no visuals audio plays a big part
    -have detailed audio settings / be able to customize each set of sounds
    -described video and vocal instructions
    -sound effects for as much as possible
    -clear audio, not clustered
-Touch/haptic feedback also plays a big part
    -braille
    -controllers that are easy to use
    -big buttons, simple layout, easy to pick up and to properly orientate
    -vibration feedback, easily communicates with the visually impaired
-motion is still available in some extend to the visually impaired, utilize it
    -let them rotate, move and physically do things

Interview 2

- Very few controllers designed specifically with blind people in mind
- No popular or well-known games for blind people off top of head
- Sound becomes the main contributor to the gaming experience
- Blind-focused games need…
    - Other sensory feedback like sound or feel
    - Ability to understand the game without access to seen instructions
    - Vibration feedback, limited visual feedback
- For a blind controller, easy to distinguish buttons is important
- DO NOT further limit their capabilities with the controller
    - Tough layout, confusing buttons, small or hard to naturally reach options

Interview 3

-Use braille on the controller - help with the haptice feedback
-Audio cues when pressing buttons, lets them know when its pressed
-Feedback when pressing buttons (either resistance or vibration)
-Large print
-Use lighting for semi vision, light flashes to signal button presses or events

Interview 4

-Some time of movement capture, use body movements as the controller
-Large print / easy to read
-Use audio alot, for feedback or instructions
-Audio feedback for every button - lets players know their inputs

-Potentially different sound switches for each button
-Use vocal input for controls, to confirm presses or buttons
-Use vibration, haptic feedback is key
-Different shaped buttons
-Either braille or unique writting on buttons

Interview 5
-Ergonomic design, easy to hold and orientate
-Must be able to hold for long periods of time
-Use vibration to deliver haptic feedback
-Gamecube controller use vibration very well
-Design buttons with unique feelings or writings on them, potentially use braille
-Volume controls for audio, since audio is key for the visually impaired

Interview 6
-Attachments to previously existing devices, such as xbox keyboard
-directional vibrations
-braille buttons
-ergonomic options, utilize previous controller designs and make tweaks
-two handed controller design
-easy to locate buttons

Part 2 Dig Deeper

Dig Deeper Interview 1
What are the main setbacks preventing visually impaired players from gaming?
Their vision
How can we work around that?
Improve the other aspects of the game to be more accessible
-better audio
    -focus on having audio explanations, audio queues, and descriptive information
-improve the controls
    -make an accessible control scheme
    -design a controller that is easy to orientate and hold
    -utilize actions that the visually impaired can use such as mobility and touch
    -use braille
    -offer motion controls, customizable options
    -use vibration and haptic feedback

Dig Deeper Interview 2
Why is blind-accessible controllers or games not as popular?
- Not as used obviously as regular devices
- Hard to develop to perfectly fit someone who cannot give visual feedback
- Simply not as lucrative, and requires more complex schemes

How can that be positively changed?

- Trending, if it becomes popular, it will grow and more options will be available
- Encouraging and promoting adding more inclusion to the gaming community
- Companies/developers making the decision to try to help

Dig Deeper Interview 3

-prioritize feeling

-make your controller feel good to hold

-make the buttons have special characters or braille writing to be easily distinguished

-Assuming slight visuall impairments then you could utilize lights

-colour coordinate and flash lights for feedback

Audio cues are very important

-have audio for each action or button press

-let people fimilurize themselves with audio and the associated controls

Dig Deeper Interview 4

-Utilize movement when making a your controller

-the visually impared can still move and perform other actions

-capture their movement and use it instead of some key presses

-easy to preform, avoids mixing up buttons

-potentially use voice recognition

-vocal input for controls

-have different sounds for each button or action made

-helps provide feedback in an auditory way

Dig Deeper Interview 5

-Big focus on an ergonomic design

-have it easy to hold for long periods of time

-have a clear way to tell how to properly hold/orientate your controller

-make people want to use your controller

-Have volume control options on your controller

-volume is a big part when visually impaired and having the option to adjust it freely is convenient

Dig Deeper Interview 6

-A two handed controller design seems optimal

-use previous controllers and build off of them

-use their shapes and adjust them to be accessible for the visually impaired

-Have a simple button layout

-need to be easily accessed and remembered

-braille or some sort or physical differentiation on each button

Part 3 Capture Findings

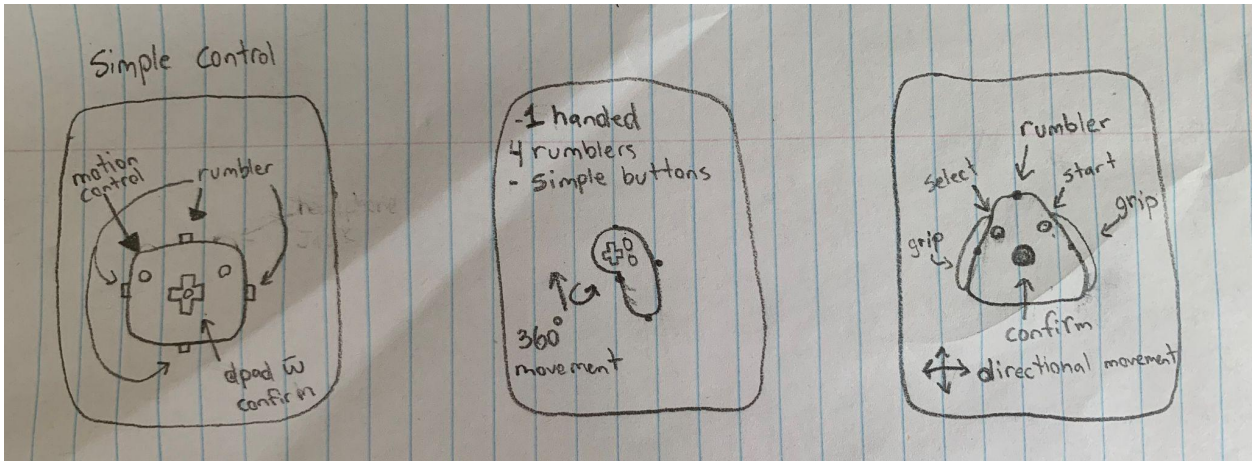
Goals and wishes
-Create an accessible controller for the visually impaired
-controller is easy to hold and orientate properly
-simplistic controls
    -big buttons
-utilize rumbling features
-utilize motion and rotation
-make it user friendly

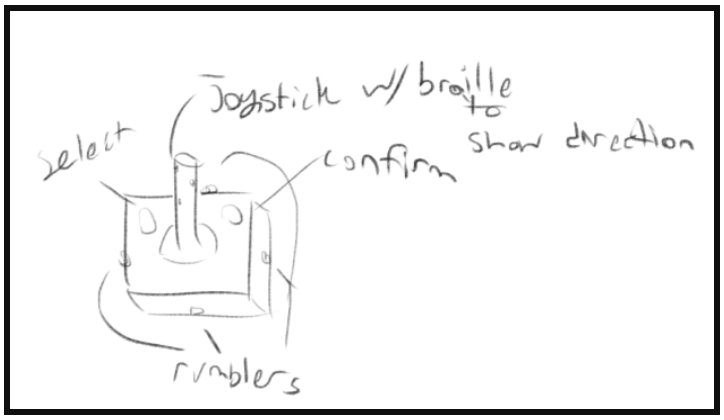
Insights
-People dont have much experience with games that support the visually impaired
-people want an ergonomic design
-haptic feedback is key
-simplicity is good

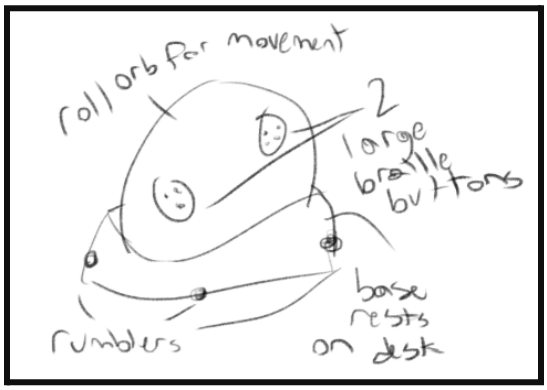
Part 4 take a stand with POV

The visually impaired need a better way to play and enjoy video games because currently there is a lack of hardware designed for visually impaired players to easily interact with and enjoy using.

Part 5 Sketches




Joystick w/ braille
to
show direction
select
confirm
rumblers


roll orb for movement
2
large
braille
buttons
base
rests
on desk
rumblers