DEV-T

DEVELOPMENT TECHNOLOGIES

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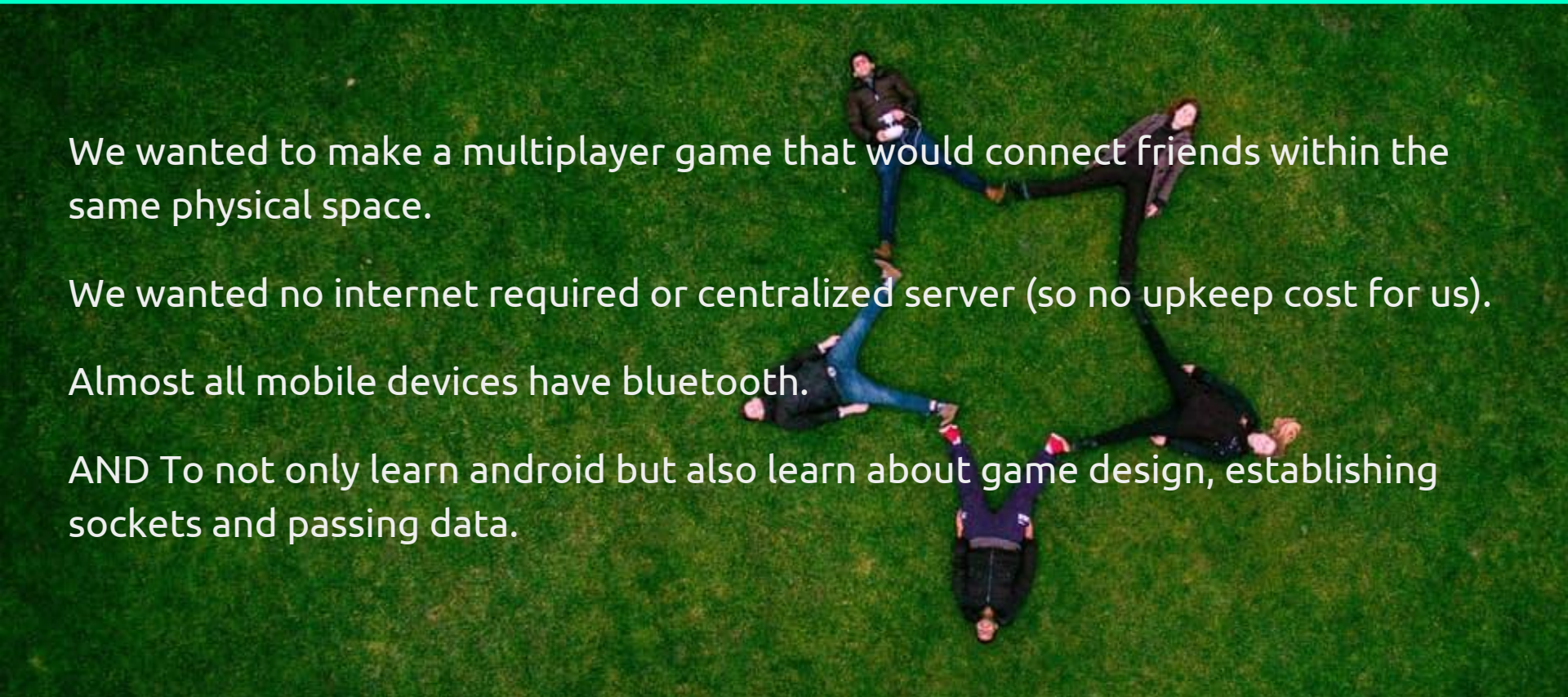
What is QuickShip?

Why make QuickShip?



We wanted to make a multiplayer game that would connect friends within the same physical space.

We wanted no internet required or centralized server (so no upkeep cost for us).

Almost all mobile devices have bluetooth.

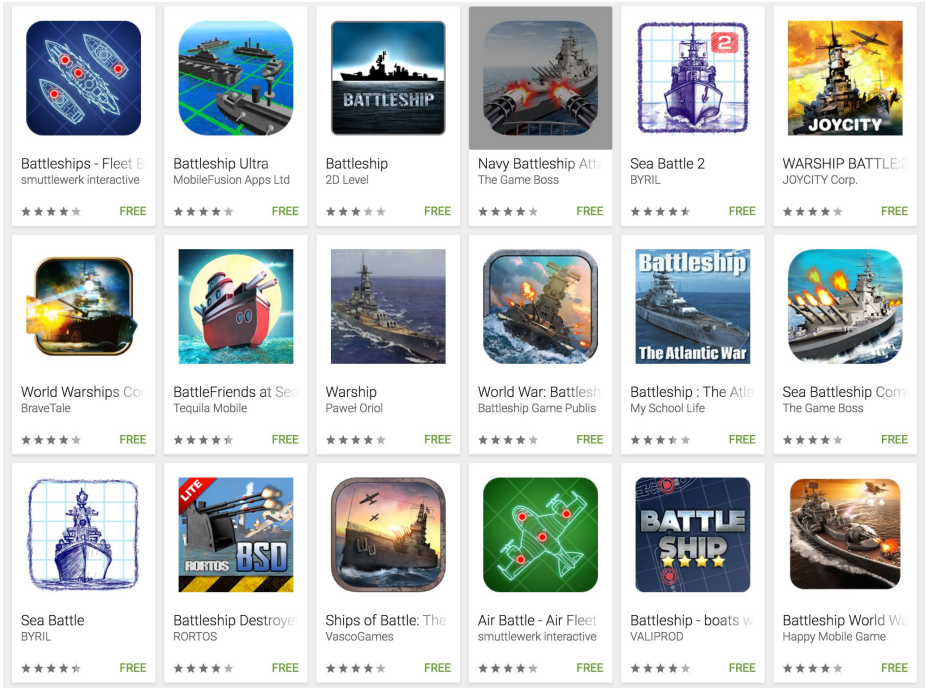
AND To not only learn android but also learn about game design, establishing sockets and passing data.

QuickShip and Competitors

Are there similar products?

Yes...

However, we are hoping that our interface and features will differentiate ourselves from our competitors.



Requirements and Architecture

Requirements

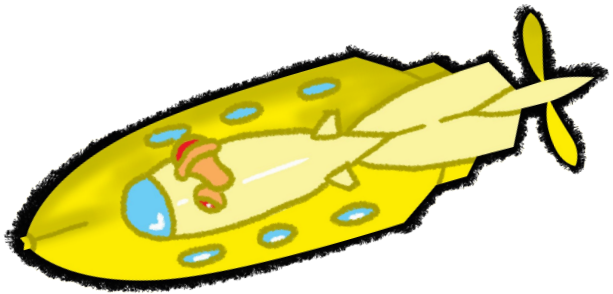
- Any android device that has bluetooth
- Must play with one other person

Architecture

- Designed with Android Studio using Google API’s UI components
- Uses Google’s bluetooth API

Design and Testing

- We have more than 8 Android devices among each team members
- Lots of debugging using Log messages and toasts to make sure that data is passed correctly
- Game images assets are high resolution but scaled down programmatically based on device resolution to save memory. More efficient than Google's automatic drawable scaling
- Memory sizes of bluetooth packets are measured since there is a size limit on data being sent and data integrity issues to worry about.
- Battleship board data is compressed and broken down before sending it out over bluetooth
- Android Studio has a lot of tools such as memory tracking and error logs for debugging



Known Issues

Sliding Activities: Lag for first swipe on screen once game has started. System has to load the custom layout into memory initially

Button Sizing: On small devices a few gameplay buttons are shrunk smaller than anticipated

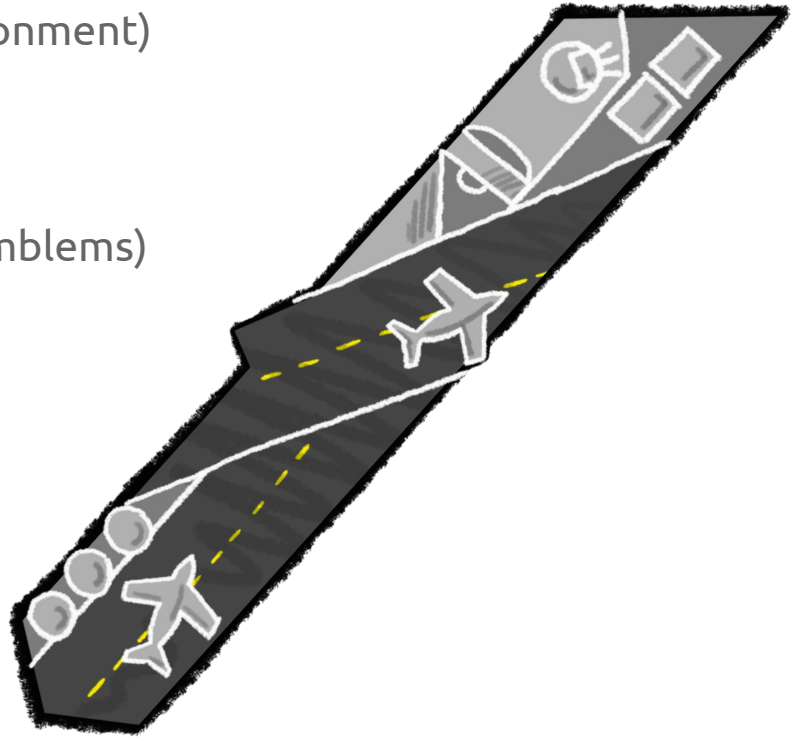
Development/Testing Issues: Cannot use emulator for testing

Next Steps:

Animations (missiles/fires/environment)

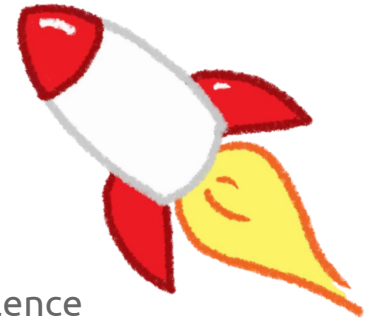
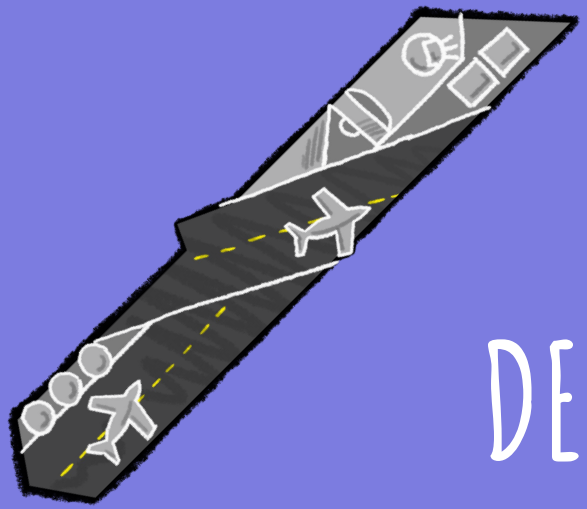
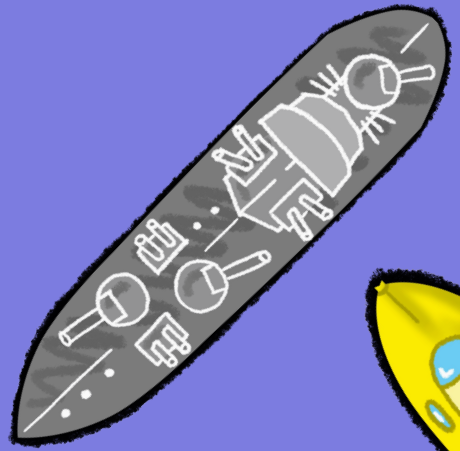
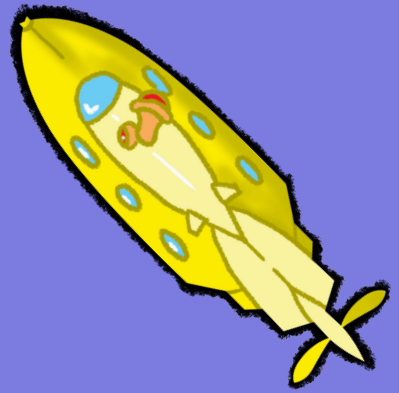
Audio (soundtrack/effects)

User Customizability (emoji/emblems)



Risks

- Animation implementation with Google’s UI components
  - Mitigation:
    - May use static images and dialogs to update the player on game states
- Unable to implement more than 4 players support game
  - Mitigation:
    - May scale the game down to 2 players only
    - Focus on making the game more FUN
- Game audio. Music and sound effects
  - Mitigation:
    - Use free use audio files available on the internet
    - Build our own sounds
    - May not use sound at all since most users have their device on silence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