

QuickShip

Victor Fateh
Trinh Nguyen
Emmanuel Mendoza
David Navarro

D E V - T
DEVELOPMENT TECHNOLOGIES



What is QuickShip?



Play quick, play now,
play together.

Battle with your friends, **WITH** your friends.

Play over bluetooth, no internet required.

Express yourself, with custom game animations.

What is QuickShip?



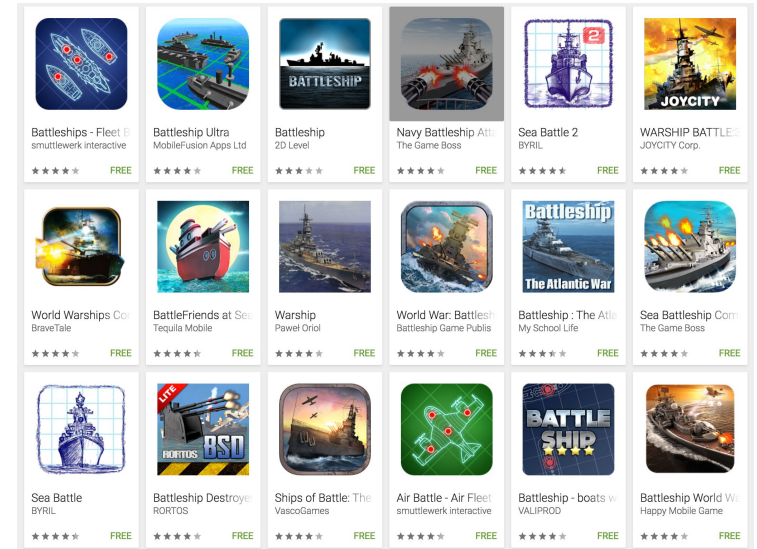
Similar Products



Are there Similar Products?

- There are many, but we try to differentiate ourselves with personality and art style
- Sending emoji missiles adds a more engaging, personal feel to the game

Similar Products



Rationale for your Project

Why is it needed?

- Teaches us Android Development
 - Taught us basic Android programming, xml layouts, threads, handlers/receivers, etc.
 - Taught us how to import and use third party libraries
 - Bluetooth data sending and receiving designs
 - Simple game data modeling and gameplay logics
- Something to share and enjoy with friends, family, and employers

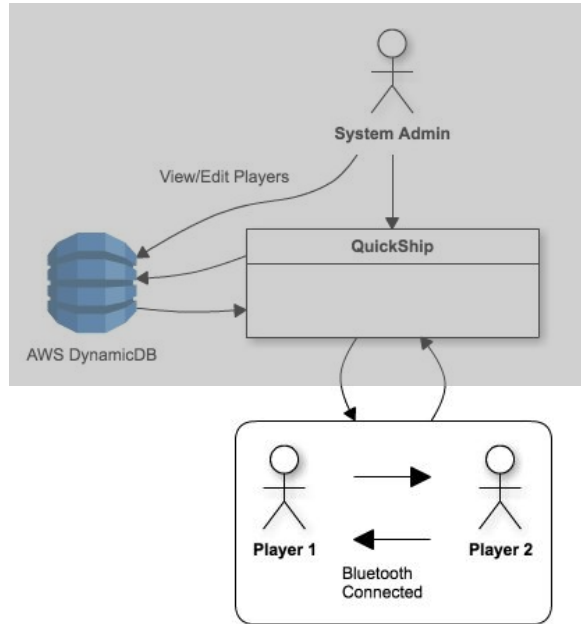
Core Capabilities

- Core Battleship gameplay
- Bluetooth multiplayer (no internet required)
- Quick gameplay and easy to understand
- Animation (with FPSAnimator library)
- Emoji selections (with Emojicon library)

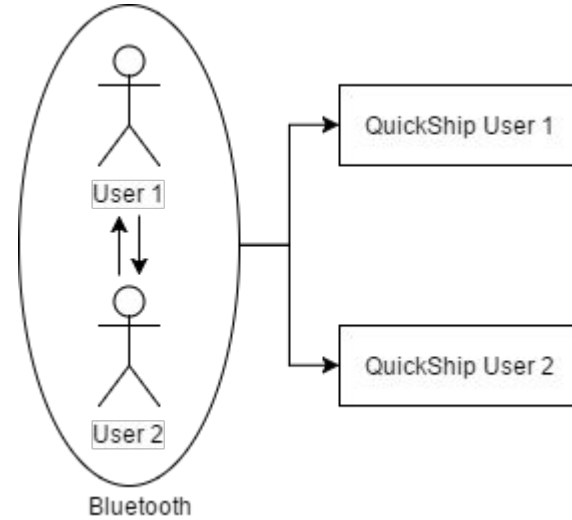
Architecture

— Diagrams & Models —

System Context

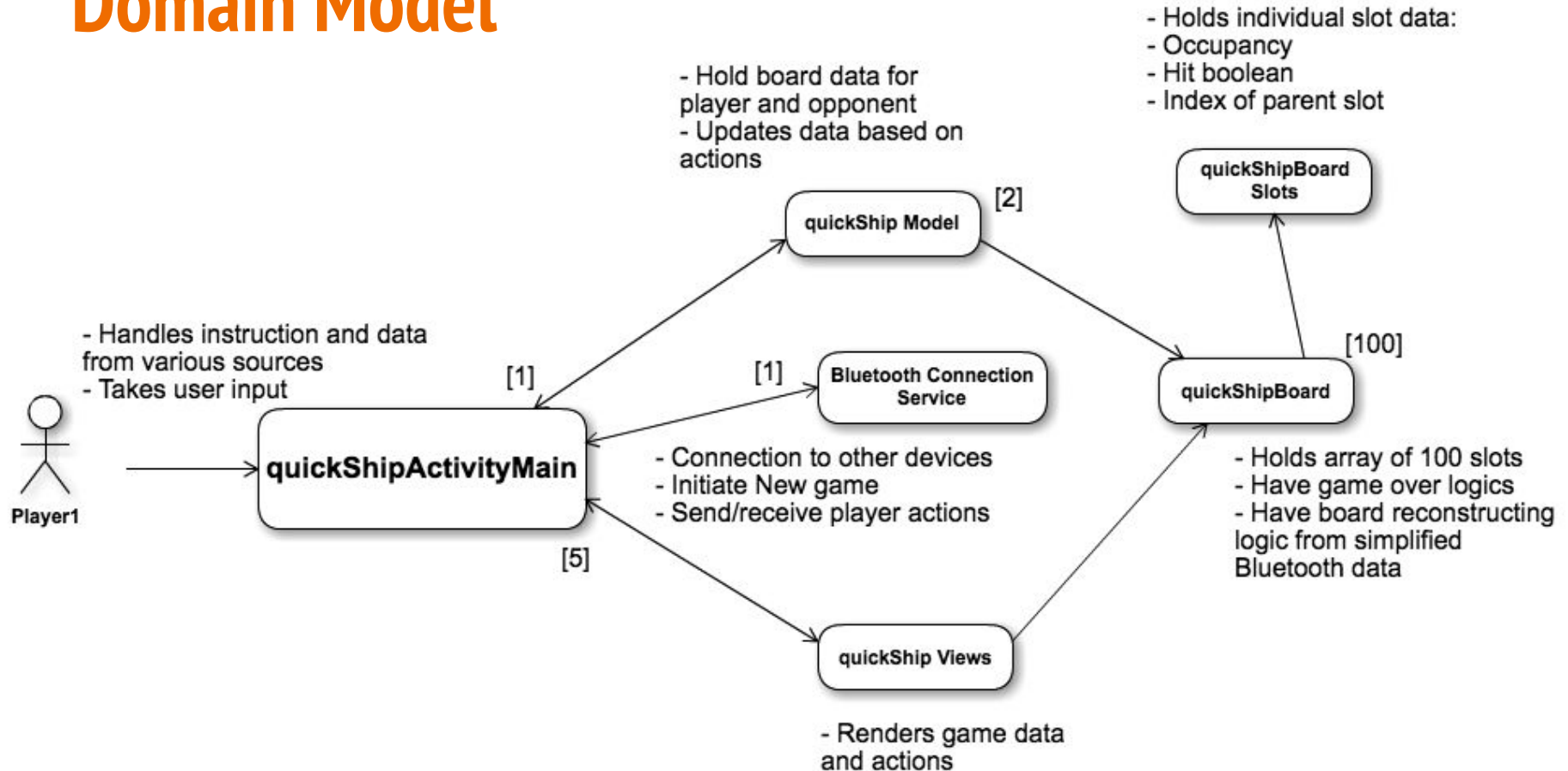


Old

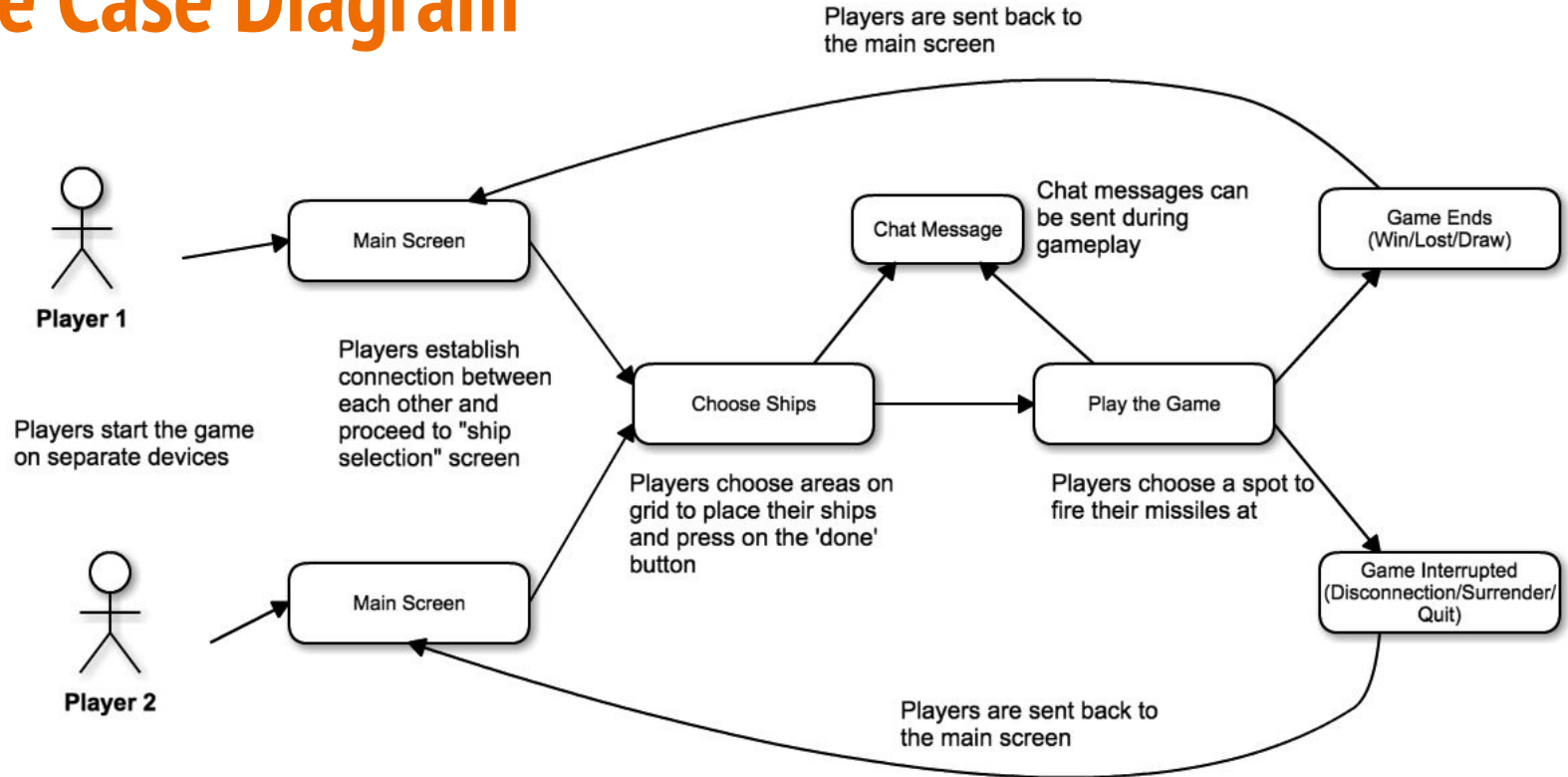


Updated

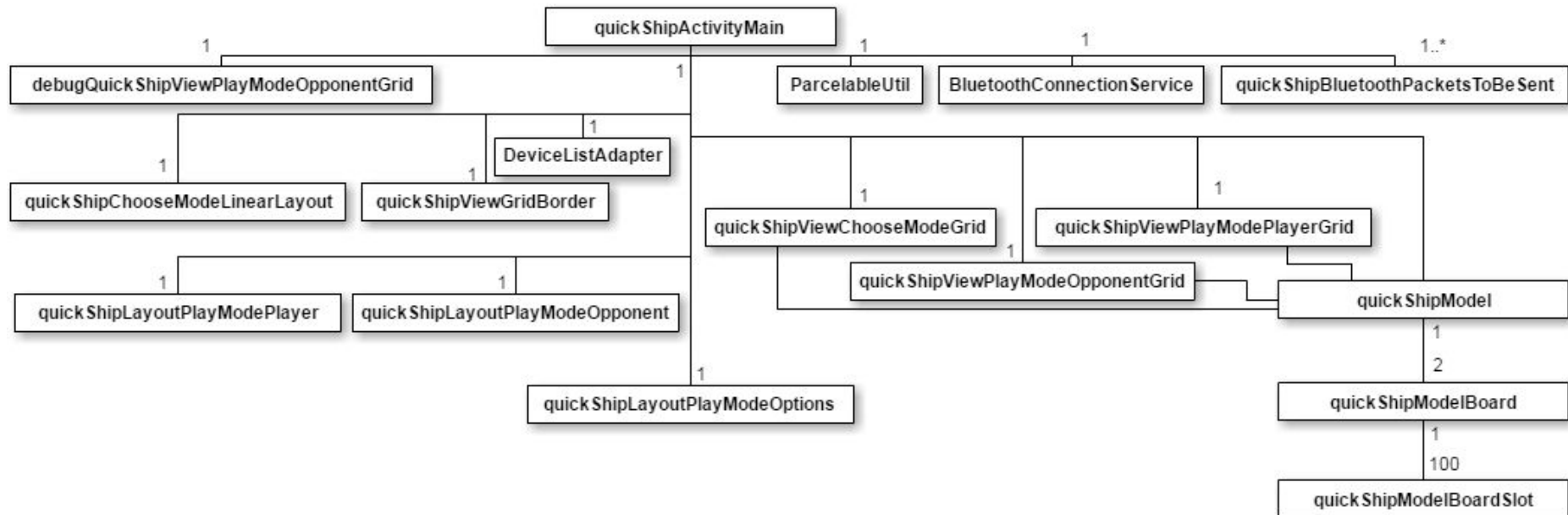
Domain Model



Use Case Diagram



Class Diagram

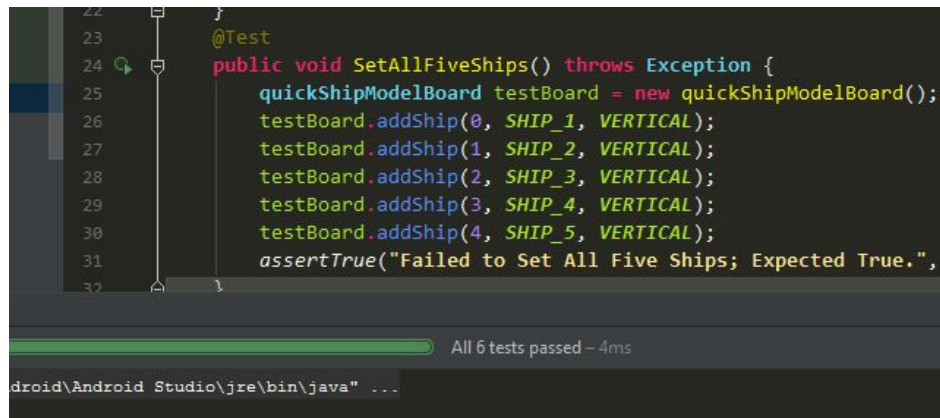


Quality Management Plan Strategy

- Bluetooth dependent App makes it difficult to implement Android's instrumented testing API
- We were able to test some basic UI elements and states
- Implemented unit tests of main game data classes for correct variable initialization, manipulation, retrieval and resets
- Used incremental testing of features that needed to be tested manually to reduce debugging.
- Have other team members test implemented features.

Our Testing Strategy

- Automated Unit Testing
 - bluetoothInstrumentedTest
 - Test if device has bluetooth adapter.
 - quickShipModelBoard_UnitTests
 - Test if empty board returns false.
 - Test if setting all five ships returns true.
 - Test if setting and removing all five ships returns false.
 - Test for Horizontal and Vertical Collisions.
 - Test for Game Over in true and false conditions.
 - Test restoration of board to byte array to board.
 - quickShipBluetoothPacketsToBeSent_UnitTests
 - Test if data packets can be set and retrieved.
 - Test if chat message can be set and retrieved.
 - Test if QuickShip board can be set and retrieved.



```
22 }
23
24 @Test
25 public void SetAllFiveShips() throws Exception {
26     quickShipModelBoard testBoard = new quickShipModelBoard();
27     testBoard.addShip(0, SHIP_1, VERTICAL);
28     testBoard.addShip(1, SHIP_2, VERTICAL);
29     testBoard.addShip(2, SHIP_3, VERTICAL);
30     testBoard.addShip(3, SHIP_4, VERTICAL);
31     testBoard.addShip(4, SHIP_5, VERTICAL);
32     assertTrue("Failed to Set All Five Ships; Expected True.",
```

All 6 tests passed - 4ms

droid\Android Studio\jre\bin\java" ...

Our Testing Strategy

- Manual UI testing
 - Using Android Studio for memory tracking and error logs for debugging
 - Adding log messages and toasts to track changes in internal states
 - Special debug commands that simulates certain conditions
 - Special features to speed up manual UI testing
 - Repeated testing to confirm results
 - Use of mobile and tablet devices with varying screen sizes

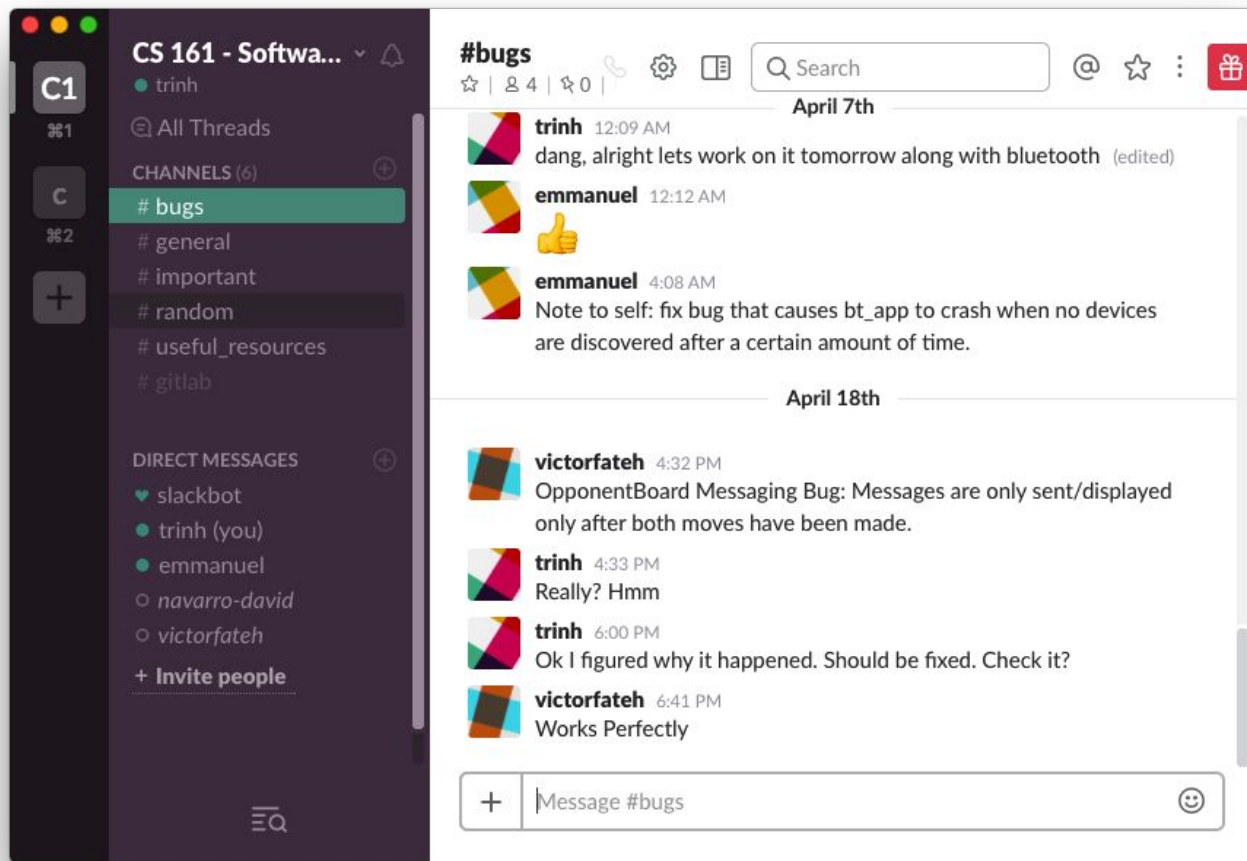
Management Aspects

Project Plan & Means of Communication:

- Weekly Friday meetings for 3-4 hours
 - Reserved room at library
 - Lots of food and snacks while we work
- Offline work with pushes to Gitlab
 - Most work done on 'master' branch
 - Separate branch for big features such as: bluetooth and animation
- Shared Google Drive folder for non-programming related data

Management Aspects

- Numerous dedicated Slack channels for bugs, Git pushes, design strategy, and schedules

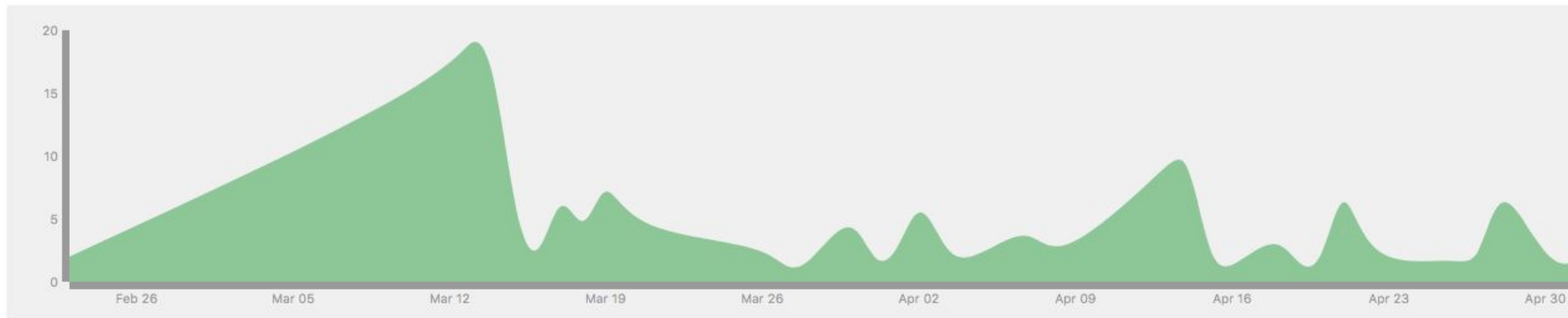


Version Control

GitLab



Activities from:
February 23 2017 - May 10 2017

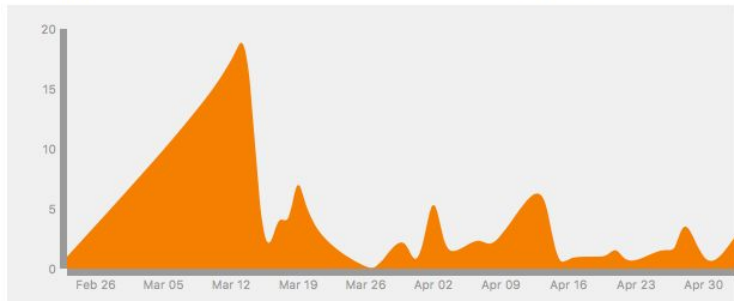


236 Commits

Trinh Nguyen

144 commits

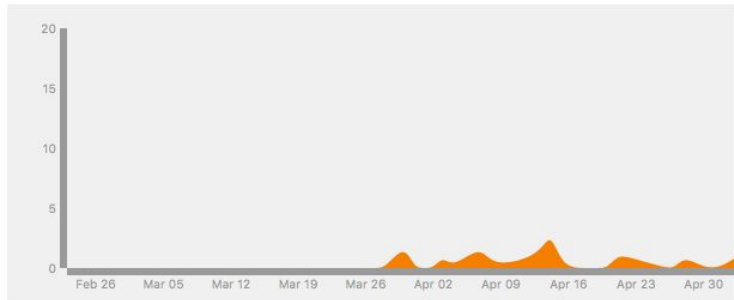
trinhnguyen@MacBook-Pro.local



emmanuel

19 commits

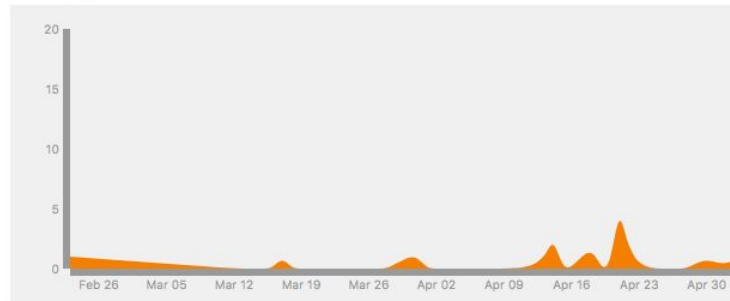
emmanuel.mendoza@sjsu.edu



Victor

20 commits

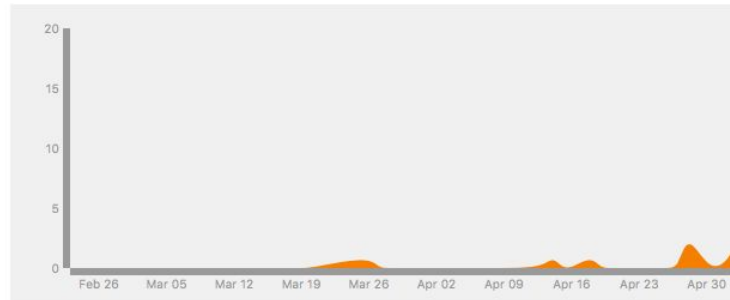
victorfateh@yahoo.com



David Navarro

11 commits

navarro.david.j@gmail.com



Version Control

GitLab



Demo

