

BACKGROUND

The idea for a software factory in Montana grew from a collaboration with the University of Helsinki. Today, there exists a number of successful software factories in Europe. The Software Factory at Montana State University was established in January 2015 with a generous contribution from Zoot Enterprises.



SOFTWARE FACTORY & EDUCATION

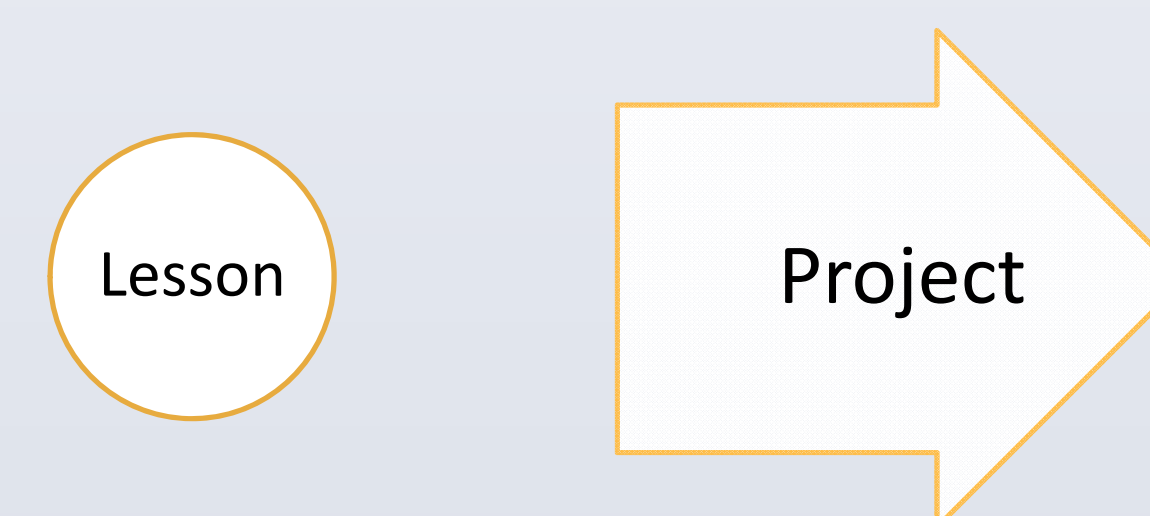
- The Software Factory at MSU seeks to
- Partner with public, private and non-profit entities
 - Use modern development environments
 - Deliver real world products
 - See ideas through from conception to development

This project embodied these principles in a partnership with the Bozeman High School, working on app development with a group of five students. The long-term hope is to extend the reach of the software factory into elementary levels and produce an interest and knowledge of coding in young students.

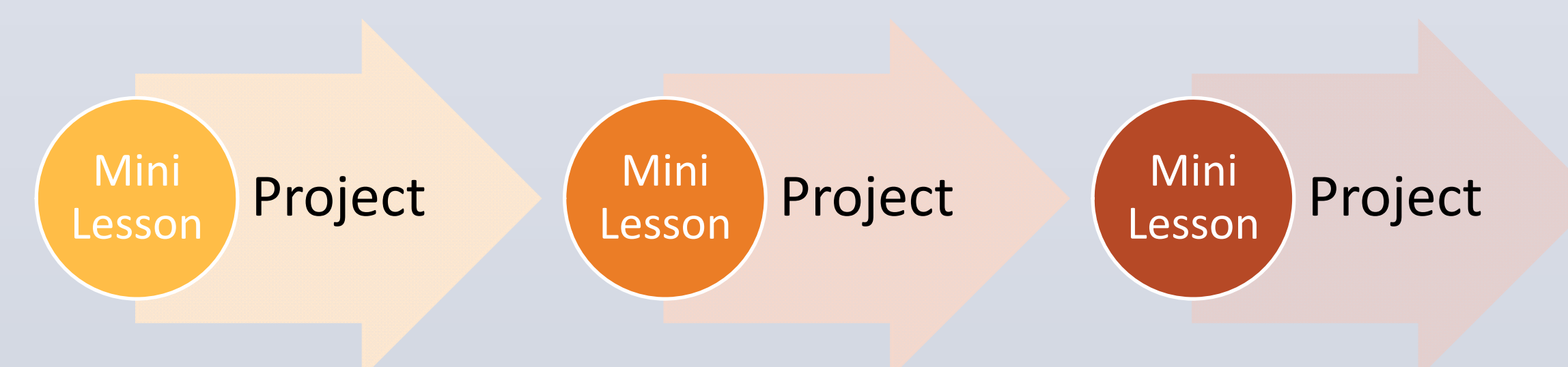
PROJECT

Teaching Strategies

Standard Approach



Our Approach



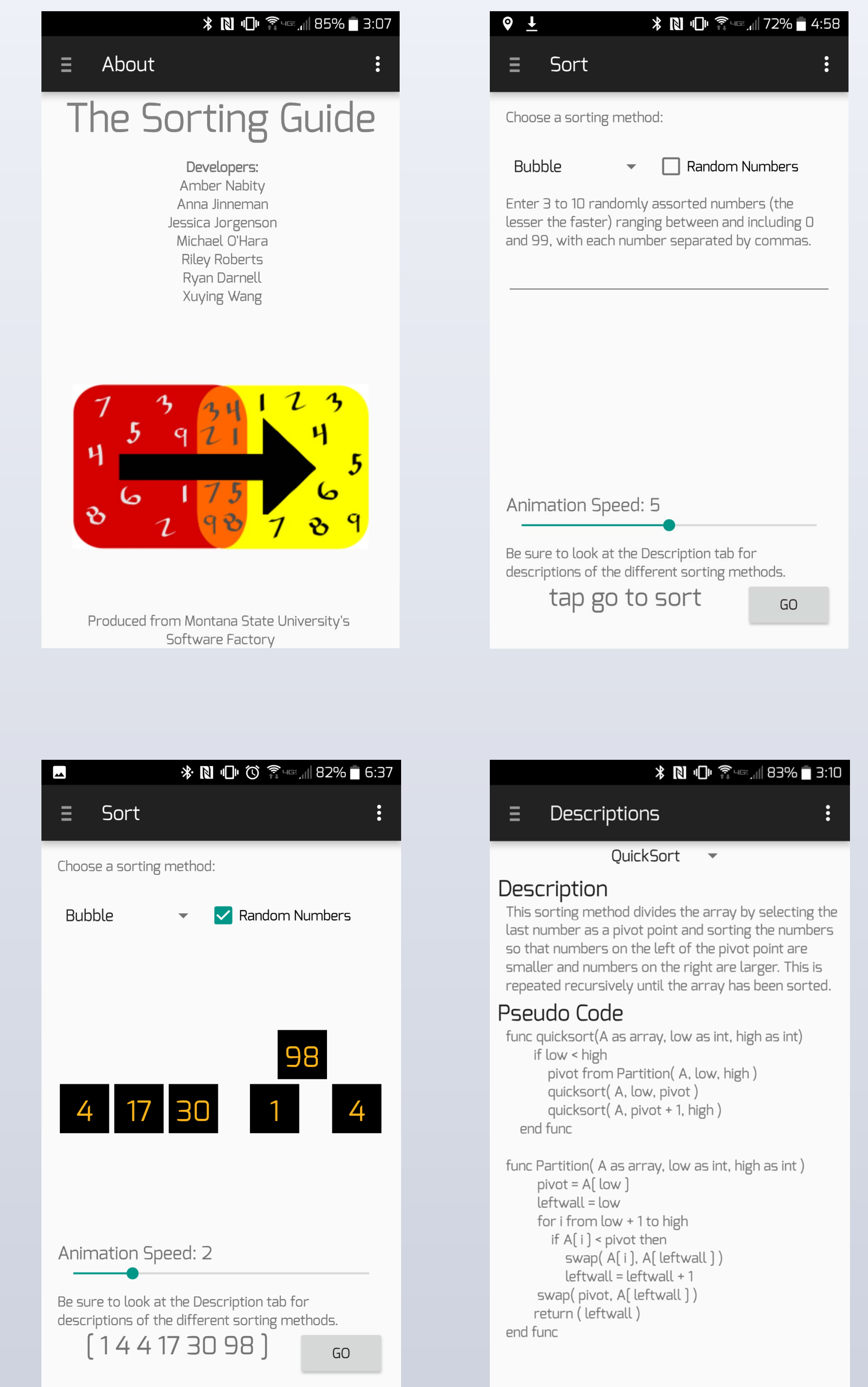
Mini Lessons

- Git Version Control System
- Java Programming Language
- Sorting Arrays
- Object-Oriented Programming
- Android Application Basics

Project

The Sorting Guide

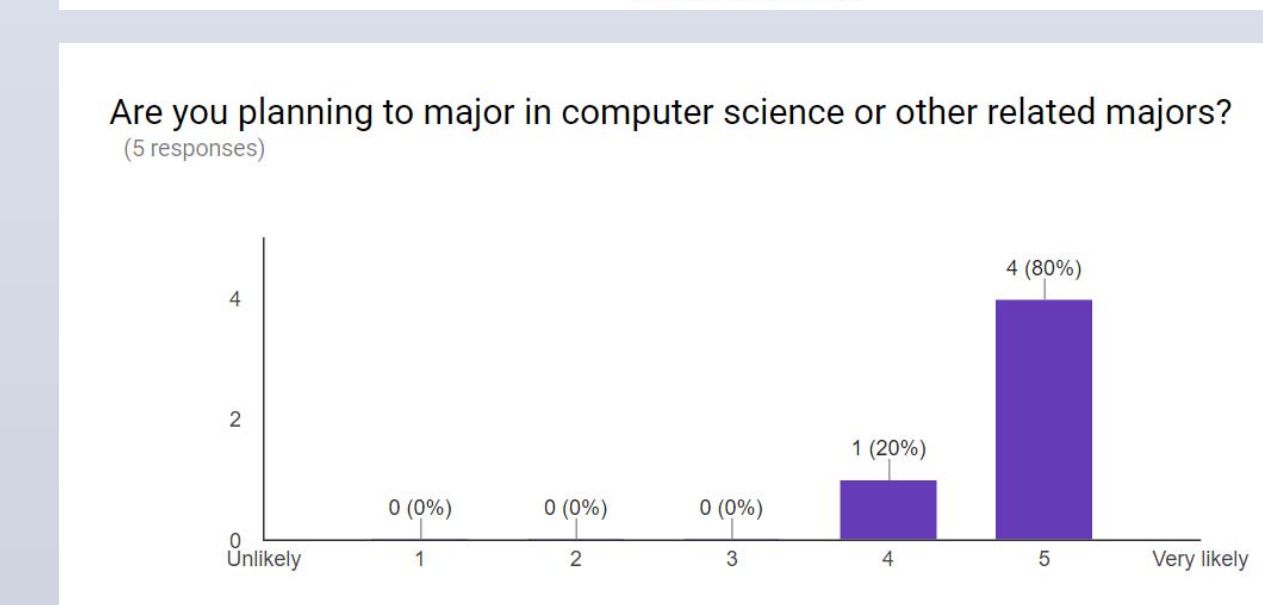
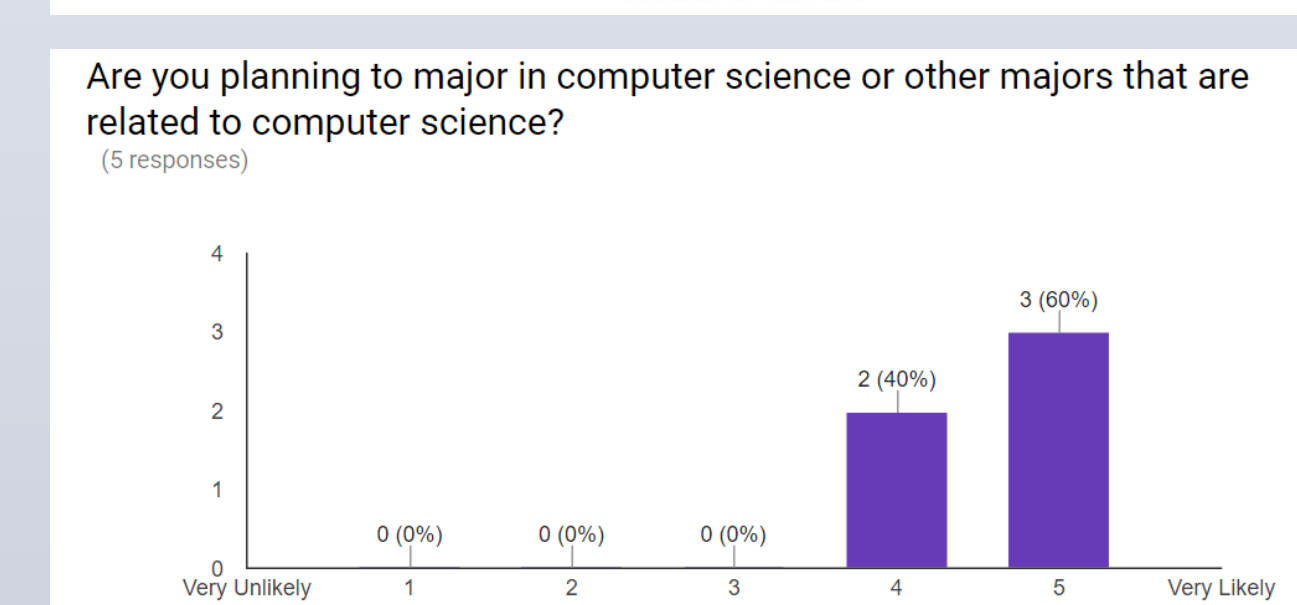
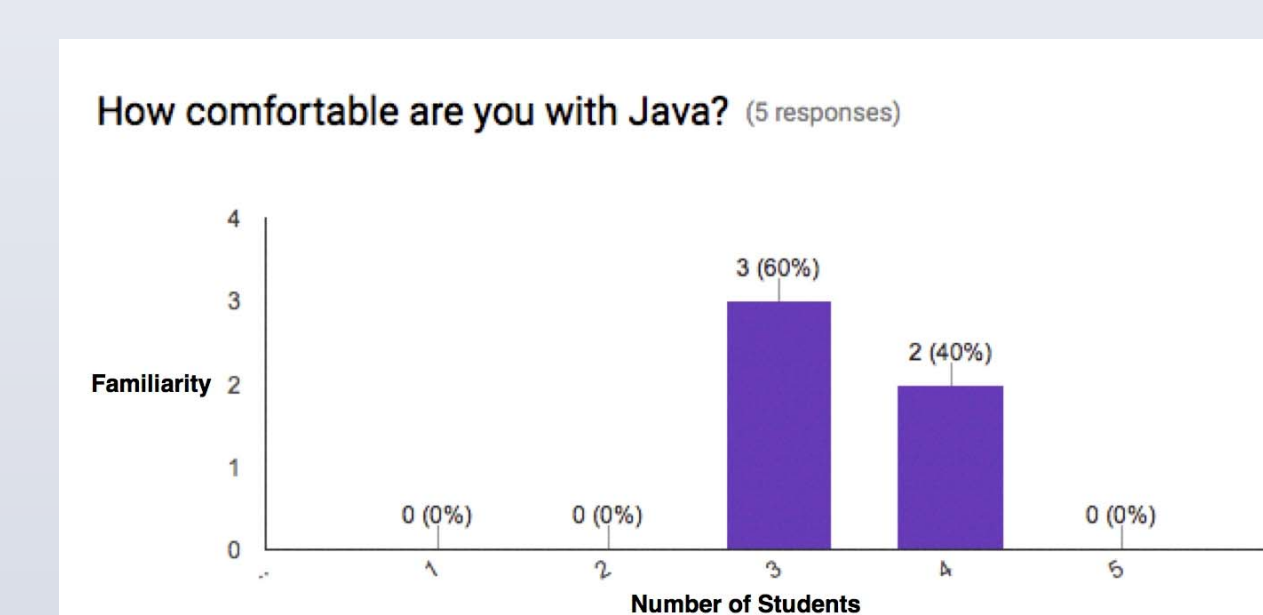
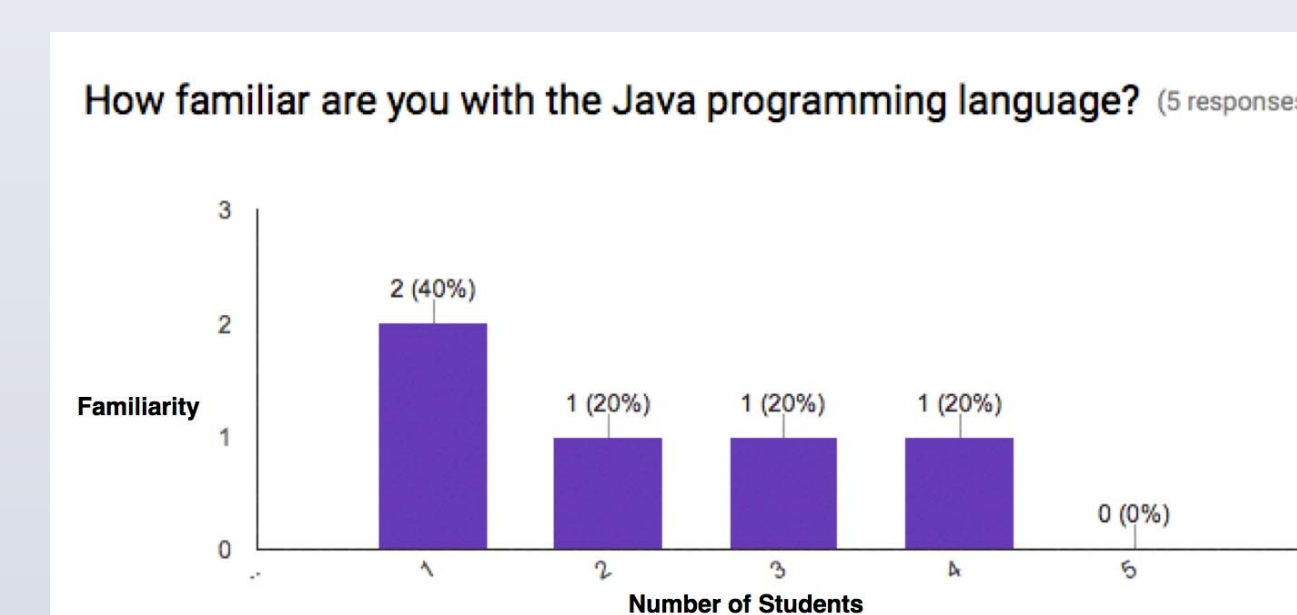
The Sorting Guide application is designed to teach users various sorting algorithms and how they work. This application offers visual animations, descriptions, and pseudo code so that programmers can use it for reference.



SURVEY RESULTS & POINTS FOR FURTHER STUDY

Survey Results

Students showed a self-reported increase in their programming ability and interest in Computer Science as a result of the summer program.



Points For Further Study

While this is only a single small test case, further study is encouraged to produce statistically relevant data.

- This project focused on incremental increases of a pre-built project. Feedback shows that students would prefer to work from scratch in future projects
- Continue breakdown of mini-lessons and project progress to compensate for students' unfamiliarity with Java and Android Studio
- Try to incorporate student input into the initial decisions around project development and direction
- Increase data collection over future iterations of the project to attempt to optimize performance