Choosing the Project - The Stack

Our project, The Stack, is a web based educational tool designed for interactively teaching the basics of coding. Through its interactive tutorial style method in the form of a stacking game, The Stack, caters to computer-science students of beginner to novice levels as well as non-computer science students who wish to touch on the basics of coding. The game mainly teaches syntax and structure of coding through giving the player a working piece of code or algorithm that is placed out of order. The game works in level based puzzles where players can start in the beginner levels working their way up to subsequently harder levels. The main goal of each level is to reorganize the pieces, or Stacks, back into order given the input, to answer a specific output in order to clear the "level". Further implementations we may add is structuring of algorithms, structuring of the stack and heap addresses, and even trees and graphs for teaching binary tree algorithms and graph algorithms at the advanced level.

We choose this project as we wanted to find a fun and enjoyable way of teaching computer-science. Through gameplay, we have found a way to give learners an interactive element to learning computer science as oppose to the way of traditional learning through reading text.

We came to the decision to make "The Stack" as a group as we were originally discussing interactive ways to make learning computer science. We originally had the idea of making a game with different level designs to teach each topic, however we felt that the idea was too general. We got inspiration from candy crush for the level design. As we discussed the idea further, one of our group members brought up the idea of tetris. This gave us the idea of creating a stacking game, which in the end lead to the creation of "The Stack"