

Initial Project Description

Team 15

GTA: Amir

Team Members:

John Ying

Zane Cersovsky

Armaan Amirani

Amrit Thapa

Project Name: MetaRank

Synopsis

The supplemental testing platform for companies to test computer science candidates in their programming language adaptability.

Project Description

This project is being undertaken to possibly fill a new type of testing criteria desired in companies for potential computer science candidates. As companies are looking more toward employees that are flexible in their learning capabilities, they may want a way to make sure the candidate for hire has the ability to quickly learn a new programming language that they are unfamiliar with. This online program will allow companies to test their candidates based on a never-before-seen programming language generated on the fly that will focus on the candidate's ability to read and understand documentation. This will include the functional and imperative programming paradigms. Other than the included paradigm shift changes, challenging variables for the test takers will include things like different syntax, memory management, data structures, data types, etc. Furthermore we would like to add functionality to track user's progress and allow any users to test their skills with several base languages. Companies could then use a specific language generated for them that candidates are guaranteed to not have seen. In the future we may add systems that involved leaderboards, and the ability for users to submit their own questions.

Project Milestones

First Semester

- Abstract Syntax Tree programs running
 - Estimate: November 14th (may take longer since we have to learn F# first)
- Parsers working and connected to AST interpreter
 - Estimate: December 14th
- Initial User Interface and online code editor completed
 - Estimate: December 14th (running concurrent with engine tasks)

Second Semester

- Documentation generated from language description completed

- Estimate: February 8th (this is more difficult that it sounds on the surface)
- Scoring system and user system working
 - Estimate: March 20th (this can run concurrently with other tasks)
- Problem/Solution library completed
 - Estimate: April 30th

Project Budget

.NET Core (Free) - Immediately (<https://www.microsoft.com/net/download>)
 MySQL or Postgresql (Free) - Mid to end of November
 VS Code (Free) - Immediately (<https://code.visualstudio.com/>)
 Domain Name (\$30) - End of project (<https://domains.google/>)
 Hosting (TBD, probably AWS free tier) - End of project (<https://aws.amazon.com/free/>)

Work Plan/Division of Work

All team members will be responsible for a wide variety of duties as they present themselves. However, this is what each person will be focusing on:

Job	Members
Server Backend	John Ying, Armaan Amirani
Front End Web Application	Amrit Thapa, Armaan Amirani
Interpreter/Language Engine	Zane Cersovsky, Jack Weber, Armaan Amirani