TEAM ID

TECHNOLOGY STUDENT ASSOCIATION ®

SOFTWARE DEVELOPMENT

ORLANDO - FLORIDA
2017

TABLE OF CONTENTS

RESEARCH

Heading away from the fact that science and technology shape our future, we want to make a contribution to education. According to the survey* results, the most popular subject of late years is the computer science. Considering the mass of people interested in computer science enlarges directly proportional to the popularity, more problems come up and wait to be solved during the learning process. There are some aspects are worth to take a look at, in order to specify the problem that we are going to deal with.

First of all, the requirements for a code to be well written should be listed. Readability, modularity, expressivity and efficiency are the main concerns about a good program. Different techniques for readability exist, whereas expressivity and efficiency are more complicated and depend mainly on the programmer. Therefore modularity builds a bridge in between. A system's components may be separated via self-contained sequences of actions to be performed, as known as algorithms. In an attempt to achieve the most efficient written code, a programmer must acknowledge the working principle of algorithms. So that one can calculate the estimated run-time and necessary memory. Only then one gain the ability to optimize a code.

A nonignorable method for understanding how an algorithm works is called abstraction*, which is a technique for arranging complexity of computer systems. When it comes to the education process of programming, a big majority of students face problems, especially about abstraction. For instance, a few members of our chapter including us are preparing for the USA Computing Olympiad. In a given interview about how hard is it to learn and study programming, it is mentioned that programming class has a high rate of daunting mainly because of the inability of the comprehension the concept of abstraction.

As a conclusion, we decide to find an easier way of teaching in order to smooth over the adaptation period for abstract thinking.

1)http://www.telegraph.co.uk/education/educationpicturegalleries/10643255/Student-life-top-ten-most-popular-subjects.html
2)https://en.wikipedia.org/wiki/Abstraction_(software_engineering)

TECHNOLOGY STUDENT ASSOCIATION
PLAN OF WORK

Date	Task	Time involved	Team member responsible	Comments
02/21/2017 1	Detect a problem Find a solution	16 days	EY NS	Brainstorm across the whole chapter Interviews with relevant students
03/09/2017 2	Plan development cycle	110 min	EY	Determine the language, libraries, framework to use
04/09/2017 3	Initial git commit	20 min	EY	
04/25/2017 4	Plan abstract layouts	70 min	EY	Modules API added
05/16/2017 5	First prototype		EY NS	
05/28/2017 6	Packaging		EY	

Advisor signature ____