COMP SCI 4TB3
Development Plan
Python Enhancements: External-Local Argument Names, Do-While Loops, Switch-Case Statements & Pattern Matching

Authored By:
Ahmed, Zak
Oliveira, Pedro
Selvathayabaran, Piranaven

The following official document is an agreed upon plan on how the COMP SCI 4TB3 "Final Project" will be carried out. It contains information regarding how the project will be managed, implemented, reveiwed and any other critical details that need to be defined. The Developement Plan is subject to change and any modifications will be noted in the Revision History Section.

Contents

1 Project Description

The project for the course COMP SCI 4TB3 - Syntax Based Tools and Compilers will be to apply the knowledge gained from the course. Group 5, comprised of Pedro, Piranaven & Zak will work together to enhance Python in four ways. Firstly, adding a Swift-like **External-Internal Function Argument Names** to Python. This would allow a function be called in an expressive, sentence-like manner, while still providing a function body that is readable and clear in intent. After this, we will add two language constructs: **Do-While Loops** & **Switch-Case Statements**. Lastly, we will add Python function definitions with **Pattern Matching** as seen in functional programming. These would provide developers with more flexibility. Overall, this project will enhance our knowledge of Python Virtual Machines, the CPython grammar and much more.

2 Project Schedule

Weekly Project Schedule	
Date	Milestone
Week 1	Adding Internal and External Function Argument Names
Week 2	Language construct: Do-While Loop and Switch-Case
Week 3	Language construct: Pattern Matching
Week 4	Poster and presentation

Division of Work: Each team member will be expected to contribute to each milestone leading up to the final presentation.

3 Team Meeting Plan

The team plans to meet every Monday, Tuesday & Friday at the pre-defined times listed below. These dates and times are subject to change. A member of the team will email Dr.Sekerinski to organize a meeting in case it is needed.

Weekly Meeting Schedule		
Date	Time	Location
Monday	12:30PM - 2:30PM	Thode Library Room TBD
Tuesday	12:30PM - 2:30PM	Thode Library Room TBD
Friday	1:30PM - 3:30PM	Thode Library Room TBD

4 Team Communication Plan

The team has decided on three lines of communication:

1. **GitLab**: Utilized for communcation on tasks related to the project implementation. Information relevant to all stakeholders and may be needed

for future use should be posted here. Comments should be made on Gitlab issues such that all parties are aware of details and rationales for decisions.

2. **Email**: This is for any communcations with Dr.Sekerinski, the TA's and any other third party. These are meant to be formal in nature.

3. **Facebook(Messenger)**: Used for the initial communication between group members. Change in meeting plans and confirmation of meeting times will be conducted through here if more convenient.

5 Team Member Roles

Scrum Master - *Piranaven* : In charge of making sure GitLab is up to date and in standard . Tasks are well formed and divided equally amongst agile team members. Responsible for speaking to internal and external stakeholders to ensure issues are created and work is documented.
Note Taker- *Zak*: Responsible for taking detailed notes during meeting's with Dr.Sekerinski or the TA's. Also, in charge of taking meeting minutes during team meetings scrums, standups, retrospectives, etc.
Repo Administrator - *Pedro*: Responsible for ensuring that the GitLab Repo is up to date. In charge of making sure README.md's are accurate and verifying any commits, merges, issues created are of standard.
Developer - *Piranaven, Zak, Pedro*: Responsible for abiding by the coding style rules listed below. Responsible for delivering high quality code which meet the requirements of the tasks created. Provide insight towards design and development decisions.

6 Technology

Programming Language : Python, C
IDE: Visual Studio Code, Atom, Sublime, etc. There are no restrictions
Testing Framework : PyTest - https://docs.pytest.org/en/latest/
Documentation Generation : Sphinx - http://www.sphinx-doc.org/en/master/

7 Resources

Pyhthon Grammar
PEP 3103 – A Switch/Case Statement

8 Revision History

Table 1: Revision History

Date	**Developer(s)**	**Change**
March 13th, 2019	Piranaven Selva	Make Foundation for Development Plan
March 14th, 2019	Zak Ahmed	Made Project Schedule
March 15th, 2019	Pedro Oliveira	Added Project Description