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| CS3201 |
| SPA Project Report |
| Team 02 |

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Table of Contents

**Type chapter title (level 1)1**

Type chapter title (level 2)2

Type chapter title (level 3)3

**Type chapter title (level 1)4**

Type chapter title (level 2)5

Type chapter title (level 3)6

1. Team Members

Ipsita Mohapatra (A0101286N)

2. Development Plan

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Team Member | | Mini-Iteration 1 | | | | | | | |
| Implement CodeParser to parse SIMPLE program with simple assignment statements. Unit Testing. | Create AST while parsing SIMPLE program. | Implement VarTable, Follows in PKB. Unit Testing. | Implement TypeTable, Parent in PKB. Set up PKB as singleton. Unit Testing. | Implement Query Evaluator for Follows, Parent. Unit Testing. | Make Query and Relationship objects. Implement query parser for such-that clause. Unit Testing. | Implement Query Processor to integrate Query Parser and Query Evaluator. | Write system test cases for Mini-Iteration 1. |
| PKB | Kester | ✓ | ✓ |  |  |  |  |  |  |
| Yohanes |  |  |  | ✓ |  |  |  |  |
| Ipsita |  |  | ✓ |  |  |  |  | ✓ |
| PQL | Lacie |  |  |  |  | ✓ |  |  |  |
| Hisyam |  |  |  |  |  |  | ✓ |  |
| Adinda |  |  |  |  |  | ✓ |  |  |

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| Team Member | | Mini-Iteration 2 | | | | | | | | |
| Implement complete CodeParser. Integrate with VarTable, TypeTable, Follows, Parent relationships. | Write system test cases for Mini-Iteration 1 and 2. | Fix PKB errors for previous iteration. | Implement Query Evaluator for Follows Star, Parent Star. Unit Testing. | Implement complete Query Parser. Unit Testing. | Integration Testing of CodeParser with PKB. | Integration Testing of CodeParser with PKB. | Integrate with AutoTester. | Validate query for such-that clause.  Implement Query Parser for pattern clause. Unit Testing. |
| PKB | Kester | ✓ |  |  |  |  | ✓ |  |  |  |
| Yohanes |  |  | ✓ |  |  |  |  |  |  |
| Ipsita |  | ✓ |  |  |  |  |  | ✓ |  |
| PQL | Lacie |  |  |  | ✓ |  |  | ✓ |  |  |
| Hisyam |  |  |  |  |  |  |  | ✓ |  |
| Adinda |  |  |  |  |  |  |  |  | ✓ |

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| Team Member | | Mini-Iteration 3 | | | | | |
| Implement Modifies in PKB. Unit Testing. | Implement Uses in PKB. Unit Testing. | Write test cases for system testing of Mini-Iteration 3. | Implement Query Evaluator for Modifies and Uses. Unit Testing. | Implement Query Evaluator for pattern. Unit Testing. | Implement complete Query Parser for complex queries. Unit Testing. |
| PKB | Kester |  |  |  |  |  |  |
| Yohanes |  | ✓ | ✓ |  |  |  |
| Ipsita | ✓ |  | ✓ |  |  |  |
| PQL | Lacie |  |  |  | ✓ |  |  |
| Hisyam |  |  | ✓ |  | ✓ |  |
| Adinda |  |  |  |  |  | ✓ |

3. The Prototype

# 3.1 Architecture

# 3.2 Design Decisions

# 3.3 Interaction (Uml Diagrams)

4. Components

# 4.1 Parser

# 4.2 Pkb

# 4.1 Query Processor

5. Testing

# 5.1 Test Plan

We did testing on 3 different levels, namely unit testing (using CPPUnit), integration testing (using CPPUnit) and system testing (using AutoTester). Unit Testing was done while coding the components, while integration testing was done between SIMPLE program parser and PKB and between PKB and Query component.

Comment on the testing experience gained from this project.

# 5.2 Unit Testing

# 5.3 Integration Testing

# 5.4 System Testing

6. Coding Standards

7. API

## 1 Parser

## 2 Vartable

## 3 Proctable

## 4 Ast

## 5 Follows

## 6 Follows\*

## 7 Parent

## 8 Parent\*

## 9 Modifies

## 10 Uses

8. Discussion

9. Comments