

SE 3XA3: Test Plan PyCards

Team 2

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Table 1: **Revision History**

Date	Version	Notes
October 27	0.1	Rough Draft

1 General Information

1.1 Purpose

The purpose of conducting testing is twofold. While testing cannot prove correctness or the absence of bugs, it can be useful for finding instances of incorrect behaviour. By ensuring that testing is done in a traceable and repeatable manner (namely through automation), defects that are uncovered can be traced, isolated, and addressed. With automation, testing can be performed throughout the life cycle of the product with very little overhead.

The other reason for conducting testing is to demonstrate to the client that our product is reliable, robust and meets the requirements that were set forth (using fit criterion or some other measure of degree of fulfilment).

1.2 Scope

PyCards is a collection of card games implemented as a desktop application. As with any software program, it is important that it undergoes various iterations of testing throughout its product lifecycle. Our development team is using a number of different test types, including functional, structural, and unit tests, static and dynamic, manual as well as automated. While automated testing is largely preferred for reasons such as greater traceability, reproducibility, and efficiency, testing will also need to be done manually, especially for validating non-functional requirements. Thus, the scope of testing for this product includes functional, structural, and unit tests, static and dynamic testing, and manual and automated testing.

1.3 Acronyms, Abbreviations, and Symbols

Table 2: **Table of Abbreviations**

Abbreviation	Definition
Abbreviation1	Definition1
Abbreviation2	Definition2

Table 3: **Table of Definitions**

Term	Definition
Term1	Definition1
Term2	Definition2

1.4 Overview of Document

This document provides a detailed description of the testing our development team has deemed necessary for the software product. The tests are categorized and subdivided based on the type of testing, the scope of said categories, and the purpose and application of the tests (ie. validating the fulfillment functional or non-functional requirements).

This document is subject to revision throughout the expected life of the product. It is not expected that many deletions or shrinking of the test sets will occur; however, additional testing will likely be prescribed and document as the product is developed and matures.

2 Plan

This section details the testing process prescribed for the software product, including but not limited to the testing team, schedule, techniques, and technologies.

2.1 Software Description

2.2 Test Team

- Aravi Premachandran
- Michael Lee
- Nikhil Patel

2.3 Automated Testing Approach

The testing team will be applying automated testing for a subset of the structural and static tests. In particular, unit tests will primarily be automated to increase reproducibility and efficiency, among other factors. It

should be noted that in automated testing, only the execution and evaluation (of pre-defined criteria) is automated - in the event of failures or unexpected behaviour a member of the testing team will still be required to analyze the requirements, the code, and the test itself to determine where the inconsistency, if any, is located.

2.4 Testing Tools

- IDE - PyCharm
 - static, structural: syntax checking, reachability, adherence to coding conventions
- pylint / pyCheckers
 - static, structural: syntax checking, reachability, adherence to coding conventions
- unittest.py - built-in module for testing
 - dynamic, unit test
 - * mock module - can be used for stubs and drivers, to isolate code

2.5 Testing Schedule

See Gantt Chart at the following url ...

3 System Test Description

3.1 Tests for Functional Requirements

3.1.1 Area of Testing1

Title for Test

1. test-id1
 - Type: Functional, Dynamic, Manual, Static etc.
 - Initial State:
 - Input:
 - Output:

How test will be performed:

2. test-id2

Type: Functional, Dynamic, Manual, Static etc.

Initial State:

Input:

Output:

How test will be performed:

3.1.2 Area of Testing2

...

3.2 Tests for Nonfunctional Requirements

3.2.1 Area of Testing1

Title for Test

1. test-id1

Type:

Initial State:

Input/Condition:

Output/Result:

How test will be performed:

2. test-id2

Type: Functional, Dynamic, Manual, Static etc.

Initial State:

Input:

Output:

How test will be performed:

3.2.2 Area of Testing2

...

4 Tests for Proof of Concept

4.1 Area of Testing1

Title for Test

1. test-id1
Type: Functional, Dynamic, Manual, Static etc.
Initial State:
Input:
Output:
How test will be performed:
2. test-id2
Type: Functional, Dynamic, Manual, Static etc.
Initial State:
Input:
Output:
How test will be performed:

4.2 Area of Testing2

...

5 Comparison to Existing Implementation

6 Unit Testing Plan

6.1 Unit testing of internal functions

6.2 Unit testing of output files

References

7 Appendix

This is where you can place additional information.

7.1 Symbolic Parameters

The definition of the test cases will call for SYMBOLIC_CONSTANTS. Their values are defined in this section for easy maintenance.

7.2 Usability Survey Questions?

This is a section that would be appropriate for some teams.