

**Campus Meal Ordering System**

**Test Plan**

**By *Team Foodie***

**Lab Group: TS3**

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**Document Version History**

| **Version** | **Date** | **Changes** | **Author(s)** | **Approver(s)** |
| --- | --- | --- | --- | --- |
| 0.1 | 6/11/2020 | Added introduction, test items, features to be tested and not to be tested | Renice | Ma Xiao |
| 0.2 | 7/11/2020 | Added suspension criteria, test deliverables, staffing needs and responsibilities | Renice | Ma Xiao |
| 0.3 | 8/11/2020 | Added Software Risk Issues and Suspension Criteria and Resumption Requirements | Jun Yi | Ma Xiao |
| 0.4 | 8/11/2020 | Added Remaining Test Tasks and Schedule | Yu Hao | Ma Xiao |
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**TEST PLAN OUTLINE**

**(IEEE 829 Format)**

# Test Plan Identifier

CMOS\_MTP\_v1.0

# Introduction

This test plan document states the testing approach and strategies as well as specifying all technical and non-technical requirements of testing of the system.

Technical requirements include the environment of testing, testing deliverables, items to be tested, features of items that will and will not be tested, test cases, testing and suspension criteria, and results of each test case.

Non-technical requirements include who is responsible for each test case, risks involved, contingency plans, staffing and training needs, and approval of this test plan.

# Test Items (Functions)

The following are things intended to test within the scope of this test plan:

1. Customer

| **Test Item Identifier** | **Description** |
| --- | --- |
| TI1 | Browse restaurants interface |
| TI2 | Food order confirmation interface |
| TI3 | View current order status interface |
| TI4 | View order history interface |

1. Vendor

| **Test Item Identifier** | **Description** |
| --- | --- |
| TI5 | Interface to view pending order and confirmed orders |
| TI6 | Interface to view restaurant and details |

1. Delivery Man

| **Test Item Identifier** | **Description** |
| --- | --- |
| TI7 | Interface of available delivery orders to pick up |
| TI8 | Interface of current orders to deliver |
| TI9 | Interface to view delivery history |

# Software Risk Issues

| Risk | Mitigation |
| --- | --- |
| Team members lack the required skills for testing. | Plan training course to skill up your member |
| The project schedule is too tight; it's hard to complete this project on time | Set Test Priority for each of the test activities. Renegotiate with stakeholders, acquire more manpower |
| Test Manager has poor management skills | Plan leadership training for manager |
| Wrong budget estimate and cost overruns | Establish the scope before beginning work, pay a lot of attention to project planning and constantly track and measure the progress. Renegotiate budget with stakeholders |
| Misunderstanding of the original requirements | Halt current iteration and consult customer |
| Database testing causes users to drop connections | Immediately halt testing and reschedule testing to lower load times |

# Features to be Tested

The following features of these test items will be tested, these are items ready for release v1.0

Customer

* Login
* Order food
* View order history
* View current order

Vendor

* Login
* Accept or decline order
* View restaurant information

Delivery Man

* Login
* Accept pick up orders
* Confirm orders delivered
* View delivery history

# Features not to be Tested

The following features of these test items will not be tested, as these are items not yet developed

* Payment function

# Approach (Strategy)

CMOS is developed using an agile approach thus the weekly iterations produced will be brought together and tested.

Testing will be primarily done with flutter’s native unit and integration tests with plans to move towards continuous integration services and firebase’s test lab. In the event of the test being inadequate, additional tests will be developed in house or sourced from providers either to replace or augment existing tests. This may entail additional learning time to define proper usage of such tools and to ensure efficacy and accuracy of reports.

The main metrics to be tested are:

1. Fixed Defects Percentage
2. Passed Test Cases Percentage
3. Requirement Creep
4. Schedule Variance
5. Rework Effort Ratio
6. Average time for a development team to repair defects

Selective Regression Testing will be done before merging or rebasing branches and Retest-all Regression Testing will be done for every major release. Corrective Regression Testing will be done dependent on severity of bugs found which is dependent upon the discretion of the project manager.

Unit-level test plan

* Automated testing
* Selective Regression Testing

Master test plan

* Automated testing
* Manual testing of essential functionality
* Retest-all Regression Testing

# Item Pass/Fail Criteria

Unit-level test plan

* All main requirements are functional
* Selective test cases are all completed
* Rate of defects <5%

Master test plan

* All lower level tests are completed
* All added functionality is functional
* Tests on all test cases are completed
* Rate of defects <5%
* No major defects

# Suspension Criteria and Resumption Requirements

These are critical functionalities that have to be fixed, if discovered during testing, these issues have to be fixed before resuming. These are tasks that other features depend on in order for testing to be carried on due to the sequential nature of some of the features.

* User not able to login with their account

# Test Deliverables

The following test documents will be produced:

* Test plan document
* Test cases
* Test design specifications
* Tools and their output
* Error logs and execution logs
* Problem reports and corrective actions

# Remaining Test Tasks

For the CMOS project one major functionality to be integrated and tested in the future will be payment/checkout functionality. The current assumption is that payment processing will be done via a third-party service e.g. Paynow. In the event of such a case there should be consideration taken to ensure the availability and accuracy of payment processing thus there must be dialogs with external vendors on the appropriate ways to test payment functionality and proper integration into the project and its compatibility with existing components and features.

# Environmental Needs

Special requirements for this test plan including:

* Android and IOS simulators.
* Test data will be provided manually though the Firebase console.

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# Staffing and Training needs

The project manager will communicate with stakeholders and manage their expectation to ensure that the test and development team has the required resources and budget to conduct testing.

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# Responsibilities

| Role | Responsibilities | Name |
| --- | --- | --- |
| Project Manager | * Review content of Test Plan * Communicate with stakeholders and arrange resources required to execute test plan | Ma Xiao |
| Test Team | * Validate features are working as expected * Perform the different levels of testing as laid out in the test plan strategies * Provide test deliverables | Renice  Jun Yi |
| Development Team | * Review test deliverables and provide feedback * Communicate with test team * Implement fixes for bugs | Yu Hao  Simeng |

# Schedule

| Task Identifier | Task Description | Start Date | End Date | Estimated Efforts | Notes |
| --- | --- | --- | --- | --- | --- |
| TI1 | Browse restaurants interface | 25/10/2020 | 25/10/2020 | 1 person  0.5 day | white box testing |
| TI2 | Food order confirmation interface | 25/10/2020 | 25/10/2020 | 3 person  0.5 day | white box testing  black box testing |
| TI3 | View current order status interface | 26/10/2020 | 26/10/2020 | 2 person  1 day | white box testing  black box testing |
| TI4 | View order history interface | 27/10/2020 | 27/10/2020 | 1 person  0.5 day | white box testing |
| TI5 | Interface to view pending order and confirmed orders | 27/10/2020 | 28/10/2020 | 2 person  1.5 day | white box testing  black box testing |
| TI6 | Interface to view restaurant and details | 28/10/2020 | 28/10/2020 | 1 person  0.5 day | white box testing |
| TI7 | Interface of available delivery orders to pick up | 29/10/2020 | 29/10/2020 | 2 person  0.5 day | white box testing  black box testing |
| TI8 | Interface of current orders to deliver | 30/10/2020 | 30/10/2020 | 2 person  0.5 day | white box testing  black box testing |
| TI9 | Interface to view delivery history | 30/10/2020 | 30/10/2020 | 1 person  0.5 day | white box testing |

# Planning Risks and Contingencies

List of testing risks:

* Lack of personnel resources when testing is to begin.
* Lack of availability of required hardware, software, data or tools.
* Late delivery of the software, hardware or tools.
* Delays in training on the application and/or tools.
* Changes to the original requirements or designs.

In the event of a stoppage of support for integral components of the project all development based on current assumptions will be halted and alternative services will be integrated into the project instead. Integral components are as follows:

* Flutter
* Firebase
* Android studio
* Google login

In the event of a major release where testing may result in extensive testing, additional development resources may be added to the team either by increasing the number of man hours, introducing team members or outsourcing of testing.

If requirements were to change for any reason after initial release (Version 1.0) the test schedule will have to be adjusted by the project manager and delivery dates will have to be reconsidered.

# Approvals

| **Role** | **Personnel** | **Status** |
| --- | --- | --- |
| Project Manager | Ma Xiao | Approved |
| Quality Assurance Manager | Jun Yi | Approved |
| Project Sponsors |  |  |

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# Glossary

| Acronym or terms | Definition |
| --- | --- |
| CMOS | Campus Meal Ordering System, the name of the software being developed during this project |
| Flutter | Flutter is Google’s UI toolkit for building beautiful, natively compiled applications for mobile, web, and desktop from a single codebase |
| Android Studio | A powerful IDE developed by JetBrain and it is used to write both Android and IOS applications. |
| Firebase | Firebase is a platform developed by Google for creating mobile and web applications. It is a Backend as a Service (BaaS) |

# References

The following are the documents that support this test plan and can be referenced:

* Project Plan
* System Requirements Specifications