CS691 – Computer Science, Spring 2022

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SYSTEM TEST PLAN

NutraMeals

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**Table of Contents**

1. INTRODUCTION 3
2. TESTING SCOPE 3
3. TESTING OBJECTIVE 3
   1. Features to be Tested 4
   2. Features not to be Tested 4
4. TEST PROCESS DEFINITION 4

4.1 Test Process Phase and Tasks 4

4.2 Deliverables 5

1. APPROACH TO SYSTEM TESTING 5

5.1 Approach to Functional Testing 5

1. ENTRY/EXIT CRITERIA 6

1. ENVIRONMENTAL NEEDS 6
2. ROLES AND RESPONSIBILITIES 7
3. TEST CYCLES AND SCHEDULE
   1. Schedule 8
4. RISKS AND CONTINGENCIES 8

# INTRODUCTION

This document describes the System Test Plan that provides a common understanding among the “NutraMeals” project stakeholders on the scope, objectives, and approach to performing the system testing. Also, the document explains the features to be tested, testing entry/exit criteria, resource and responsibilities, and testing schedule.

# TESTING SCOPE

The testing scope includes two perspectives - the functional scope and technical scope.

The functional scope includes the following modules of the “NutraMeals” system: Account Management, User Support, Search Restaurant, and Search for food items.

The technical scope includes the following architectural components:

* Web browser
* Application server
* Database server
* Content server

# TESTING OBJECTIVES

The main focus of this System Test Plan is functional testing with the objective to estimate the system implementation stability and working of features that are developed

The basis for developing functional tests and evaluating the system functionality includes the following sources:

* Business Requirements Document (BRD)
* User Stories (functional requirements)
* Requirements Composition Table (supplementary requirements)

## 

## Features to be Tested

This section lists all core features that will be tested grouped by the application modules below.

Account Management

* User Registration
* Test whether a user can register/create account.
* User Login
* Test whether a user can login once they have registered.

User Support

* I Have Input
* To test whether the user is successfully able to input their feedback that they have.

Search Restaurant

* Find Restaurant
* To test whether the user is successfully able to search the restaurant by the input that they give as name of restaurant.

Search for Food items

* Find food items
* To test whether the user is successfully able to search the food items by the input that they give as the name of food item.

Besides the core features in the scope of testing, the function testing also will cover crosscutting concerns that are applicable to the context of the individual core features (refer to the RCT).

## 3.2 Features not to be Tested

User Support - It is an FAQ page. It is not tested for contact to support group.

# TEST PROCESS DEFINITION

## 4.1 Test Process Phases and Tasks

In the test process there are five phases, which include test planning, design, preparation, execution, and reporting. Each phase has a few tasks that are listed below:

* Test Planning
  + Define scope and objectives of testing
  + Define roles and responsibilities
  + Define testing approach
* Test Design
  + Identify test ideas, define an approach to designing test cases
  + Develop test case specifications
  + Measure test coverage
  + Determine requirements for test data
* Test Preparation
  + Setup a test environment
  + Provision test data
  + Install the software in the test environment
* Test Execution
  + Execute all test cases
  + Find and report software defects
  + Evaluate the system stability
  + Validate all target features
* Test Reporting
  + Summarize and report the test execution results
  + Report defect metrics
  + Evaluate the test exit criteria
  + Create a test completion report, submit for stakeholder approval
  + Obtain stakeholder signoff on system testing

## 4.2 Deliverables

On this project, the test process deliverables include:

* System Test Plan document
* Test Design specifications
* Test Case specifications
* Software Defects
* Test Execution Logs
* Test Completion Report

# APPROCH TO SYSTEM TESTING

*5.1 APPROCH TO FUNCTIONAL TESTING*

Test cases will be designed according to the schedule above. Firstly, the user story will be used to create test cases. Secondly testing will be executed to see if it works as expected.

Requirement Description:

* Sign Up, Login Function
* Displaying User Support Page(FAQ)
* Searching for certain restaurant and food and Return targeted restaurant and food

The test execution results will be captured and reported in test execution logs.

1. ENTRY/EXIT CRITERIA

The **Test Entry criteria** is used to formally evaluate the conditions necessary to begin test execution, it includes the following conditions:

* The test environment is established
* The test plan is produced and approved
* Test design is completed
* Test case specifications are completed
* Tester is ready

The **Test Exit criteria** is used to evaluate the conditions necessary to conclude that testers can stop test execution and the system is ready for the final user acceptance testing, it includes the following conditions:

* All test cases have been executed
* Performance test executed successfully
* Zero defects of Critical and Hi-severity remain open
* Open defects of Medium and Low severity have known work-around
* Test Summary report is produced and published

# ENVIRONMENTAL NEEDS

The test environment should be available to start test execution. It includes a laptop with a virtual machine running the web server and database, and internet browsers (Chrome, Firefox) to access the application. The architecture of the test environment is shown below.

Diagram

Description automatically generated

# ROLES AND RESPONSIBILITIES

The project team has seven members that are assigned various project roles including Project Manager, Product Owner, Lead Business Analyst, Lead Developer, DBA, Lead QA Analyst. Their responsibilities are defined in the table below.

|  |  |
| --- | --- |
| **Project Role** | **Role Responsibilities** |
| Project Manager | Reviewing and approving the System Test Plan, test design specifications.  Managing the test environment preparation.  Tracking the testing schedule and results. |
| Lead QA Analyst | Designing a test plan, establishing a test repository, developing test case specifications, executing testing and reporting defects. |
| Product Owner | Contributing to the test plan and test case specifications. Reviewing test results. |
| Lead Business Analyst | Contributing to the test plan and test case specifications. Reviewing test results. |
| Lead Developer | Establishing and maintaining the test environment, assisting a Lead QA Analyst throughout the testing process. |
| DBA | Assisting the Lead Developer in establishing and maintaining the test environment. |

# 

# TEST CYCLES AND SCHEDULE

The system test execution will be conducted as three test cycles that are aligned with application modules as follows:

* Cycle 1 - focuses on testing the Account Management module – validating login for service providers and users.
* Cycle 2 - focuses on testing the User support functionality.
* Cycle 3 -focuses on the Search Module – searching for restaurants and food items.
  1. *Schedule*

This is a test schedule of NutraMeals

Calendar

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# 

# 10. RISKS AND CONTINGENCIES

This section highlights a few potential risks and contingencies that maybe happened during the system testing.

* Limited testing resources may result in a delay.
* Any changes on the scope objectives can cause a delay or extra work.
* Large number of defects require a longer time to fix defects and complete testing.
* Lack of collaboration of the team members can have a negative impact on the testing progress.
* Instability of the test environment can impact the test execution schedule.