Test strategy for

Café TOWNSEND

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# Introduction

## Purpose

## The purpose of this document is to define:

## Scope of test activities to be done within project;

## Expected results /outputs;

## Test environment and tools;

## Test-related risks;

## Overview

The application allows to manage list of employees in a café. Solution will be implemented with AngularJS, CoffeeScript, Bourbon and Rails.

Project main purposes are:

* To offer web solution to store data about employees;
* To provide possibility to manipulate employee’s data.

# Test Scope

* 1. **Components/Features to be tested**

Components to be tested:

* login/logout
* create new employee
* edit existing employee
* delete employee
* navigation through the objects
  1. **Components/Features NOT to be tested**

Test team will not be responsible for mobile version testing.

# Test Approach

## Testing Activities

Testing must ensure that all requirements defined in the design documents are satisfied and that the system works in accordance to the defined processes and routines.

The basic test process is broken down into the following activities:

* Requirements analysis and testing
* Forming Test Scope
* Test Planning and estimates
* Test Design
* Test data preparation
* Testing
* Defect tracking
* Tracking quality metrics
* Creation of the report

## Kinds of Testing

* **Functional testing**:
* Unit level (will be done by developers with test coverage equal 80%);
* Integration level (will be done by test team)
* System (will be done by test team)
* **Test automation:**

Automated test will be implemanted using Java Selenium webdriver with Junit framework. Each sprint chosen tests for regression should be automated.

* **GUI testing**

Application b should be easy to use, instructions should be provided clearly, so following should be covered:

* Test the navigation and controls.
* Content checking.
* Check for user intuition.
* **Compatibility testing**

This type of testing helps find out how well a system performs in a particular environment that includes hardware, network, operating system and other software etc. For current case:

* Browser compatibility (IE; Google Chrome, Mozilla Firefox; Safari, UC Browser, Opera)
* **Regression testing** verifies system stability after implemented changes. Regression tests are going to be automated.
* **Smoke testing** - after deployment to Test, Prod environments; Smoke tests are going to be automated.
* **QA Acceptance testing** is release/phase acceptance by QA (test team) before transferring to the Business Users acceptance testing (final one). It answers question – does system correspond acceptance criteria, defined for the release/phase.
* **User Acceptance testing** will be done by experts with support from test team. User acceptance testing will cover both functional and non-functional aspects of testing, focusing on end to end business process validation testing and usability testing
* **Usability Testing** in this project will focus on testing the customized solutions ability to enable the end users to carry out their tasks efficiently, effectively and satisfactorily.
* **Security testing**

Security testing is an activity of discovering security vulnerabilities in the system under test (SUT). Purpose of security testing is to understand security risks and make informed decision about how to mitigate them. For current application only login page will be tested.

## Acceptance Testing

Acceptance testing will be a part of each sprint within the project:

* the acceptance testing within iteration will be done by test team against specific user stories
* acceptance testing of user stories will be done by customer

This test strategy describes the acceptance test criteria.

### User Story Acceptance Test Entrance Criteria

The following requirements should be met prior to start of testing:

* User story is described.
* Related test design exists
* Test data to support the test have been prepared.
* Complete and stable test environment is established
* User story functionality was deployed to test environment
* Smoke test is passed on test environment

### User Story Acceptance Test Exit Criteria

The following criteria determines whether the user story under test can exit Acceptance test phase:

* Completed acceptance test execution. All test conditions are met.
* 100% of related executed test cases have passed.
* There are no known 1 or 2-priority defects related to functionality.
* There can be 2 defects 2-priority defects related to UI/compatibility.

## Test Management

The analysis and planning activities set the foundation for effective and productive testing activities. During this initial stage work will be done to determine the schedule of activities to be done within the testing phase, as well as a thorough analysis of the documented requirements.

Testing can assure measurable quality of deliverables only in case we know exactly – what should be tested and what acceptance criteria for each particular version are. That is why Test Planning is such a critical part of the testing process.

Principles:

* For each sprint should be possible to view all features to be tested in this particular sprint.
* Test scope for sprint should include:

New features

Impacted features (for regression testing)

Fixed issues

* Resources needed for testing must be estimated and communicated to project manager and customer representative.

## Test Design

## Test design should cover:

user stories from sprint/project backlogs;

Test design will be done in form of:

* Test cases
* Check lists

## Testing

Testing is a major QA activity which has next targets:

* Assure all planned requirements **are implemented**
* Assure all planned requirements are implemented **correctly**
* Assure that defined business processes work correctly
* Building confidence that the solution will not introduce significant defects into the production environment

The deliverables of test execution phase include (but are not limited to):

* Defects registered
* Fixed defects verified
* Test summary report (tested scope with results) on demand

The following rules should be used during testing:

* Testing should be done iteratively in each sprint/iteration.
* Testing efforts should be estimated and corresponding time should be reserved for this.
* All needed features should be tested.
* All needed kinds of testing done
* Regression testing done
* Acceptance testing done
* Correct and suitable workflow must be set-up for bug tracking.
* All defects must be listed in the bug tracking tool
* Defects should be reported in agreed way: well-structured, sufficient, concrete.
* While verifying fixed bugs, tester should do impact analysis and test impacted area.

## Bug Tracking

All defects and test observations during testing shall be documented and reported in defect management system. It is essential that defect turnaround time is monitored and kept under control.

**Principles**

* Defect Tracking System that will be used is Jira
* A Defect Tracking System should be used by ALL project participants according to the rules defined in the JIRA guide or accordingly tailored version – described and approved.
* All defects should be tracked using JIRA

Defect will contain the following information:

* Summary
* Component – system area the defect was found in
* Priority
* Description
* Version (defect was found)
* Fix version

This table gives the definition of each priority level. The priority defines the testing impact.

Table 1 Defect Priority level descriptions

|  |  |
| --- | --- |
| **Priority** | **Definition** |
| **1 - Blocker** | An issue which significantly impacts the ability to operate effectively for which no acceptable workaround exists. |
| **2 – Critical** | An issue which impacts operations but for which there is an acceptable workaround. This workaround may cause major disruptions. |
| **3 – Major** | An issue which impacts operations but for which there is an acceptable workaround. This workaround may cause minor disruptions. |
| **4 – Minor** | An issue that occurs infrequently and has minimal impact upon operations. |
| **5 – Trivial** | An issue that has no impact on operations but may have some cosmetic implications. |

## Reporting

### Test Summary reports

The Test summary report will be generated and presented to the Project Manager at the end of each iteration on demand. This will include the following information:

* Planned Test Scope
* Defects statistics
* Quality evaluation
* Quality issues and risks

Following metrics should be monitored as well:

|  |  |  |
| --- | --- | --- |
| **Metric** | **Formula** | **Unit** |
| **Defect Arrival** | Cumulative # of defects reported | # |
| **Defects fail rate** | # of failed defects /number of fixed defects | % |
| **Testing Productivity** | Defects reported by QA \*100/QA reported hrs | Defects per 100 QA hrs |

## Testing Cycle

Testing cycles will run in parallel to development iterations according to the Scrum methodology

# Test Environment

## Environments Overview

* Development environment
* Test environment
* Pre-Prod environment

# Tools

## Issues management tool: JIRA

JIRA will be used as a major management tool in the project to manage system requirements (new features and improvements), defects and time spent for testing activities.

## Knowledge sharing tool: SharePoint

SharePoint will be used as a major knowledge sharing tool in the project.

## Test design tool: Excel

In the future all test cases will be migrated to JIRA Zephyr

# Risks and Assumptions

The risk list will be reviewed and updated at project meetings. All risks have a responsible person to carry out identified actions. The overall risk situation and changes in the risk situation will be reported to and handled by the steering group.

The following risks were identified while constructing this strategy:

|  |  |  |
| --- | --- | --- |
| **Risk** | **Responsible**  **(Team/Customer)** | **Mitigation Steps** |
| Late changes in requirements and documentation can impact project schedule and Test Plan/Test Cases. | Project manager | Documentation change process should be transparent and manageable. |
| Delays in delivering features from development would impact test timescales and final release quality. | Development | Development to advise of any delays and adjust release scope of resources to allow the test activities to be performed |
| Delays in the turnaround time for fixing critical bugs, which would require re-testing, could have an impact on the project dates. | Development | Strong management of bug resolution would be required from Development to ensure bugs are fixed and available for re-testing in the scheduled time. |
| Missed bugs because of wrong understanding of user story | QA team, Product owner | Detailed user story description, daily discussion |