*<Pixyle.ai>*

Test Plan

Version <1.0>

<10/01/2020>

VERSION HISTORY

[Provide information on how the development and distribution of the **Test Plan**, up to the final point of approval, was controlled and tracked. Use the table below to provide the version number, the author preparing the version, the date of the version, the name of the person approving the version, the date that particular version was approved, and a brief description of the reason for creating the revised version.]

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| --- | --- | --- | --- | --- | --- |
| **ID & Version #** | **Prepared**  **By** | **Revision**  **Date** | **Approved**  **By** | **Approval**  **Date** | **Reason** |
| 1.0 | <Andreja Misevski> |  |  |  |  |
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# Introduction

## Purpose of The Test Plan Document

The purpose of this test plan is to:

* Analyze the product
  + Who will use the website?
  + What is it used for?
  + How will it work?
  + What are software/ hardware the product uses?
* Design the Test Strategy
  + Define scope of testing
  + Identify Testing Type (Unit, API, Integration, System, Install/Uninstall, **Agile Testing**, **UI/UX Manual and Test Automation**)
  + Document Risk and Issues (Risk is future’s uncertain event with a probability of occurrence and a potential for loss. When the risk actually happens, it becomes the ‘issue’.)
  + Create Test Logistics (Who and when will the test occur?)
* Define the Test Objectives
  + List all the software features (functionality, performance, GUI…) which may need to test.
* Define Test Criteria
  + *Suspension Criteria* (If your team members report that there are 40% of test cases failed, you should suspend testing until the development team fixes all the failed cases.)
  + Exit Criteria (The exit criteria are the targeted results of the test and are necessary before proceeding to the next phase of development. Example: 90% of all critical test cases must pass.)
* Resource Planning
  + Resource plan is a **detailed summary** of all types of resources required to complete project task. Resource could be human, equipment and materials needed to complete a project
  + System Resource (Server, Test Tool, Network, Computer, Mobile devices etc.)
* Plan Test Environment
  + A testing environment is a setup of software and hardware on which the testing team is going to execute test cases. The test environment consists of **real business** and **user** environment, as well as physical environments, such as server, front end running environment.
  + What is the maximum user connection which this website can handle at the same time?
  + What are hardware/software requirements to install this website/app?
  + Does the user's device need any particular setting to browse the website?
* Schedule & Estimation
  + In the Test Estimation phase, the whole project is broken down into small tasks and estimation is added for each task (Create the test specification, Perform Test Execution, Test Report, Test Delivery)
  + To create the project schedule, the Test Manager needs several types of input (Employee and project deadline, Project estimation, Project Risk)
* Determine Test Deliverables
  + **Test Deliverables** is a list of all the documents, tools and other components that has to be developed and maintained in support of the testing effort.
  + **Before Testing** (Test plans document, Test cases documents and Test Design specifications.)
  + **During Testing** (Test Scripts Simulators, Test Data, Test Traceability Matrix Error logs and execution logs.)
  + **After Testing** (Test Results/reports, Defect Report, Installation/ Test procedures guidelines and Release notes)

# Test ITEM

## Project description

We've built image recognition software that enables fashion retailers to **deliver great online customer experiences.**Our AI technology helps shoppers navigate e-commerce sites in a much more intuitive and convenient way, using images instead of text. We're offering AI solutions ranging from visual search, similar recommendations, automatic tagging to a fully customizable business intelligence and data visualization platform. Pixyle's technology is fit for the future: it's accurate, powerful and integrates seamlessly with any tech stack. Interface for automatic tagging used by fashion e-commerce platforms to ease the tagging process.

## Items to be Tested / Not to be Tested

|  |  |  |  |
| --- | --- | --- | --- |
| **Item to Test** | **Test Description** | **Test Date** | **Responsibility** |
| Login/Logout | Authentication |  | Andreja Misevski |
| Collections | Upload/delete collection and verify |  | Andreja Misevski |
| Collection items | Jeans, Jackets, T-shirts, Sweatpants |  | Andreja Misevski |

## Items to be tested

|  |  |
| --- | --- |
| **Item Not to Test** | **Comment** |
|  |  |
|  |  |
|  |  |

## Test Approach(s)

A test approach defines the way, a testing process needs to be carried out to ensure the successful testing of a software product. Thus, the selection of best suitable test approach may ensure triumph in carrying out the efficient and effective testing process with in the less cost and time.

Broadly, there are two types of technique to define the test approach, which may be seen as under:

* Proactive: This approach defines and prepares the approach or way to carry out the testing procedures, as soon as possible, even before the development of the initial software build. This technique may be seen as a preventive approach, in order to find and fix defects.
* **Reactive**: Contrary to proactive approach, reactive approach involves the defining and creation of test procedures, only after the completion of the development phase, i.e. approach could only be initiated, when the development of a software product has been finished. (Pixyle.ai case)

The scope of this document is to test the UI/UX part of the application as well as boundary values, equivalence partitioning, smoke, positive/negative testing, functional and regression testing. Manual test will be reviewed and planned for automation once approved (by Manager/Test Lead/PO) and ready to be automated. Automated test scripts will run on schedule, on build or on demand. The following test cases are written according to the Acceptance Criteria derived from the corresponding User Stories (see User Stories Acceptance Criteria folder).

## Test Pass / Fail Criteria

The test has passed only if the expected results from the test case are correct and shown in reasonable time (defined by PO or stake holder), while failed test will be the one that do not fulfill or partially verify the expected results from the tests case. That concludes that the application does not meet the acceptance criteria and the requirements from the client.

## Test Entry / Exit Criteria

Generally, the entry and exit criteria are determined for the four test levels of Software Testing:

* + Unit Testing
  + Integration testing
  + System Testing
  + Acceptance Testing

Each test type requires distinct entry and exit criteria for testing phases. It ensures that the objectives of the test strategy and product requirements are met. Additionally, the QA professionals can utilize the outlined entry-exit criteria of the test strategy to map and analyze before sign off the outcomes. The inputs from the testing phase include:

* + Defined and Approved Requirements
  + Test Plan
  + Test Cases and Test Data
  + Test Tools
  + Testable Code with Appropriate Test Environment
  + Executing the primary functional/business flows successfully by leveraging various test inputs and ensuring that they are working fine

The following exit criteria should be considered for completion of a testing phase:

* + Ensuring all critical Test Cases are passed
  + Achieving complete Functional Coverage
  + Identifying and fixing all the high-priority defects
  + Fixing all the ‘Show Stopper defects’ or ‘Blockers’ and ensuring that none of the identified Critical/Severity 1 defects are in Open Status
  + Re-testing and closing all the high-priority defects to execute corresponding Regression scenarios successfully

The following output is achieved through the exit criteria:

* + Test Logs
  + Test Incident Report Log
  + Test Summary Report/Findings Report

## Test Deliverables

* Test Specifications document
* Test Plan document
* Test Strategy
* Test Scenarios document
* Test Design standards
* Test Case document Traceability matrix
* Test execution reports
* Test logs
* Bug reports
* Test summary reports
* Test Data Flow document
* Test Metrics
* Test Status reports

Once tests are executed using the selected tool, a log or report will be created for further analysis. This log or report should contain all the necessary data needed (Tester name, time of execution, pass/fail ratio, tags etc.)

## Test Suspension / Resumption Criteria

Suspension criteria specify the criteria to be used to suspend all or a portion of the testing activities while resumption criteria specify when testing can resume after it has been suspended.

* Unavailability of external dependent systems during execution
* When a defect is introduced that cannot allow any further testing
* Critical path deadline is missed so that the client will not accept delivery even if all testing is completed.
* A specific holiday shuts down both development and testing

System Integration Testing in the Integration environment may be resumed under the following circumstances:

* When the external dependent systems become available again.
* When a fix is successfully implemented and the Testing Team is notified to continue testing.
* The contract is renegotiated with the client to extend delivery.
* The holiday period ends.

Suspension criteria assumes that testing cannot go forward and that going backward is also not possible. A failed build would not suffice as you could generally continue to use the previous build. Most major or critical defects would also not constituted suspension criteria as other areas of the system could continue to be tested.

## Staffing / Training Needs

Training on the application/system. Training for any test tools to be used. In this case:

* Robot Framework / Selenium / xPath optimization for web automation
* Source control tools (Git, BitBucket, SVN, Accurev etc.)
* Test tool (MTM, Test Rails, Zephyr, Polarion etc)

What is to be tested and who is responsible for the testing and training.

# Risk and mitigation

## Test Risks / Issues

* Tight timelines
* Undefined project scope
* Insufficient resources
* Continuously changing requirements
* Natural disasters

[Test management tools](https://www.getzephyr.com/products), often help testers prioritize risks and issues while ensuring that other members are continually aware of the testing situation. Spreadsheets and charts are insufficient to reduce redundancies, or to specify risk in detail. Risk management specifications can include:

* A high number of test builds,
* Insufficient regression time
* Unavailable prerequisites
* Incomplete validation
* Unresolved, misapplied, unrecognized metrics

Scheduling Risk: Testing projects are not efficiently or completely scheduled to meet the deployment deadline. Inefficiency in scheduling can include:

* Inaccurate time estimates
* Improper assessment of required tool resources
* Improper assessment of required manpower resources
* Unanticipated expansion(s) in project scope
* Inaccurate identification of complexities, functionalities, or operations

Budget Risk: Required investment is inaccurately anticipated, including:

* Inaccurate Cost Estimation: Certain required items excluded from the estimation of costs
* Cost Overruns: Unanticipated expenses, or inaccurate estimation, have cause unanticipated expenses
* Expansion of the project scope: The project scope is expanded to include initially unanticipated expenses.

Operational Risk: Ineffective processing, system failures, or unanticipated circumstances define operational risk. Causes include:

* Failure to establish testing priorities
* Conflicting test priorities
* Insufficient resources
* Improper training
* Improper communication among team members
* Improper communication with enterprise stakeholders

Technical Risk: Technical risks often lead to functionality and performance failures. Some causes include:

* Continually changing requirements
* Lack of technical resources
* Product complexities

General Risk:

* Changes in market strategies
* Changes in government regulations
* Changes in customer demands and interests

# Test Environment and infrastructure

## Required Infrastructure

* System and applications
* Test data
* Database server
* Front-end running environment
* Client operating system
* Browser
* Hardware includes Server Operating system
* Network

## Availability Plan

[Describe the infrastructure availability plan]

# Roles and responsibilities

## Roles and assigned responsibilities

|  |  |
| --- | --- |
| **Role** | **Responsibility** |
| QA Manager | Establish Quality Assurance Procedures  Report Quality Issues to Production Management Personnel  Analyze Production and Quality Control Reports  Identify Opportunities to Enhance Efficiency |
| QA Engineer | Reviewing quality specifications and technical design documents to provide timely and meaningful feedback. Creating detailed, comprehensive and well-structured test plans and test cases. Estimating, prioritizing, planning and coordinating quality testing activities |
| Product Owner | Managing the product backlog  Prioritizing needs  Overseeing development stages  Anticipating client needs  Evaluating product progress at each iteration |

# Test Schedule

## Milestones and schedule

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Milestone** | **Deliverable** | **Effort(Person Hour)** | **Start Date** | **End Date** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

# Test Plan Approval

The undersigned acknowledge they have reviewed **Pixyle.ai** Test Plan document and agree with the approach it presents. Any changes to this Requirements Definition will be coordinated with and approved by the undersigned or their designated representatives.

|  |  |  |  |
| --- | --- | --- | --- |
| Signature: |  | Date: |  |
| Print Name: |  |  |  |
| Title: |  |  |  |
| Role: |  |  |  |

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| Signature: |  | Date: |  |
| Print Name: |  |  |  |
| Title: |  |  |  |
| Role: |  |  |  |

Appendix A: References

[Insert the name, version number, description, and physical location of any documents referenced in this document. Add rows to the table as necessary.]

The following table summarizes the documents referenced in this document.

|  |  |  |
| --- | --- | --- |
| **Document Name and Version** | **Description** | **Location** |
| *<Document Name and Version Number>* | *[Provide description of the document]* | *<URL or Network path where document is located>* |

Appendix B: Key Terms

*[Insert terms and definitions used in this document. Add rows to the table as necessary.]*

The following table provides definitions for terms relevant to this document.

|  |  |
| --- | --- |
| **Term** | **Definition** |
| *[Insert Term]* | *[Provide definition of the term used in this document.]* |
| *[Insert Term]* | *[Provide definition of the term used in this document.]* |
| *[Insert Term]* | *[Provide definition of the term used in this document.]* |