

Test Plan

Testing of the Feeda Application

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1. Introduction

1.1. Basic Information

The document describes the methods and approaches to testing that will be used by testers.

The test plan can be used by testers, managers, and developers.

The object of testing is an activity aimed at checking the functionality of web platform application features.

Feeda is an application that is an administrative panel where information is processed - the participant's personal data.

The test plan includes the goal, scope, schedule, risks, and approach. This document will clearly state what the test results will be and what is considered to be within and outside the scope.

1.2. Objective

The purpose of this Test Plan is to describe the process of testing the Ukrainian version of the Feeda application on popular browser versions in order to:

- identify existing information about the project to be tested;
- describe the testing strategies that will be used;
- identify the necessary resources for testing;
- create checklists that cover the application use cases;
- document bugs in the bug tracking system;
- present the test results.

The results will be sent to the customer in the form of reports. All found bugs will be tracked using the bug tracking system.

1.3. Entry and exit criteria

Testing can be started if the following conditions are met:

- readiness of the test platform (user story)
- completion of the development of the required functionality
- availability of all necessary documentation (approved test plan, checklists, bug report template)
- availability of test requirements, user stories, or models
- availability of test data and other necessary resources

Testing is completed when the following conditions are met:

- the requirements for the number of open bugs are met

- successful completion of 100% of Smoke testing and 90% of Critical testing tests, provided that 100% of critical and high-severity defects are resolved. The final test coverage of the requirements should be at least 80%.

2. Project scope

2.1. Application testing area

The scope of work for testing the application includes testing the following components:

- 1.
2. Product requirements
3. Application layout
4. Application navigation
5. Main page for registration of participants
6. Pop-up "Terms and conditions of participation in the project"
7. Pop-up "Consent to the processing of personal data"
8. Participant application form
9. Pop-up "Thank you for successful registration"
10. Login form to the administrative panel
11. Form "Administrator password recovery"
12. Form "Change password for administrator"
13. Projects page
14. Page "Add a project"
15. Page "Edit project"
16. Page "Participants"
17. Participant card
18. Page "Add a participant"
19. Page "Edit participant data"
20. Modal window "Success" when making changes
21. Modal window "Confirmation of participant/project deletion"
22. Search field
23. Home page loading speed
24. Design of the application
25. Automatic sending of scripts to the applicant's mail
26. Work with dynamic elements using the admin panel
27. Localisation in Ukrainian
28. Application security in accordance with the top 10 OWASP

Testing will not be conducted on mobile devices and tablets. Since only one administrator will have access to the functions of the administrative panel and no other users are expected. The priority is to use the application on the desktop, so to save time and due to the low priority of using other devices, this testing is excluded.

The following types of testing will not be applied:

1. White box testing

3. Work schedule

Task	Responsible persons	Start date	End date
Preparing a test plan	<ul style="list-style-type: none">• Anastasiia Luzina	20/06/2023	10/07/2023
Approval of the test plan	<ul style="list-style-type: none">• Oleksandr Kozlov• Olena Shliakhta• Anastasiia Luzina	26/06/2023	10/07/2023
Preparation of user stories	<ul style="list-style-type: none">• Svitlana Steshenko (Registration form, Participant card)• Olena Shliakhta (Registration form)• Yuri Nikulin (administrator login, password recovery, Members page)• Vitalii Nalotov (administrator login, password recovery, Members page)• Anastasiia Luzina (Projects page, Edit project page)• Olha Semenenko (Add a project page)• Olena Pylypenko (sending the script to the email)	23/06/2023	07/07/2023
Approval of user stories	<ul style="list-style-type: none">• Anastasiia Luzina• Svitlana Steshenko• Yuri Nikulin• Olena Shliakhta• Vitalii Nalotov• Olha Semenenko	26/06/2023	01/08/2023
Checklist creation	<ul style="list-style-type: none">• Svitlana Steshenko• Olena Shliakhta• Yuri Nikulin• Vitalii Nalotov• Oleksandr Kozlov• Anastasiia Luzina• Olena Pylypenko• Olha Semenenko	29/06/2023	10/07/2023

Checklist approval	<ul style="list-style-type: none"> • Anastasiia Luzina • Vitalii Nalotov 	4/07/2023	10/08/2023
Execution of testing	<ul style="list-style-type: none"> • Anastasiia Luzina US_1, US_4.1, US_4.2, US_4.3, US_4.4, US_4.5, US_4.6, US_16.15, US_16.16, US_16.17 • Svitlana Steshenko US_11, US_12, US_13 • Olena Shliakhta US_2, US_3, US_8, US_15 • Yurii Nikulin US_7, US_9, US_16.8, US_16.9, US_16.10, US_16.11 • Oleksandr Kozlov (automated ARI tests, automated UI tests) • Vitalii Nalotov US_6, US_16.1, US_16.2, US_16.3, US_16.4 • Olha Semenenko US_4.7, US_4.8, US_4.9, US_4.10, US_4.11, US_4.12, US_4.13, US_4.14, US_16.5, US_16.6, US_16.7 • Olena Pylypenko US_5, US_16.12, US_16.13, US_16.14 	20/07/2023	/07/2023
Reporting	<ul style="list-style-type: none"> • Anastasiia Luzina 		

4. Testing strategy

4.1. Types of testing

The main types of testing that will be performed:

- Static testing. The purpose is to check the application for compliance with the requirements and documentation.
- Functional testing. The purpose is to identify functional errors, inconsistencies with user requirements and expectations by implementing test scenarios.

- Positive testing. The purpose is to check the correct behaviour of the application with valid data in accordance with the technical requirements and documentation.
- Negative testing. The purpose is to check the correct behaviour of the application with invalid data in accordance with the technical requirements and documentation.
- User interface testing. The purpose is to check whether the application meets the requirements for the graphical interface.
- Usability testing. The purpose is to evaluate the usability of the application for a potential user.
- Responsive testing. The purpose is to check the optimisation of the web page display on different screen resolutions.
- Black box testing. The purpose is to analyse the functional or non-functional specification of an application without knowing its internal structure.
- Dynamic testing. The purpose is to analyse the behaviour of the application and its components during their operation.
- Performance testing. The purpose is to check the speed of the application.
- Load testing. The purpose is to determine the behaviour of the application under the expected level of load.
- Localisation testing. The purpose is to check the application for compliance with language, cultural, and/or religious norms.
- Retesting. The purpose is to confirm that the bug is fixed and the functionality works.
- Regression testing. The purpose is to check the functionality of the existing functionality and to check for third-party errors after the build has been updated.
- Smoke testing. The purpose is to check the operation of the most important, critical functions in the system
- End to end testing. The goal is to check the functionality and behaviour of the software product in the context of a complete scenario of interaction with the system.
- API testing (Application Programming Interface testing). The purpose is to check the correctness of input and output data, to check the functionality of data registration, editing and deletion.

4.2. Testing procedure

The testing procedure includes the following points:

- Performing the test manually / automated
- Comparison of actual and expected test results
- Registration of detected errors in bug reports
- Conducting retesting to confirm that the application is functioning correctly according to the requirements

- Checking other aspects of the application that are not related to functioning
- Collecting metrics
- General reporting on the testing process

Information specified in each bug report:

- The name of the element.
- Browser where the tests were performed with the version.
- The system where the test was performed, indicating the version.

The structure of a bug report:

- Summary
- ID
- Preconditions.
- Steps to reproduce
- Component and Environment
- Actual result
- Expected result
- Severity.
- Priority.
- Author.
- Assignee
- Attachments

4.3. Bug reports

Bug reports are created to provide the development team and project manager with comprehensive information about the bugs that have been detected. They should be useful in determining the causes of errors and fixing them.

The severity of bugs can be divided into five categories:

- *Blocker*. An error that blocks work. When it occurs, all further work with the application becomes impossible.
- *Critical*. A critical error. It disrupts the operation of the main functionality of the product under test.
- *Major*. A significant defect. It complicates the operation of the main functionality or makes it impossible to use additional functions.
- *Minor*. A minor defect. This defect affects the functionality of the system to a relatively small extent or has obvious workarounds and makes it difficult to use additional features.
- *Trivial*. A trivial defect. Does not affect the functionality of the project, but worsens the overall impression of the product: typos, grammatical errors, incorrect terminology, etc.

5. Test approaches

The project uses an agile approach with weekly iterations.

Objects of testing:

- The entire system
- System configurations
- User stories

Testing levels of the project:

- Integration Testing
- System Testing
- Acceptance Testing

Types of testing that will be used on the project:

Functional types of testing:

- Functional testing
- Interoperability Testing
- Application Programming Interface testing)

Non-functional types of testing:

- Usability testing
- Performance testing
- User interface testing
- Security testing
- Configuration Testing
- Load testing
- Localisation testing

Change-related types of testing:

- Smoke Testing
- Regression Testing
- Re-testing

Based on the positivity of the scenarios:

- Positive testing
- Negative testing

By operation:

- Static testing
- Dynamic testing

By knowledge of the system:

- Black box testing

By the degree of automation:

- Manual testing
- Automated testing

Test design techniques:

- Equivalence Partitioning
- Boundary Value Analysis
- Error Guessing
- Pairwise Testing

6. Resources

6.1. Tools.

The following tools will be used:

Name of the process	Tool
User stories	Excel, Trello
Bug tracking system	Trello
Checklists	Trello
Image capture	Screenshots / Video capture
Performance testing	PageSpeed Insights
API testing	Postman
Language for writing automated tests	Python
Libraries and frameworks for writing automated tests	PyTest, Selenium Grid
Tool for generating reports	Allure
Platform for container management	Docker
Version control	GitHub

6.2. List of browsers

Browsers approved for verification:

- Google Chrome
- Mozilla Firefox
- Opera
- Safari
- Microsoft Edge

6.3. Список операційних систем.

List of operating systems:

- Windows 10, 11
- MacOS

7. **Risks of the testing process**

The following issues may affect the test results:

- Changes and modifications to the product that were not planned and discussed in advance with the test team.
- Changes to the application requirements that were not previously discussed with the testing team.
- Delays in fixing bugs.
- Insufficient number of human resources to test the application in a timely manner.
- Insufficient experience of testers.
- Power outages and internet network failures.
- Refusal of volunteers to continue working on the project.

Addressing the risks of the testing process

- To reduce the risk of defects, the introduction of new functionality requires approval from the test team.
- To reduce the risk of defects, the team decided to increase the number of sprints to reduce the area of search for possible defects.
- To reduce the risk of late completion of tasks due to a volunteer's withdrawal from the project, it is necessary to have a reserve of volunteers who can replace another participant if necessary.
- To mitigate the risks associated with the inexperience of testers, it is worth holding meetings with drivers, members of other teams, and more experienced colleagues to reduce the number of errors in the work of testers.

8. Expectations of the test team

The test team must be provided with valid, up-to-date documents throughout the test process.

All necessary equipment, instruments, devices and software should be prepared before the start of the testing process. If necessary, training sessions should be held to educate testers on the tools to be used.

All critical errors should be corrected as soon as possible.

A release note should be added to each release of the product by the testing team. The note should explain what elements and features have been added to the application and how these additions affect the product.

Before releasing a new version, developers should fix all critical bugs in software modules

9. Обов'язки учасників тестової групи

Participants	Responsibilities
Project manager	<ul style="list-style-type: none">● Managing the testing process.● Providing all the necessary resources for testing.
Testers	<ul style="list-style-type: none">● Collection and study of requirements.● Checking the documentation.● Planning of testing activities.● Control over the testing to ensure that the work is carried out in accordance with the plan.● Reports on the progress, number and severity of errors detected.● Quality control process, registration of detected bugs in the approved bug tracking system.

10. Results

The end result of the testing process should be a documented final result of the testing process with the described defects and recommendations for improving the product from the end user's point of view.

11. Project testing report

The testing process is carried out according to the SDLC model.

Upon completion of testing, the following documentation is provided to the customer:

- Test Plan
- Decomposition of the project
- Checklists
- Bug reports
- Test report