

**Kauno technologijos universitetas**

INFORMATIKOS FAKULTETAS

**T120B162 Programų sistemų testavimas**

IFF-6/11 Nerijus Dulkė

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KAUNAS

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# Software description

Selected software is a roadmaping and planning tool. This tool allows users to easily plan and different activieties, plans for selected period of time.

Architecture:

This tool is a web app that has separate frontend and backend. Frontend is written in JavaScript and uses Vue.js framework while backend is written in TypeScript and uses Express.js framework.

Features:

Currently project consists of these features – roadmap management, creating and editing categories and task for these roadmaps.

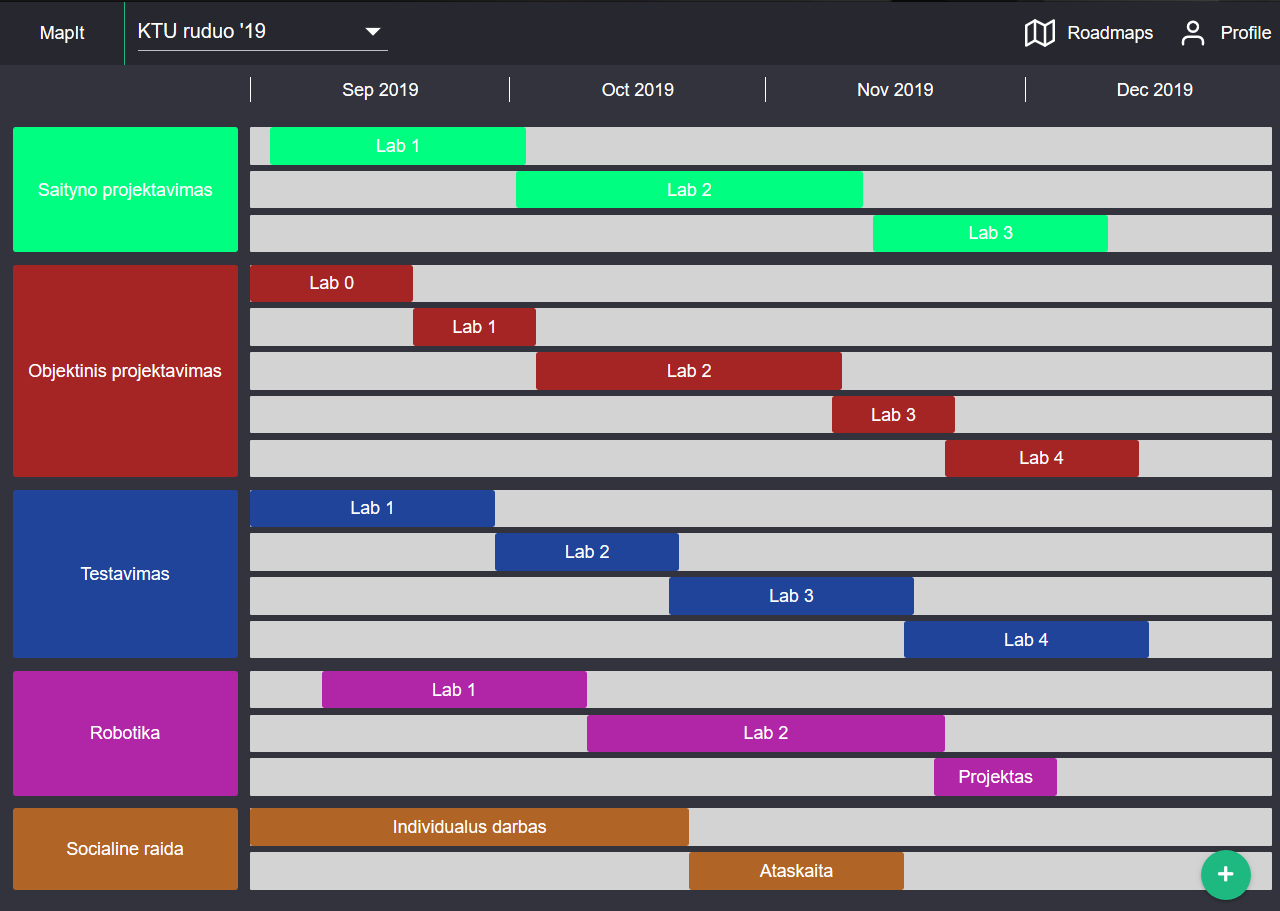


Figure 1 Screenshot from the app

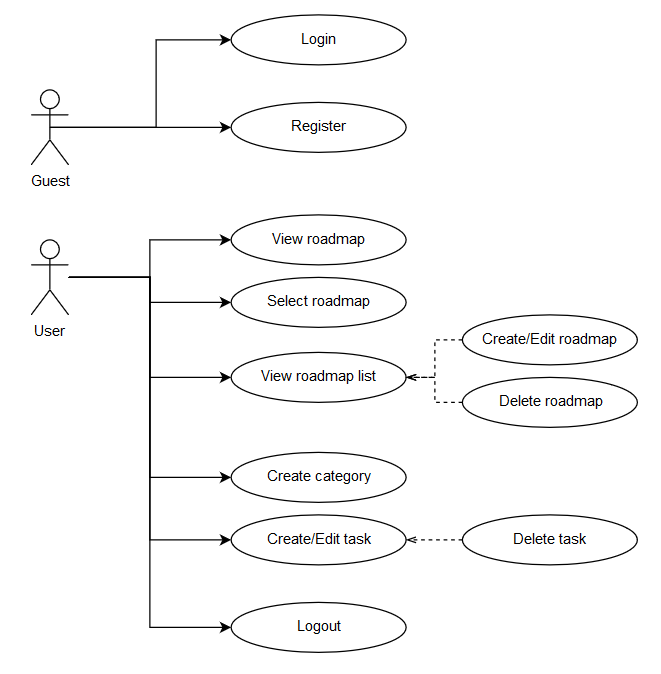


Figure 2 Use case diagram

# Test plan

## Test Strategies

Frontend will be covered in unit tests (using Jest framework), while backend API will be covered in end-to-end tests (using Mocha and Supertest frameworks). ESLint and TSLint will be used for static code analysis.

## Pre-requisites

* Setup Node.js environment

## Test priorities

* Check if new code doesn’t break existing tests
* Check if newly implemented features work as intended
* Cover new functionality with unit or end-to-end tests

## Test techniques

The following testing techniques will be used:

* Tests scripts – the scripted uses cases (with predefined input and expected output data).
* Test scripts without data – the testers will choose the input data during testing.
* Unauthorized use tests – the scripted activities that try to gain access to the unauthorized data in the software.
* Usability checklist – activities to evaluate systems the ease of use.
* Performance statistics – performance characteristics collection and comparison with defined parameters.

## Results

After testing the following deliverables should be available:

* Test plan – this document with all changes made during testing process.
* Change requests – document describing software changes caused by changed requirements or discovered defects during testing.

## Test scripts

#### Test Script 1. Roadmap management

Description: select, delete and create roadmaps

Initial data: initial database, logged in with User1

Test steps: Navigate to roadmap list, select roadmap

Test cases:

|  |  |  |  |
| --- | --- | --- | --- |
| Data created | Action | Expected result | Comment |
| Roadmap | Select roadmap | Should return the created roadmap |  |
| Roadmap with another user assigned | Select roadmap | Should return authorization error |  |
| - | Select non-existing roadmap | Should return ‘Not Found’ error |  |
| Roadmap | Delete roadmap | Should delete roadmap from database |  |
| Roadmap with another user assigned | Delete roadmap | Should return authorization error |  |
| - | Create roadmap with correct data:  Title: “TestTitle”  Start date: 2019-10-01  End date: 2019-12-31 | Should insert new roadmap into database |  |
| - | Create roadmap with no dates:  Title: “TestTitle”  Description: “Test description” | Should not create new roadmap and return validation error | Start and end dates are required |

#### Test Script 2. Task management

Description: Should correctly display tasks in roadmap

Initial data: initial database, logged in with User1

Test steps: Navigate to roadmap view

Test cases:

|  |  |  |  |
| --- | --- | --- | --- |
| Data created | Action | Expected result | Comment |
| Roadmap with dates:  Start date: 2019-09-01  End date: 2019-12-31  Category with color green.  Task with dates:  Start date: 2019-10-01  End date: 2019-10-31 | Open roadmap view | Task should be correctly displayed in green color and last through all October. |  |
| Roadmap with dates:  Start date: 2019-09-01  End date: 2020-01-31  Category with color green.  Task with dates:  Start date: 2019-12-15  End date: 2020-01-15 | Open roadmap view | Task should be correctly displayed in green color lasting through second half of December and first half of January. | Should not be any anomalies when year changes. |
| Roadmap with dates:  Start date: 2019-09-01  End date: 2019-12-31 | Create a task with end date - 2020-01-15 | Should return validation error | Task dates can’t be later than roadmap end date |
| Roadmap with dates:  Start date: 2019-09-01  End date: 2019-12-31 | Create a task with start date – 2018-01-31 | Should return validation error | Task dates can’t be earlier than roadmap start date |

#### Test Scripts 2. Login

Description: authenticates user

Initial data: initial database with User1 created

Test steps: navigate to login page, input data

Test cases:

|  |  |  |
| --- | --- | --- |
| Data entered | Expected result | Comment |
| Input correct email and password:  Email: “user1@test.com”  Password: “Test123” | Should login |  |
| Input correct password but incorrect email:  Email: “user2@test.com”  Password: “Test123” | Should not login |  |
| Input correct email but incorrect password:  Email: “user1@test.com”  Password: “Test12345” | Should not login |  |

#### Test Scripts 3. Register

Description: creating user account

Initial data: initial data with User1 created

Test steps: navigate to registration page, input data

Test cases:

|  |  |  |
| --- | --- | --- |
| Data entered | Expected result | Comment |
| Input correct data:  Email: “user2@test.com”  Name: “User2”  Password: “Test123” | Should create new account |  |
| Input already existing email:  Email: “user1@test.com”  Name: “User2”  Password: “Test123” | Should return validation error |  |
| Input invalid data in all fields:  Email: “user2testcom”  Name: “”  Password: “test” | Should return error messages for all fields |  |