ÇANKAYA UNIVERSITY

FACULTY OF ENGINEERING

COMPUTER ENGINEERING DEPARTMENT

Test Plan, Test Design Specifications and Test Cases

Version 1

CENG 408

Innovative System Design and Development II

AI CUSTOMER SUPPORT SYSTEM

Arınç Alp Eren - 201611020

Atakan Demircioğlu - 201511018

M. Cavid Aydın - 201511004

Alperen Sarınay - 20151148

Advisor: Roya CHOUPANI

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1. INTRODUCTION

1.1 VersionControl

Version No	Description of Changes	Date
1.0	First Version	October 17, 2019

1.2 Overview

Developers and users will test our system. The system's buttons, pages and AI will be tested.

1.3 Scope

This document contains the test plan of the use cases, test cases, and test design features.

1.4 Terminology

Acronym	Definition
GUI	Graphical User Interface
ML	Machine Learning
API	Application Programming Interface
AJAX	Asynchronous Javascript and XML
PHP	Hypertext Preprocessor

2. FEATURES TO BE TESTED

This section lists and gives a brief description of all the major features to be tested. For example, pages and processes running inside the pages. For each major feature, there will be a Test Design Specification added at the end of this document.

2.1 Graphical User Interface (GUI)

Graphical User Interface parts used in this project. We separated the GUI in 9 page which are Home, Register, Login, Install, Profile, Question, Ask Question, Category and Admin panel. GUI parts contain testing of GUI components such as page, buttons, etc

2.2 Database (DBS)

This section includes test scenarios and test plans for Database. Database objects allow the saved records to be saved. Developers will test if the objects are not working. Testing these requirements will take place later in this document.

2.3 Machine Learning Program (MLP)

This part contains test cases and test plans for ML. ML part will be tested on questions asked and answers received by users. The testing of this requirement will come off later in this document.

3. FEATURES NOT TO BE TESTED
3.1 User question

We cannot test user questions because every user in our system can ask any question.

4. REFERENCES

[1] SDD_100, November18, 2019

[2] SRS_100, December 16, 2019

5. TEST DESIGN SPECIFICATIONS

5.1 Graphical User Interface (GUI)

5.1.1.1 Login (GUI.LOGIN_BTN)

Users log into the system with their email and password.

5.1.1.2 Register (GUI.RGSTR_BTN)

Users register to the system from this button.

5.1.1.3 Ask a Question (GUI.ASAQ_BTN)

Users press this button to ask questions. An editor opens where users can write their questions.

5.1.1.4 Logout (GUI.LOGT_BTN)

Sessions ends when user press this button . The user exits the system at that moment.

5.1.1.5 Profile (GUI.PROF_BTN)

Users can view user information by pressing this button and also change some of their information.

5.1.1.6 Admin Panel (GUI.ADP_BTN)

Administrators can view general and detailed information about the questions.

5.1.1.7 Categories (GUI.CTGRS_BTN)

Users view questions about related categories.

5.1.1.8 Notification (GUI.NOTIF_BTN)

Users receive notifications about the answers to their questions.

5.1.1.9 Like (GUI.LIKE_BTN)

Users can rate all questions.

5.1.1.10 Dislike (GUI.DLIKE_BTN)

Users can rate all questions.

5.1.1.11 Profile Edit (GUI.PROFE_BTN)

Users can change the user information with this button.

5.1.1.12 Admin Panel Install (GUI.ADPIN_BTN)

With this button, administrators can easily set up the database.

5.1.1.13 Admin Panel General Settings (GUI.ADPGS_BTN)

Admins can customize the site information.

5.1.1.14 Admin Panel Users (GUI.ADPUR_BTN)

Admins display a list of all users. They can do things like add and delete new users.

5.1.1.15 Admin Panel Questions (GUI.ADPQS_BTN)

Admins can list questions. They display the status (whether it is solved) of questions from this list. They can delete questions.

5.1.1.16 Admin Panel Categories (GUI.ADPCT_BTN)

Admins can add new categories, delete the category, and list all categories.

5.1.1.17 Admin Panel Comments (GUI.ADPCM_BTN)

Admins can delete the comment, and list all comments.

5.1.1.18 Admin Panel Dashboard (GUI.ADPDB_BTN)

Administrators can view how many questions are answered, how many questions are solved and how many are not.

5.1.1.19 Question Links (GUI.QLINK_BTN)

It is a hyperlink that leads to the page of the relevant question.

5.1.1.20 Question Show More Comments (GUI.QUSCO_BTN)

By pressing this button they can read more comments about the question.

5.1.1.21 Question Tags (GUI.QTAGS_BTN)

A button to display the question with the related tags

5.1.1.22 Question Post Answer (GUI.QUPAN_BTN)

This is the button that allows users to comment.

5.1.2 Test Cases

TC ID	Requirements	Priority	Scenario Description
GUI.LOGIN _BTN.01	3.1	H	Press "Login" button. Then, login screen will be displayed.

TC ID	Requirements	Priority	Scenario Description
GUI.RGSTR _BTN.01	3.1	H	Press "Register" button. Then, register screen will be displayed.

TC ID	Requirements	Priority	Scenario Description
GUI.ASAQ_ BTN.01	3.1	M	Press "Ask a Question" button. Then, ask question screen will be displayed.

TC ID	Requirements	Priority	Scenario Description
GUI.LOGT_ BTN.01	3.1	L	Press "Logout" button. Then, all sessions will be destroyed and you will be logged out.

TC ID	Requirements	Priority	Scenario Description
GUI.PROF_ BTN.01	3.1	L	Press "Profile" button. Then, your profile page will be displayed.

TC ID	Requirements	Priority	Scenario Description
GUI.ADP_BTN.01	3.1	H	Press "Admin Panel" button. Then, you will be redirected to admin panel.

TC ID	Requirements	Priority	Scenario Description
GUI.CTGRS_BTN.01	3.1	L	Press "Categories" button. Then, a dropdown list will be displayed that shows all categories.

TC ID	Requirements	Priority	Scenario Description
GUI.NOTIF_BTN.01	3.1	M	Press "Notifications" button. Then, your notifications will be displayed.

TC ID	Requirements	Priority	Scenario Description
GUI.LIKE_BTN.01	3.1	L	Press "Like" button to like the corresponding question or comment.

TC ID	Requirements	Priority	Scenario Description
GUI.DLIKE_BTN.01	3.1	L	Press "Dislike" button to dislike the corresponding question or comment.

TC ID	Requirements	Priority	Scenario Description
GUI.PROFE_BTN.01	3.1	L	Press "Edit" button to edit the corresponding information about your profile.

TC ID	Requirements	Priority	Scenario Description
GUI.ADPIN _BTN.01	3.1	H	Press "Install" button. Then, you will be redirected to the install page.

TC ID	Requirements	Priority	Scenario Description
GUI.ADPGS _BTN.01	3.1	H	Press "General Settings" button. Then, you will be redirected to the general settings page.

TC ID	Requirements	Priority	Scenario Description
GUI.ADPUS _BTN.01	3.1	M	Press "Users" button. Then, you will be redirected to the users page.

TC ID	Requirements	Priority	Scenario Description
GUI.ADPQS _BTN.01	3.1	M	Press "Questions" button. Then, you will be redirected to the question page.

TC ID	Requirements	Priority	Scenario Description
GUI.ADPCT _BTN.01	3.1	M	Press "Categories" button. Then, you will be redirected to the categories page.

TC ID	Requirements	Priority	Scenario Description
GUI.ADPC M_BTN.01	3.1	M	Press "Comments" button. Then, you will be redirected to the comments page.

TC ID	Requirements	Priority	Scenario Description
GUI.ADPDB _BTN.01	3.1	M	Press "Dashboard" button. Then, you will be redirected to the dashboard.

TC ID	Requirements	Priority	Scenario Description
GUI.QLINK _BTN.01	3.1	H	Press any question link. Then, you will be redirected to the corresponding question page.

TC ID	Requirements	Priority	Scenario Description
GUI.QUSCO _BTN.01	3.1	L	Press "Show more comments" button to load older comments.

TC ID	Requirements	Priority	Scenario Description
GUI.QTAGS _BTN.01	3.1	L	Press any question tag to display questions related with that tag.

TC ID	Requirements	Priority	Scenario Description
GUI.QUPAN _BTN.01	3.1	L	Press "Post Answer" button to post your comment to the question.

5.2 Database (DBS)
5.2.1 Subfeatures to be tested
5.2.1.1 Database Queries (DBS.DBQRY)
This is not a user-side feature. Database queries are handled in backend of our program.

5.2.2 Test Cases

TC ID	Requirements	Priority	Scenario Description
DBS.DBQRY.01	3.1	H	Login query to login to AICS. Gives error in wrong input.
DBS.DBQRY.02	3.1	H	Register query to register to AICS. Gives error in wrong input.
DBS.DBQRY.03	3.1	H	Ask question query to ask a question. Gives error in wrong input.

5.3 Machine Learning Program (MLP)

5.3.1 Subfeatures to be tested

5.3.1.1 Cosine Similarity (MLP.COSIM)

This is not a user-side feature. Cosine similarity algorithm works on Python script.

5.3.2 Test Cases

TC ID	Requirements	Priority	Scenario Description
MLP.COSIM.01	3.1	H	If similarity is more than %30, then use the comment to the corresponding questions in the dataset.
MLP.COSIM.02	3.1	H	If similarity is less than %30, then notify the user that experts will take care of the question.

6. Detailed Test Cases

TC_ID	GUI.LOGIN_BTN.01
Purpose	Login to AICS.
Requirements	3.1
Priority	High
Estimated Time Needed	6 Seconds
Dependency	Matching email and password.
Setup	Application must be installed in companies live server.
Procedure	[A01] Press Login in Navbar [V01] Login Menu displayed [A02] Enter email and password [A03]Press Login button [V02] View Homepage
Cleanup	-

6.2 GUI.RGSTR_BTN.01

TC_ID	GUI.RGSTR_BTN.01
Purpose	Register to AICS.
Requirements	3.1
Priority	High
Estimated Time Needed	20 Seconds
Dependency	All fields must be filled.
Setup	Application must be installed in companies live server.
Procedure	[A01] Press Sign-up in Navbar [V01] Register Menu displayed [A02] Enter user information [A03]Press Register button [V02] View Homepage
Cleanup	-

6.3 GUI.ASAQ_BTN.01

TC_ID	GUI.ASAQ_BTN.01
Purpose	Asks a question.
Requirements	3.1
Priority	Medium
Estimated Time Needed	1 Minute
Dependency	User must be logged in.
Setup	Application must be installed in companies live server.
Procedure	[A01] Click Ask a Question button [V01] Writing Editor diplayed [A02] Type the question and click submit button.
Cleanup	-

6.4 GUI.LOGT_BTN.01

TC_ID	GUI.LOGT_BTN.01
Purpose	Logout from AICS
Requirements	3.1
Priority	Low
Estimated Time Needed	-
Dependency	User must be logged in.
Setup	Application must be installed in companies live server.
Procedure	[A01] Click Logout button from navbar [V01] Display Homepage
Cleanup	-

6.5 GUI.PROF_BTN.01

TC_ID	GUI.PROF_BTN.01
Purpose	View user information.
Requirements	3.1
Priority	Low
Estimated Time Needed	-
Dependency	User must be logged in.
Setup	Application must be installed in companies live server.
Procedure	[A01] Click Profile from navbar [V01] User information will be displayed
Cleanup	-

6.6 GUI.ADP_BTN.01

TC_ID	GUI.ADP_BTN.01
Purpose	Admins manage systems.
Requirements	3.1
Priority	High
Estimated Time Needed	-
Dependency	User must be logged in and admin.
Setup	Application must be installed in companies live server.
Procedure	[A01] Click Admin Pannel [V01] Administrators can view general and detailed information about the questions.
Cleanup	-

6.7 GUI.CTGRS_BTN.01

TC_ID	GUI.CTGRS_BTN.01
Purpose	Users view questions about related categories.
Requirements	3.1.3
Priority	Low
Estimated Time Needed	-
Dependency	-
Setup	Application must be installed in companies live server.
Procedure	[A01] Press "Categories" button. [V01] Categories will be displayed.
Cleanup	-

6.8 GUI.NOTIF_BTN.01

TC_ID	GUI.NOTIF_BTN.01
Purpose	Users receive notifications about the answers to their questions.
Requirements	3.1.3
Priority	Medium
Estimated Time Needed	10 Seconds
Dependency	User must be logged in.
Setup	Application must be installed in companies live server.
Procedure	[A01] Login to any account. [A02] Press "Notification" button. [V01] Your notifications will be displayed.
Cleanup	-

6.9 GUI.LIKE_BTN.01

TC_ID	GUI.LIKE_BTN.01
Purpose	Users can rate all questions.
Requirements	3.1
Priority	Low
Estimated Time Needed	1 Minutes
Dependency	User must be logged in.
Setup	Application must be installed in companies live server.
Procedure	[A01] Login to any account. [A02] Go to any question. [A03] Press "Like" button. [V01] The corresponding question/comment will be liked.
Cleanup	-

6.10 GUI.DLIKE_BTN.01

TC_ID	GUI.DLIKE_BTN.01
Purpose	Users can rate all questions.
Requirements	3.1
Priority	Low
Estimated Time Needed	-
Dependency	User must be logged in.
Setup	Application must be installed in companies live server.
Procedure	[A01] Login to any account. [A02] Go to any question. [A03] Press "Dislike" button. [V01] The corresponding question/comment will be disliked.
Cleanup	-

6.11 GUI.PROFE_BTN.01

TC_ID	GUI.PROFE_BTN.01
Purpose	User can change user information.
Requirements	3.1
Priority	Low
Estimated Time Needed	10 Seconds
Dependency	User must be logged in.
Setup	Application must be installed in companies live server.
Procedure	[A01] Login to any account. [A02] Press "Profile" button. [A03] Press any "Edit" button. [V01] You can edit the corresponding information.
Cleanup	-

6.12 GUI.ADPIN_BTN.01

TC_ID	GUI.ADPIN_BTN.01
Purpose	With this button, administrators can easily set up the database.
Requirements	3.1
Priority	High
Estimated Time Needed	30 Seconds
Dependency	User must be logged in and admin.
Setup	Application must be installed in companies live server.
Procedure	[A01] Login to any admin account. [A02] Press "Admin Panel" button. [A03] Press "Install" button. [V01] You will be redirected to the admin install page.
Cleanup	-

6.13 GUI.ADPGS_BTN.01

TC_ID	GUI.ADPGS.BTN.01
Purpose	Admins will see the general settings of users
Requirements	3.1.6
Priority	High
Estimated Time Needed	30 Seconds
Dependency	User must be logged in and admin.
Setup	Application must be installed in companies live server.
Procedure	[A01] Login to any admin account. [A02] Press "Admin Panel" button. [A03] Press "General Settings" button. [V01] You will be redirected to the admin general settings page.
Cleanup	-

6.14 GUI.ADPUS_BTN.01

TC_ID	GUI.ADPUS_BTN.01
Purpose	Player can see the standings on the right side of the screen.
Requirements	3.1.6
Priority	Medium
Estimated Time Needed	30 Seconds
Dependency	User must be logged in and admin.
Setup	Application must be installed in companies live server.
Procedure	[A01] Login to any admin account. [A02] Press "Admin Panel" button. [A03] Press "Users" button. [V01] You will be redirected to the admin users page.
Cleanup	-

6.15 GUI.ADPQS_BTN.01

TC_ID	GUI.ADPQS_BTN.01
Purpose	Shows the questions asked
Requirements	3.1.6
Priority	Medium
Estimated Time Needed	30 Seconds
Dependency	User must be logged in and admin.
Setup	Application must be installed in companies live server.
Procedure	[A01] Login to any admin account. [A02] Press "Admin Panel" button. [A03] Press "Questions" button. [V01] You will be redirected to the admin questions page.
Cleanup	-

6.16 GUI.ADPCT_BTN.01

TC_ID	GUI.ADPCT_BTN.01
Purpose	Correction is made, indicating the categories that occur.
Requirements	3.1.6
Priority	Medium
Estimated Time Needed	30 Seconds
Dependency	User must be logged in and admin.
Setup	Application must be installed in companies live server.
Procedure	[A01] Login to any admin account. [A02] Press "Admin Panel" button. [A03] Press "Categories" button. [V01] You will be redirected to the admin categories page.
Cleanup	-

6.17 GUI.ADPCM_BTN.01

TC_ID	GUI.ADPCM_BTN.01
Purpose	Shows the comments
Requirements	3.1.6
Priority	Medium
Estimated Time Needed	30 Seconds
Dependency	User must be logged in and admin.
Setup	Application must be installed in companies live server.
Procedure	[A01] Login to any admin account. [A02] Press "Admin Panel" button. [A03] Press "Comments" button. [V01] You will be redirected to the admin comments page.
Cleanup	-

6.18 GUI.ADPDB_BTN.01

TC_ID	GUI.ADPCM_BTN.01
Purpose	Administrators can view how many questions are answered, how many questions are solved and how many are not.
Requirements	3.1.6
Priority	Medium
Estimated Time Needed	20 Seconds
Dependency	User must be logged in and admin.
Setup	Application must be installed in companies live server.
Procedure	[A01] Login to any admin account. [A02] Press "Admin Panel" button. [V01] You will be redirected to the admin dashboard.
Cleanup	-

6.19 GUI.QLINK_BTN.01

TC_ID	GUI.QLINK_BTN.01
Purpose	It is a hyperlink that leads to the page of the relevant question.
Requirements	3.1.6
Priority	High
Estimated Time Needed	-
Dependency	-
Setup	Application must be installed in companies live server.
Procedure	[A01] Press any question button. [V01] You will be redirected to the corresponding question.
Cleanup	-

6.20 GUI.QUSCO_BTN.01

TC_ID	GUI.QUSCO_BTN.01
Purpose	By pressing this button they can read more comments about the question.
Requirements	3.1.6
Priority	Low
Estimated Time Needed	-
Dependency	-
Setup	Application must be installed in companies live server.
Procedure	[A01] Go to question [A02] Press "Show more comments" button. [V01] Older comments will be loaded.
Cleanup	-

6.21 GUI.QTAGS_BTN.01

TC_ID	GUI.QTAGS_BTN.01
Purpose	When pressed on this tag, it willdisplay the questions with that label.
Requirements	3.1.6
Priority	Low
Estimated Time Needed	-
Dependency	-
Setup	Application must be installed in companies live server.
Procedure	[A01] Go to question [A02] Press any tag button. [V01] You will be redirected to the corresponding tag.
Cleanup	-

6.22 GUI.QUPAN_BTN.01

TC_ID	GUI.QUPAN_BTN.01
Purpose	This is the button that allows users to comment.
Requirements	3.1.6
Priority	Low
Estimated Time Needed	10 Seconds
Dependency	User must be logged in.
Setup	Application must be installed in companies live server.
Procedure	[A01] Write your comment. [A02] Press "Post Answer" button. [V01] Your comment will be displayed on comments section.
Cleanup	-