

Module 5- Computer Systems (2021-22)

Project



Software Testing Document (STD) Template

Team ID: 31	Project Name: Raspberry Home
Team members: Damon Kaewborisut Niek Zieverink Masis Zovikoglu Shuhang Tian Yifan Sun Jelke Schröder	Mentor (s): Filip Ivanov Ricco Pratama Halim

Instructions:

1. Refer to the below table and complete all the sections with clarity.
2. Select those test strategies that are applicable to test your application.
3. Make sure to refer to the "Development-Security by Design Checklist" to see the possible vulnerabilities in your application.
4. Feel free to add features and test cases in the table that are essential to test your application.
5. You can use Selenium, SonarQube, and/or GitLab CI/CD to perform source code review, static and dynamic application testing, etc.

Test Strategy	Date (When did you perform the testing?)	Process/Function (Features to be tested)	Test Case	Step	Description	Status (Passed/Failed /Open)	Expected Results	Actual Result	Mitigation plan/Solutions	Review on the Mitigation plan (Passed/Failed)	Remarks on the Failed mitigation plan
Manual Testing	1/11/2021	Authentication	Logging In	1	When wrong credentials are entered, there should be a result in the database, and user should be able to log in	Passed	Users should access the home page.	User directed to the home page.	i) Check if there is any connection issues between the home page and its sub page. ii) Check if there is any design issue. iii) Check if this test case is not passed with a particular user, etc.	-	-
...	1/11/2021	2	When wrong credentials are entered, there should be no result in the database and the user should be able to log in.	Passed	Users should not access the home page. It shows “Wrong credential,try again”.	Users cannot be directed to the home page, and still stay in the login page and get the info says try again.	i) Check if there is any design issue. ii)Check if there are any issues with cookies. Try again after cleaning cookies.	-	-

...		3	Enter a wrong password not more than 5 times	failed	User will get the message says "reset password"	You will get a page with "wrong credentials, try again" even after 5 tries	i)check if there is any design issue	failed	We don't have a limit of entering your password
		...	Register	1	The length of the password should be of 8 characters which must contain A-Za-z0-9	failed	i))The password is Strong, then it can register successfully. ii) The password is weak, it cannot register the account. The website will display "The password must be 8 characters and contains A-Za-z0-9.	any password can be used for any user registration	i) Check if there is a password pattern restriction in the html file.	failed	There is no password restriction yet or even a register page.
	5/11/2021	...	SQL injection	1	Enter " or "'=" in username field, " or "'=" in password field. The injection code should not be executed.	Failed	The injection code should not be executed, it cannot get into the home page.	The injection code is executed, and it redirects to the home page.	i)Use prepared statements to avoid SQL injection	Passed	
	22/10/2021	Function	Turn-on Turn-off light manually	1	Clicking on the switch component to turn-on and turn-off light.	Passed	User can control light by clicking switch button	User can control light by clicking switch button	i)Check if the circuit is correct connected ii)Check if the LED breaks down iii)Check if there is any design issue	-	-
	22/10/2021	...	Turn-on Turn-off light automatically	2	After switching automatic on, the light can turn-on and turn-off automatically.	Passed	The light can turn-on when closing the curtain. And turn-off when it is sunny outside.	The light turn-on, turn-off automatically as expected.	i)Check if the curtain is completely closed ii)Check if the environment is so bright iii)Check if there is any design issue	-	-

	4/11/2021	...	message system	1	The system can send messages to users to check if they are at home.	Passed	The system can send the message to the user and turn-off the light if all users clicked the link to indicate they are not at home.	The system can send email to users with two options (at home/ not at home). If all users clicked the link 'not at home', the light would turn off automatically.	i) Check the network connection ii)Check if there is any design issue	-	-
	-	...	log system	1	The system can record the operation history.	Passed	The log can be found in the database after any operations to the system	Everytime you interact with the server, the action and the user will be saved	i)Check if the database is correct connected with the program ii)Check if there is any design issue.	-	-
	-	Authorization	Normal user can not edit users' information	1	Normal users can not access the admin page.	Failed	Normal users don't have the "management" option button.	both a User and An Admin will seeing a admin page including the feature	i)Check if the testing "user" is a normal user ii)Check if there is any design issue and fix it	failed	We still need to create an User page that can only view and alternate lights
Application Testing (SolarQube)	5/11/2021	source code review		1		Passed	Passed with less issues	screenshot attach below	i)Check the details, and fix the issues.	-	-
Application Testing (Selenium)	2/11/2021	Integration test		1	We tested the operations on elements of various components in our html page such as click, send_key and submit.	Passed	Passed	screenshot attach below	i)Check the details, and fix the issues.	-	-
	2/11/2021	Web application	Logging in successfully	1	Logging in can only be done with known credentials in the database	Passed	User will be logged in and redirected to the home page	User logged in and redirected to the home page	i)Check if the html id's for the input fields are found ii)Check if the database can be reached iii)Check if the used credentials are recognized by the system	-	-
	2/11/2021	Web application	Changing GPIO pin	2	The system can change which light	Passed	The GPIO pin will change in the web application	GPIO pin changed in the web application	i)Check if the html id for the toggle is found ii)Check if the database can be reached	-	-

					correlates to which GPIO pin						
	2/11/2021	Web application	Send a message to a user	2	The system can send a message from one user to another	Passed	User will click on chat, type in a message and click send	User goes to chat and sends a message	i) check if the message will be received by the server and will make certain actions for it. ii) check if the message has been saved for the receiver	-	-
	2/11/2021	Web application	Switch to the different rooms	2	The system contains different rooms to which components can be assigned	Passed	User will toggle between different rooms on the main page	User toggled between different rooms on the main page	i) check if the request for html page is reached and accepted by the server ii) check if you get the html page with a valid sessionId, iii) check if the requested html will be returned to the user in the request function	-	-
	2/11/2021	Web application	Toggle to dashboard, components, users and chat	2	The home page has different tabs with unique functionalities	Passed	User will toggle between the different pages on the home page	User toggled between dashboard, components, users and chat	i) check if the request for html page is reached and accepted by the server ii) check if you get the html page with a valid sessionId, iii) check if the requested html will be returned to the user in the request function	-	-
	2/11/2021	Web application	Turn automatic lights on	2	The system has two toggles, one to turn a light on/off, and one to make the light turn itself on automatically with the help of a light sensor	Passed	User will toggle the switch to turn on automatic lights	User toggled the switch to turn on automatic lights	i) check if the request to alternate automatic light has been reached and accepted to the server ii)Check if the correct lightsensor is selected by the user and the server and which light the lightsensor will alternate. iii) check if the lightsensor with a capacitor are working	-	-
	2/11/2021	web application	Turn light on	2	The system has a toggle to turn a light on	Passed	the light will be turned on, and will be seen on the pi with the given light	The light has turned successfully on	i) check if the request to alternate light has been reached and accepted to the server ii)Check if the given light with a GPIO has changed or a different GPIO has been alternated.	-	-

	2/11/2021	web application	Turn light off	2	If the same toggle is clicked when the light is on, the light will turn off	Passed	the light will be turned off, and will be seen on the pi with the given light	The light has turned successfully off	i) check if the request to alternate light has been reached and accepted to the server ii)Check if the given light with a GPIO has changed or a different GPIO has been alternated.	-	-
	2/11/2021	Web application	Logging out successfully	3	The user can log out, such that another user can log in	Passed	User will be logged out and redirected to the login page	User is logged out and redirected to the login page	i)Check if session token is deleted ii)Check if the request to log out has reached the server	-	-
Acceptance Testing	1/11/2021	Acceptance	user friendly	1	We let 5 testees experience our web-application, and did surveys to indicate their feelings and suggestions.	Passed	Got the average SUS score beyond 70. Which means the application is easy to use and user-friendly.	According to the 5 survey results, we got 83.5 as the average score. One of them suggests maybe the switch button in the dashboard can be clearer.	i)Make the web-application more user-friendly	-	-

SonarQube test result

