HTU.

School of Computing and Informatics

Website Design and Development

Test Plan
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Website URL: http://hamzamuhsen.com/
Githup link: https://github.com/Hamza-muhsen/website-semester-section2--20110044-HamzaMuhsen

Test Plan

1. Scope (in scope, out scope)

In scope of the website:

It is a government website specialized in many things and provide many feature that can facilitate people life, the features that the website provides are : page about inquiries about bills to know the required money to paid, page about new subscriptions to the electric company and complaint about services or functionalities in the website. To describe each page:

-Inquire page --> the user will write the required information in the correct field and press the button (inquire) to move to show bill page.

-Show bill --> this page is dependent on the inquire page, so if the user didn't fill the inquire, this page will not show to him. In this page will show the information about his bill and required money to pay.

- new subscriptions--> this page is for the users that didn't have the electricity yet. So, they just need fill the required information and wait to the responses to see the answer if (accept the request or reject).

-Complaint--> if the users faced any problem (in the electricity services or issues in the website), they can send the complaint file to the company by using the required information to fill the file.

 Summary:

✓   Inquire about the user bill by filling in his information and the required money will show to the user.

✓   Request a new subscription to benefit from the services by filling in

a form containing information about the request data and personal

information.

✓   Sending a complaint to the company by filling in his information and

description about the complain to express poor service or a technical error in

the website.

➔ Also the user can visit the company social media platforms and know more about the company.

Test Plan

Out scope of the website:

This website is not a full completed and missed things in the pages and need to some updates that will increase the performance and creativity and that's called (Out scope), in this website the out scoops are:

- If the user shows the show bill screen and saw the amount to paid, he can't pay through website, and he should go to any branch of the company to pay the bill.

- The user can't add an image that show the problem in the description about a complaint, and he must write and describe the problem.

- The users can't change the theme, font color , font size of the website.

- In the subscription page, the users can't see the status of his request if his request accepted or rejected.

- The users can't see the locations of the company branches on the website and they need to visit the Facebook page and see some of the locations.

- Maybe in the future the website will contain the login and register pages to save all the users information and not make the users to fill every page to see the services of the company.

2. **Testing strategy**

2.1 Test objectives

Testing is an important processes in the website to know all the missed vulnerabilities in the website, many goals of the testing and it's different from each company, for example in this website the goal of testing is to find the bugs and vulnerabilities that the developers didn't notice them and surely treat them all in all the website pages (inquire, show bill, subscribe, complaint) and trying to make the website more user friendly and get the user trust because in this website is asking for national number and other requirement that the users can't give it to any one because it's a sensitive data, also from the testing, I will find the bugs and solve it all to not affect the ranking of this website and to become always available to users when they need it.

Test Plan

Testing is not and randomly process to do and finish, it takes time to test all the requirements on the website, to test all what you need in the website, you need to identify the areas of the website that need to test, for example in this website the area that I need to test:

>> **Testing the design document that related to the website**

Design document is the document that contains all the information about the website such as: the goal of the website, requirements, scope and so on, and also contains the sitemap and initial design of the website (wireframe), after finish the website we need to test the goal of the website, requirements, scope and know if the website fits with all the information in the design document or missed some information to include it in the website before publish it to the internet and the users saw it.

>>**Testing the design of the website**

Also we need to test all the website design before publish it to know if the website is user friendly and looks good and doesn't have any issue, for example of the website design: test the background of the website and know if it hide some titles, paragraphs and others or not , test the font color, size and know if it fit with the website and readable to the users or not, test the responsive design of the website (location of the buttons , the location of the icons, images, videos, footer, titles and paragraphs in the website), Check the responsiveness on mobile version of home page and know if the order of the website pages are fit with the plan ,test the design of the input fields, test the images and icons if it loaded. The testing should implement on the laptop and mobile to complete the testing processes.

>>**Test the functionalities of the website**

After testing the design of the website, we also should testing the functionalities of the website and try to find the issues to solve it, for example of the functionalities in the website: the function of the button and know if the user click on the button it will work or not and it will redirect the user to the correct place or not, know if the input fields and text areas can write inside it or not , and the most important to know if the user fill for example the inquire form with the correct information and clicked on submit button, does the bill show to him with the correct outputs or not or show errors and not show the bill page, know if any errors in the pages when the users put their information to fill any page and know if the pages shows the correct outputs to the users.

Test Plan

>>**Test the data base that related to the website**

Finally test the data base and know it correctly connects with the website and the website can get and give the correct information according to the specific user that fill any page.

2.2 Testing methodology

After identifying the purpose of testing the website and the areas of the testing, we should make a testing methodology to identify what is the first area to start testing it and trying to find the mistakes and treat them. So, my methodology testing in this website is:

1. Start testing the design:

Start testing the design of the website and ensure that all of the area in the design are covered , we can testing the design through:

* test the background of the website and know if it looks fresh, hide some titles and , paragraphs. (how?!) --> I will access to my website and enter all the pages of the website and know if the background is good or prefer to remove it.

* test the font color, size and know if it fit with the website and readable to the users. (how?!) --> Access to the website and enter every page in the website and focus on the font size, color and know if prefer to change the color or size of the font to become more user friendly and show the information very clear.

* test the color and location of the buttons , the location of the icons, images, videos, footer, titles and paragraphs in the website. (how?!) --> Access the website and enter every page and show if the elements of every page are suitable or need some changes.

* test the responsive design of the website and ensure the layouts of the website if it suitable and looks good or need some changes.(how?!) --> access the website and use the developer tool in google chrome that can show you the layout of every page in every screen size to see if any page has the wrong layout and needs more changes.

*test the design of the input fields and the text inside the input field is it readable to users.(how?!) --> Access to the website and enter every page and see if the input fields are clear to users from seeing the size of the border, color input fields,

and so on, and then try to type any thing inside input fields in every page to see the size of the font and test if it clear or needs to reduce the size.

*test the mobile design of the website. (how?!) from the developer google chrome tool , select any type of phones (IOS,Android) and see every page of the website to ensure that the design in the phone is good.

--> In this stage I will use (Google chrome, developer tool) to test all the design

2. Test the functionalities

After testing the design and ensure that all the design area is covered, I recommend to test the functionalities of the website through:

* test the function of the button and know if the user click on the button it will work or not and it will redirect the user to the correct place or not.(how?!)--> Access to the website and click on every button in the website and see if it works correctly and redirect to the correct page.

* know if the input fields, select option field and text areas can write inside it or not. (how?!) --> Access and type in every input field and text area to see if it work or not showing the text, and in the select option field try to select all the options in the select option field to see if it change or not.

* know if the user fill for example the inquire form with the correct information and clicked on submit button, does the bill show to him with the correct outputs or show errors and not show the bill page. (how?!) --> fill all the information required in inquire form and clicked on the button (inquire) to see if it directs to show bill page or not.

* know if any errors in the pages when the users put their information to fill any page and know if the pages shows the correct outputs to the users. (how?!) --> fill all the information required in inquire form and clicked on the button (inquire) to see if it directs to show bill and shows the correct output from the database.

*try to enter invalid input format in any form of any page in the website and show if the website accepts the invalid input that user entered or it will show error to him. (how?!)--> Access to the website and add wrong information format in the input fields in any form and press button (submit).

3.Test the website database:

To ensure the functionalities that all worked well, we should test the database and it's function to ensure that we covered all the aspects of the website. We can test the data base by:

Test Plan

*test the data base and know if it correctly connects with the website and the website can get and give the correct information according to the specific user that fill any page, test the tables ,values, attributes in the data base to prevent any data loss. (how?!)--> Access to the website and add required information in form (subscription, complaint) and press button (submit) and then go to the php my admin and select the data base of the website and select correct table to see if the information added to the database, in inquire form I will fill all the information required and clicked on the button (inquire) to see if it directs to show bill and shows the correct outputs from the database.

4. Test the design document:

In the final stage, we test the design document and compare it with the website to ensure that all the information in the design document implemented in the website and cover all the goals of the website. We will test the design document through:

* Test the goal of the website, requirements, scope and know if the website fits with all the information in the design document or missed some information to include it in the website before publish it to the internet and the users saw it. (How?!) --> first, read carefully the design document and then access to the website and see if it's implemented in the website or not.

* Compare the structure of the website with the sitemap in design document. (How?!) --> see the sitemap from the design document and compare it with the structure of the website in google chrome.

 --> In all these stages I will use (Google chrome, developer tool) to complete test all the website.

Test Plan

2.3 Schedule

No	Date from	Date to	Number of hours	Test Type *(Responsiveness, form validation, consistency … etc.)*	Description
1	8/6/2022	8/6/2022	2	Consistency	Test the background, font color, font size, color and location of the buttons, the location of the icons, images, videos, footer, titles and paragraphs of the website.
2	9/6/2022	10/6/2022	4	Responsiveness	Ensure the layouts of the website if it suitable and looks good or need some changes.
3	11/6/2022	11/6/2022	3	Consistency	test the design of the input fields if it's size big or small, border, color and know if it needs some changes.
4	12/6/2022	12/6/2022	3	Interface	test the mobile design of the website. From the developer google chrome tool, select any size screens of phones and see every page of the website to ensure that the design in the phone is good or need updates.
5	14/6/2022	14/6/2022	2	Functionalities	test the function of the buttons, and its direction if the user clicked on it.
6	15/6/2022	15/6/2022	2	Functionalities	Test input fields, select option field and text areas can write inside it or not and show text to user.
7	16/6/2022	16/6/2022	4	Form validations	Test the form validations by put invalid format in any input field in any page and see if it accepts it or not.
8	17/6/2022	19/6/2022	5	Functionalities	Test if any errors show in the pages when the users put their information to fill any page and know if the pages show the correct outputs to the users. (Test all website pages)
9	20/6/2022	20/6/2022	5	Functionalities	Test the data base and know if it correctly connects with the website and the website can get and give the correct information according to the specific user that fill any page
10	21/6/2022	21/6/2022	2	Consistency	test the goal of the website, requirements, scope and know if the website fits with all the information in the design document or missed some information
11	22/6/2022	22/6/2022	2	Consistency	Compare the structure of the website with the sitemap in design document

Test Plan

3. Test Cases

No	Description	Type (Responsive, Navigation, look and feel, page titles, form validation ..etc.)	Steps	Expected results	status
1	Check the functionalities of the buttons in the home page and redirect the user to the specific page if he clicked on.	Functionalities	1- Access the website 2- To the home page. 3- Click on every button in home page 4- Check if it works and redirect the user to the required page.	Redirect the user to the correct page that he clicked on.	Passed.
2	Check if the company icon shown good and loaded in every page.	Look and feel	1- Access the website 2- Enter every page by click on the buttons in the home page. 3- Focus on the company icon if it loaded and clear to users.	See the company icon in the top the page on the left and it should be loaded and clear to users to see it.	Passed.
3	Check the services icons if it loaded in the home pages and describe each service in website.	Look and feel	1- Access the website 2- On the homepage, see the services icons and it should be clear and loaded.	it should be clear ,loaded and the most important, it should describe the service.	Passed.
4	Check if the website titles are clear to read , useful to users and describe the content.	Page titles	1- Access the website 2- Enter every page by click on the buttons in the home page. 3- Focus on titles and see each title in the pages.	it should be clear ,loaded and should describe the content.	Passed.
5	Check the font size , color of paragraphs on the website if it clear, readable and useful to users.	Look and feel	1- Access the website 2- Enter every page by click on the buttons in the home page. 3- Focus on paragraphs and see each paragraph in the pages.	it should be clear, readable and useful to users.	Passed.
6	Check the functionality of anchor (Facebook , Instagram, Twitter icons) if it correctly redirect the users to correct social media platform.	Navigation	1- Access the website. 2- On the home page, scroll down in the footer. 3- The icons of the social media will appear. 4- Click on every icon and see if it redirect the user or not.	Redirect the user to the correct social media platform that he selected and see the profile of the company.	Passed.

7	Check the responsiveness on mobile version of home page and know if the order of the website pages is fit with the plan.	Responsiveness	1- Access the website 2- By using developer tool, I can select any type of phone. 3- Select any type or phone 4- Enter every page and see if it fit with the design planned or not.	The elements design of the mobile versions should be under each other, so in home page each service should be under each other.	Passed
8	Check the element's location are fit with the plan in home page (laptop versions)	Responsiveness	1- Access the website 2- In the home page, see if the elements are designed as planned before.	The company icon and name should be in the top of the page, the titles should be before the paragraph, the service should be beside each other, footer in the end.	Passed
9	Check if the user entered the right inputs required in the inquire page, will it redirect him to the show bill and show him the correct outputs	Navigation	1-Access the website 2-Enter the inquire page. 3-Fill the right inputs in input fields. 4-Click on inquire button	After fill the correct information, the website will redirect the user to show bill page and show him the correct bill that related to the user.	Passed
10	Enter invalid subscription number in inquire page and see if will show the bill of a user.	Validation form	1-Access the website 2-Enter the inquire page. 3- Fill wrong subscription number in subscription number field. 5-Click on inquire button	It should redirect to the show bill page but showing error to user that he should type a valid input and not showing any bill.	Passed
11	Not fill one or more require field in any form page of the website (inquire, subscription, and complaint forms)	Validation form	1- Access the website. 2- Enter every page in the website 3- Not fill one required inputs 4- Click on submit button	In inquire form, It should redirect to the show bill page but showing error to user that he should fill a input and not showing any bill. In other form pages, it will	Passed

				show errors to users	
12	Enter invalid format of email field in Complaint page	Validation form	1- Access the website 2- Enter in Complaint page 3- Enter invalid format of email field 4- Click on button submit	It should show error to user that he filled an invalid input and try again with correct email format	Passed
13	Enter text in phone number fields in website pages	Validation form	1- Access the website 2- Enter in Complaint , subscription page 3-Enter invalid format (text) in phone field 4- Click on button submit	The user can't type a text in phone number field and he should only type number.	Passed
14	Enter existed national number in the data base in new subscription page.	Validation form	1- Access the website 2-Enter in new subscription page 3- type existed national number from the database 4- Click on button submit	Error will show to the user. (national number existed, please write another national number)	Passed
15	Enter existed phone number in the data base in new subscription page.	Validation form	1- Access the website 2- Enter in new subscription page 3- Type existed national number from the database 4- Click on button submit	Error will show to the user. (phone number existed, please write another phone number)	Passed
16	User can complaint more than one time with his information	Functionalities , validation form	1- Access the website 2-Enter in complaint page 3- Type existed information from the database to complaint another one 4- Click on button submit	It will accept the second complaint and print it in the data base.	Failed.
17	Test the design of the input fields (test the size of the fields, design the size text inside the fields, color text)	Look and feel	1-Access the website 2-Enter every page that contains the input fields on the website. 3-Focus on and test the design if it suitable with the page and trying to type any text inside every input field	The input fields must be suitable and looks good and comfortable to users and the text inside the input fields must be average size and black color	Passed.

4. **Evaluate the Quality Assurance (QA) process**

4.1 Requirements

The requirements are important of the website, and I always focused on the requirements when I was working on front and back end of my website because the requirements of my website guided me to do the correct website to achieve the goals and I tried to cover all the requirements of my website.

After I finished the development of my website and finished the test plan, I think that I covered the majority of the requirements that in the design document and I covered them perfectly except in the complaint from, the user can't complaint twice with his information and he should put another information and that's not good and I will consider this problem in the future upgrades. The website changed a lot and there are many differences between the website and design document in (requirement, wire frame) but the goals didn't change, for example of the requirements that didn't covered in the website --> in the design document, I put a requirement that the user can call the customer services by click on the phone icon but in the website and I didn't put the phone number and icon of the phone and just put the icons of social media platforms , also in the design document I didn't mention any thing about the complaint form in the requirements and that not acceptable (I didn't put it because I forgot to write it in the requirement section) but the rest of the requirement are perfectly covered in the website and if the user put his correct information in any form in any page in the website, it will work as expected and he easily can visit any social media platforms that related to the company and show the profile of the company to the users .

- **Reminder --> the requirements in the design document:**

1) User can show his bill by entering his information and information about his

subscription and the amount of required money will show.

2) User can send new subscription to get new services by entering his

information and information related to the request data.

3) User can visit the website's social media platforms by pressing the button of

the specific platform below the site.

4) User can call the company customer service by using the phone number at the top of the page.

5) User can add his information in the website to benefit from the services.

4.2 Design

Also, we also know about design and the important of the design in the website process, I also created a design document that contains the initial design of the website, my design document reflected to my website in front end and back end. There are many differences and similarities

between the initial design in design document and the website design for examples of the differences:

- In home page in design document, I put a big image that describe the function of the website and it goal but I didn't think that I will start design the mobile version first (mobile first) so I didn't put the big image because the size of mobile screens are small compare with the image.
- Also in design document in didn't put the company title in the top of the page in every page in the website, but when I started the design of the website, I realized that I should put the company title in every page in the website.

So, this is the only differences and the rest is the similarities. When I started testing the website to know the bugs, I considered the design as part of the testing plan and tested a lot of cases that related to design (Look and feel and responsiveness test types) to know if the design is implemented very well and doesn't need some changes, I tested the design by following the process testing to ensure that I tested the design very well and ensure to get the best outcomes of testing, and when I finished testing the design I realized that all the design cases are successful implemented in my website that related to look and feel and responsiveness test types without any mistakes and issues that can affect the quality and user friendly of the website also I should mention that I followed the best process of the design testing in testing plan and that helped me to get the real outcome for example I carefully followed and considered the steps of test cases and expected result and check more than one time in every test case before put the status in every test case in design and ensure that every component related to design is perfectly implemented in the website without any mistakes. Also, I think that I covered the majority of the test cases that related to the design in the test plan and that's evidence of the good quality of test processes.

4.3 Front-end Development

Front end considered as a part of the test plan, and I mention many parts of front end in the test plan to ensure that everything in the front end are work perfectly. For examples of the front end test that I mentioned it in test cases are -> the font color, size, buttons, responsive, anchors(links),titles, icons and others.

First , I checked the font size of the paragraphs, titles and know if it clear to users and the users can see every character in the website without any issues and I done this test by go to the website and enter every page in the website pages and see if there is any issue with the font size and front end in general and the font size is the first thing that I tested first because it's played an important role in the website user friendly, after that I tested the font color of the paragraphs, titles and buttons if it suitable with the website background and icon and the user can read it comfortable and I complete testing it perfectly and ensure with everything that related to the font color and also I done this case by using the steps that in the font size but I focused on the colors ,and all the steps that related to the design (front end) success without any problem. Also in the responsive design is related to the front end so we must mention it in this section, in responsiveness design I used the developer tool that is in google chrome and it's helped me in layouts of the web pages and helped me in mobile version and tablet test case and see the website on the phone sizes and know the issues that need some changes such as the location of the website elements and so on, and the responsiveness cases was all success without any issue whether in laptop or phone screens and that's because I implemented the mobile first technique and that's helped me to get the best result. Finally test the each page is easily accessible by testing the buttons and links in the website. In general, the front end successfully implemented in the website by nearly getting more than 95% success.

4.4 Back-end Development

We all know the back end and know the experience of the back end , in testing process in my website, I tested the functionalities of the website in each page and know if it work with goals of the website, first I went to every page that contains input field (insert data to database) and tested it if the information will send to the data base with the correct form and after that trying to put incorrect information in the input fields and see if the website will accept the information and send it to the database or not, second ,the pages such as inquire page (select data from database) --> tested if the user put the correct information and see if the outcomes will be correct or it will show the wrong information such as bill of another user and also write wrong information and see what will happen. In the end, we must test the data base that related to the website and see if the user can insert, select data and also test the availability of the data base and test if the data base will accept the wrong validation from or will show error (for example)--> in phone number field , if the user put a characters not numbers, will the website accept the characters and saved in database or it will show error to the user. In general, the back end section I successfully implemented but still needs some changes and updates things and I think that I successfully implemented 90% or more of back end section.

5. Critical evaluation of the results of your Test Plan.

Through all the process to make the website from the design document to the test plan, I think that I did a great job because in every process I got a great outcome that fits with the goal and requirements of the website defined, and I didn't do anything that is away of goal of the website. And for evidence of my great work, when I did the test plan and made the test cases table, I got nearly 95% of the test cases success without any mistake and I got only one fail test cases which is if the user can't complaint one than one time with his information and he should put different information that isn't in the database to complaint again ,and to be honest it's not an acceptable fail and I should solve it first when I want to make the future upgrades on the website but in general I'm very happy with the work I have done it from the design document to test plan specially in test plan process because from the test plan , I discovered this fail in my website but on the other hand, I discovered that I covered most functionalities success without any issue and I hope to improve my skills and not face the fail again when I do another website.

6. Review of the overall success areas of the multipage website.

Depending on the testing plan I found the success areas in my website:

- Success in the test type (look and field) in many things such as : font size and color is suitable and fits with the website background and clear to users to see , clear and loaded icons that in the website pages and specially in home page and icons describe the work of the services

that the website provides, titles in the website pages are describe the content and useful to users, the paragraphs in the web pages are useful to users and related to the function of the website.

- Success in the responsiveness on mobile version of home page and know if the order of the website pages is fit with the plan and success in the elements order that fit with the plan in home page (laptop versions).
- Success in the functionalities of such as: success the function of the button and redirect the user to the correct place, success in the functions of the webpages for example if the user fill the inquire form with the correct information and clicked on submit button, the bill will show to him with the correct outputs and not show errors, success in not showing any errors in the pages when the users put their information to fill any page and success in showing the correct outputs to the users.
- Success the functionalities of data base such as: success in get and give the correct information according to the specific user that fill any page.
- Success in achieve the main requirements of the website and it's goal , note that there are some requirements that didn't implement in the website as discussed before .

ONE EXTRA:

- Success in all the validation format test cases such as:
  - Enter invalid subscription number in inquire page and see if will show the bill of a user.
  - Not fill one or more require field in any form page of the website (inquire, subscription, and complaint forms).
  - Enter invalid format of email field in Complaint page.
  - Enter text in phone number fields in website pages
  - Enter existed national number in the data base in new subscription page.
  - Enter existed phone number in the data base in new subscription page.

7. Justified recommendations for areas that require improvement.

I think that I have many future improvement to the website to implement and the improvement will help to improve the rank of the website and make the website more easier to use, more user friendly, user experience and other benefits, so the recommendation to improve the website are :

- First is fix the failure in the complaint page and make the user complaint more than one time with his information and send it, also the data base must show the all the user complaints and not only the latest one.
- Add the requirement phone number and the icon of phone number in the home page because it may help the users and I mentioned it in the design document, and it didn't implement on the website.
- Make a login page on the website to make it easier to users so the users can't put his information every time he wants to benefit from the services on the website.
- If we want to make the login page, we must add another page that contains the information of the user, and the user can edit or delete his information.
- Maybe after years ago, make some changes on the responsiveness and change the layout of the pages and make it more effective.
- In new subscription page, we will make the website accept if the user put the same national number twice but for this case only -> if he had the personal subscription and he had for

example a store and he want to subscribe to a commercial subscription, so in this case we will accept the same national number and phone number.

- In inquire page, we should not make the month and the year required field and make it optional and if the user didn't fill it , the bill page will show the sum of all money required from all the months and years but if he put the specific month and year, it will show to him the money of the month and year he selected.