# COIT11226 Assessment item 4 — Individual Project

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**Introduction:**

This report is about the implementation of a new system for CQ Real Estate, following the waterfall model. the report includes User Interface Design, Testing, Deployment Strategies, and Techniques for end-user familiarity.

In the User Interface Design section, we have developed a user-friendly interface for the users. We have also provided wireframes and insights for five key use cases.

The Testing section discusses applicable testing types, their phases in the project life cycle, procedures, and key stakeholders who are involved in the testing and why we have chosen the testing methods.

In Deployment section we have described the available strategies and which strategy is the best strategy for the new system along with we have also provided justification.

Techniques for end-user familiarity highlight training programs, and online support, outlining their pros and cons.

This report aims to offer practical guidance for the success of CQ Real Estate project, ensuring that stakeholders are well-prepared to execute and embrace the new system.

**User Interface Design:** Here I will discuss 5 user interface designs for the CQ real estate.

**User Interface Design 1:**



This User Interface Design is for buyers. In the first page buyers will see an option which is PRODUCTS. Buyers can see the products of CQ real estate without creating any account and this feature is added here for attracting the buyers. When they will click on “PRODUCTS” they will be able to see what type of property CQ Real Estate has and that will attract them to create an account with CQ Realm Estate. After that they can see the offers by clicking on OFFERS. Then they can create an account by using the SIGN-UP option. By using the CONTACT WUTH US they will be able to contact with CQ Real Estate customer care. They can also use ABOUT US for knowing about CQ Real Estate. When they will choice SIGN IN option, they will find the second interface and, in this interface, they can Sign In by using their email and password. After signing in they will be able to see the 3rd interface where they will find different properties. After clicking on any property’s picture, they will find the 4th interface where they will be able to know all about the property. On every page there is an option called “Back” by using this option buyers can go back to the previous interface.

**User Interface 2:**



This User Interface Design is for property sellers. The first page is same for both buyers and sellers. In the first page buyers and sellers will find the same options but when they will click on SIGN UP for creating an account at that time sellers will select selling account and buyer will select buying account. When sellers will click on “SIGN IN” option they will find the second interface and when they will enter their email and password system will automatically open the third interface for seller. In third interface sellers will find their property list by using “MY PROPERTY LIST”. They will be able to add new properties by using “ADD A NEW PROPERTY”. When they will click on “ADD A NEW PROPERTY” they will be able to see the fourth interface where system will ask them for upload photos of his property and system will ask all details, like pricing location and personal details of seller. By giving these information sellers can easily add a new property ON CQ Real Estate system. Selles will be able to see their sold properties by using “SOLD PROPERTIES” and will be able to edit property details by using “UPDATE PROPERY DETAILS”.

**User Interface Design 3:**



This User Interface Design is for admins. In the first interface admins will find “ADMIN SIGN IN” and “REGISTER AS AN ADMINN”. When CQ Real Estate will hire any new admin, they will use “REGISTER AS AN ADMIN” option for creating their admin account. By using “SIGN IN” option admins will be able to open second interface and after entering their admin id and admin password they will be able to sign in the system and they will find the third interface where they will be able to update all the market details, property details, employee lists, share holders list, budget details, appointments and employee lists.

**User Interface Design 4:**



This user interface for employees. In the admin page employee will find two option which are “EMPLOYEE SIGN IN” and “REGISTER AS AN EMPLOYEE”. By using second option new employees will be able to set up their new employee account. By using “EMPLOYEE SIGN IN” employees will be able to open the second interface and by entering employee id and password they will find the third interface where they will be able to excess all the important things for their work like market details, buyers and sellers’ details, appointments and they will also be able to see their payslips.

**User Interface Design 5:**



This interface is for only owner and the most important interface. In the first interface owner will see two options one is “OWNER SIGN IN” another one is “OWNER SIGN UP”. By using “OWNER SIGN UP” owner will be able to set up the owner account. Using the “OWNER SIGN IN” owner will be able to open the second interface where owner will enter the owner id and owner password and after that owner will be able to sign into the system and will find the third interface where owner will find every important thing about CQ Real Estate. When owner will click on “MARKET DETAILS” the fourth interface will open and owner will be able to see market details and if owner clicks on “EMPLOYEE LIST”, the fifth interface will open, and owner will be able to see the employee list. By using the options of third interface owner will be able to know every detail of CQ Real Estate.

**Testing**: In phrase 3 we have developed some programs for CQ Real Estate, and we will test them in phrase 4 and which programs are not developed, we will test them in phrase 5. We will use white box testing for the developed programs in phrase 4 and we will use black box testing in phrase 6 for the programmes which are not developed yet.

**White Box Testing:**

**What is white box testing:** the other name of white box testing is glass box testing. Generally, it is a software testing technique that focus on evaluating the internal code, structure, and logic of a program.

**Why white box testing:** I choice white box testing method in phrase 4 for testing the developed programs because white box testing allows us to verify the correctness of the program’s logic and functionality, it also allows us to identify coding errors, logic flaws and ensure that all code paths are tested along with the white box testing helps us to access code coverage and ensure us that all code statements and conditions are exercised which is very important for testing the programs which are developed for the CQ Real Estate.

**Types of White Box Testing to Be Performed:**

* **Unit Testing:** Wewill use this testing to validate individual program components.
* **Code Coverage Analysis:** we will use this testing to ensure code coverage and identify areas for improvement.

**Who will test the developed programs:**

* **QA Team:** The Quality Assurance (QA) team lead the Unit Testing and the Code Coverage Analysis testing.
* **Developers:** the developers who have developed the programs will create some unit test cases.

**Procedure of Unit Testing:**

* At the beginning the developers will create some test cases for their respective program components based on the internal requirements and logic.
* After that, the Quality Assurance engineers will execute all the unit test cases for verifying the correctness and quality of individual programs.

**Main Stakeholders:** QA engineers and Developers.

**Procedure of Code Coverage Analysis Testing:**

* In this test, QA engineers will use some code coverage analysis tools to identify the range of code coverage range achieved during the test.
* They will generate some reports for identifying the areas of code that have not been properly tested.

**Main stakeholders:** QA engineers.

**Black Box Testing:**

**What is black box testing:** Black box testing is a software testing method where the internal code is unknown, and the tester evaluates the software functionality by examine inputs and outputs. It is user focused and helps to find defects or issue in the software behaviour.

**Why black box testing**: I choose black box testing in phrase 5 for the programs which are not developed yet because it is suitable for the programs in early development stages, and it mainly focus on assessing the software’s external functionality. Black box testing ensure that the programs meet the specific requirements, and it also helps to detect logical errors early in the development process.

**Types of Black Box Testing to Be Performed:**

* **Functional Testing for Future Features:** We will perform this testing to validate that the programs will develop in future meet the specific requirements and function properly.
* **Usability Testing:** This test will be conducted to know the user-friendliness of the user interface for the future programs.
* **Compatibility Testing:** This testing will be used to ensure that the future programs are compatible with other bowers and devices.

**Who will test the developed programs:**

* **QA (Quality Assurance) Testers and Testing Specialist**: QA testers and testing specialist will lead the functional testings testing.
* **Usability Experts and Testers:** Usability Experts and Testers will lead the usability testing.
* **QA team and Combability Testers**: They will lead the capability testing.

**Procedure of Functional Testing for Future Features:**

* At first QA tester will define test cases and scenarios-based ion the expected functionality and requirements of the future programs.
* In the second step, the QA tester and testing specialist will execute these test cases.
* In the final step, QA testers will verify the functionality meets the specific requirements.

**Main Stakeholders:** QA testers and testing specialist.

**Procedure of Usability Testing:**

* At first usability experts and testers will design mock-ups of the future programs.
* Then they will assess the user-friendliness of the user interface.
* Finally, they will collect feedback to improve the user experience.

**Main Stakeholders:** Usability experts and testers.

**Procedure of Combability Testing:**

* At first the capability tester will ensure that the future programs are compatible with other of platforms and with a variety of devices.
* Then the QA team will validate the software performance in different user environment.

**Main stakeholders:** QA team and combability testers.

**Deployment:**

**Direct deployment:** Direct deployment is a straightforward process **for** installing and configuring a new system. It includes preparation, installation, configuration, data migration, user training and documentation. This rapid approach can work for small scale deployments, but it is not suitable for complex system. It has so many risks when we use it for a bigger project.

**Phased Deployment:** Phased deployment is a strategy where deployment process is divided into several steps and perform them step by step rather than all at once. It starts with limited user’s groups or specific features and gradually expands to a wider audience or additional features. This method mitigates risks and allows to resolve the issue at each phase. It also ensures a smoother transition to the final deployment. This method is also cost efficient.

**Parallel deployment:** Parallel deployment is a software release method where a new system is introduced along with the existing one and allow them to run together. This minimize the disruption because user can continue using the old system while new system is being tested. It provides a smooth user experience and provides a safety net case issues arise with the new system. While the new system is stable and users have transferred, the old system is retired. Though parallel deployment offers a smooth transition, it has so many disadvantages. It is very complex and costly, and it requires additional resources and manpower, and some Compatibility issues can be raised during integrating old and new systems.

**Selected Deployment for the CQ Real Estate:** for deploying CQ Real Estate new system I have chosen the phase deployment.

**Why Phased deployment:** Phased deployment is cost efficient and easier and safer than other methods. The direct deployment is very risky for the CQ Real Estate’s new system because this system is a bigger and complex system and direct deployment is not a suitable method for this type of system. The parallel deployment system is very complex and costly, and it needs many reassurances. Overall, phased deployment method is the safest, easiest, and cheapest for the CQ Real Estate system. So, it will be the best option for the new developed system.

**Techniques for End-User Familiarity:**

**Q&A System:** We will create a platform where the users will be able to ask questions about new system and the admins of the CQ Real Estate system will answer the questions and after gathering all the common questions the administrator team will upload the questions and the answerers in the system so that the new users can easily find solutions related to their problems. But in this technique, we will need some extra work forces which will be costly, and it is a limited understanding system. Sometimes users may not get the proper solution.

**Online Tutorials**: For CQ Real Estate we cannot arrange a workshop where we can train the users to be familiar with new system because CQ Real Estate has a lot of users, but we can create a video tutorial about how the new system works and the user will watch the video and will be able to familiar with the new system. It will be cost effective and time efficient, but the problem is users cannot ask any questions directly to the system admins about their problems for these reasons sometimes they may not be able to find the solution. Overall, it is a good option for the system and the users.

**Summary:** In this report on CQ Real Estate’s new system, I have presented an overview of user interface design, I have described five user interfaces based on use cases. I have detailed the chosen system testing methods, I have justified the selected method. The report also outlines the system deployment strategies, with strong justifications. Lastly, I have described about the techniques CQ Real Estate will use for helping the users to be familiar with the new system.

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