**ASSIGNMENT I**

**BIT 302**

**Software Engineering**

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**Project Proposal**

**Covid Testing Information System (CTIS)**

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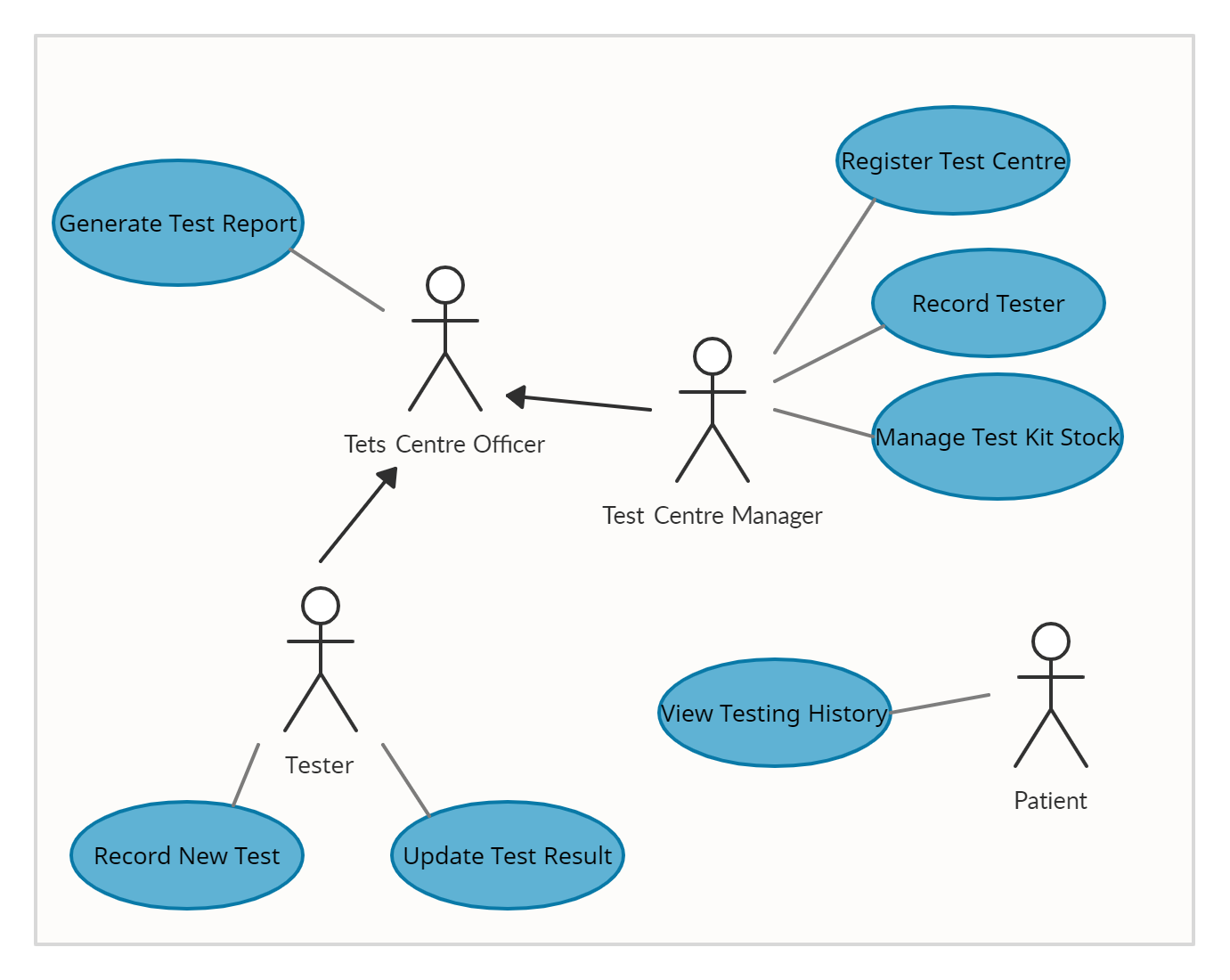
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Functional requirements

Non – Functional Requirements

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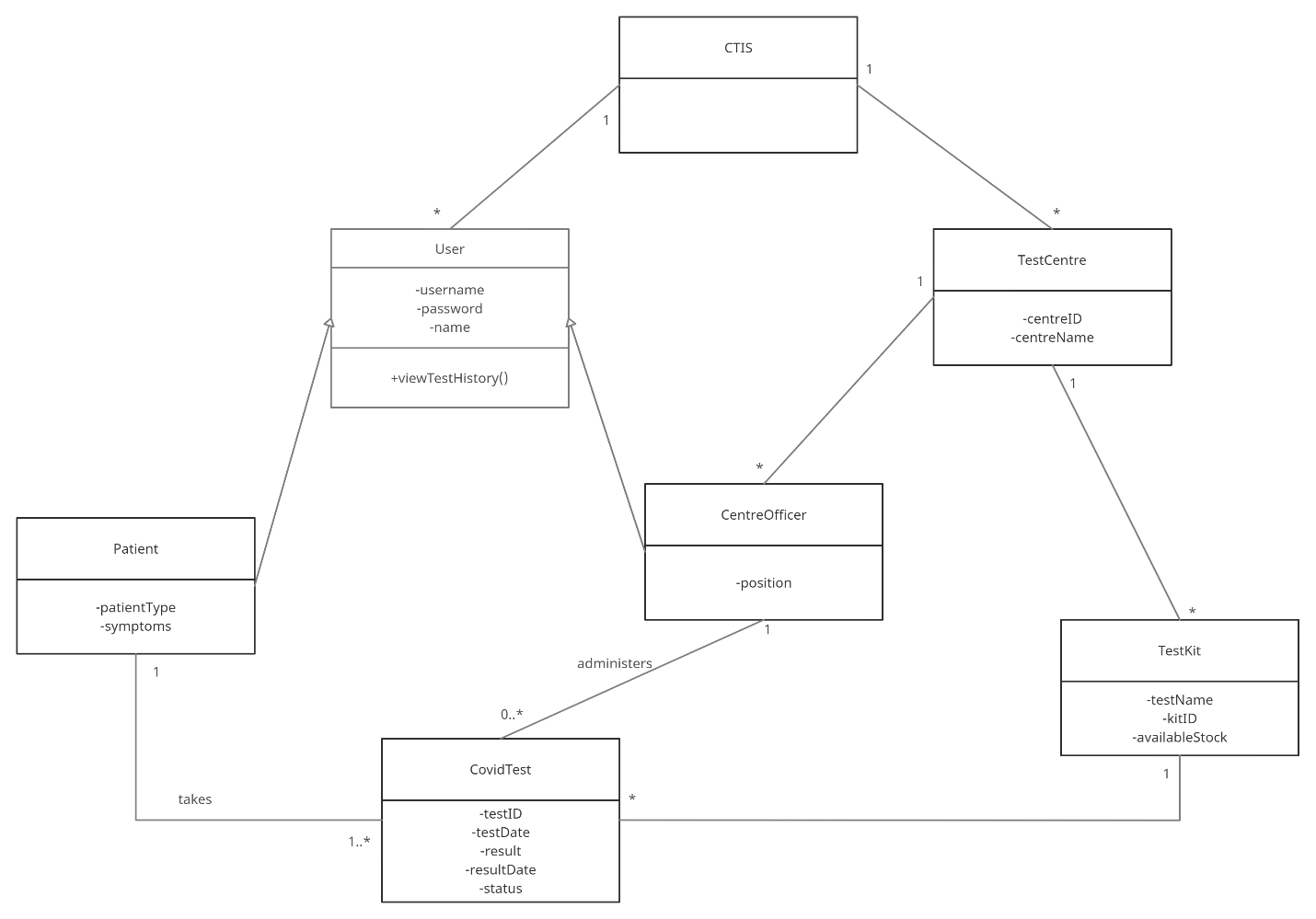
Use Case Diagram



Use Cases

|  |  |  |
| --- | --- | --- |
| Use Case | Actor | Requirement |
| Register Test Centre | Test Centre Manager | Page for Test Centre Manager in register the Test Centre. |
| Record Tester | Test Centre Manager | Page for Test Centre Manager in record a new Test Centre Officer with position “Tester”. |
| Manage Test Kit Stock | Test Centre Manager | Page for Test Centre Manager to manage the stock of test kits. |
| Generate Test Report | Test Centre Officer | Page for Test Centre Officer to display history all test that have been administered the officer. |
| Record New Test | Tester | Page for Tester to record a patient that has taken a test. |
| Update Test Result | Tester | Page for Tester to update the test result from patient. |
| View Testing History | Patient | Page for Patient to view all history of test that have been taken. |

Analysis Class Diagram



Expanded Use Case

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| --- | --- |
| **Use Case 1** | Register Test Centre |
| **Goal in Context** | To allow Test Centre Manager register Test Centre’s name |
| **Primary Actor**  **Secondary Actor** | Test Centre Manager |
| **Trigger** | Test Centre has been approved and Test Centre Manager’s account has been set up as a centre officer |
| **Typical Course of Events Actor Action** | **System Response** |
| 1. This use case starts when the Test Centre Manager wants to register the centre’s name. |  |
| 1. The Test Manager logs in to register the centre’s name. | Test centre’s name is registered. The centreID is created automatically and recorded. |
| **Alternative Course of Events**  **Line 2:** …. | |

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| **Use Case 2** | Record Tester |
| **Goal in Context** | To allow Test Centre Manager set and record the centre officer position as “Tester” |
| **Primary Actor**  **Secondary Actor** | Test Centre Manager |
| **Trigger** | The Test Centre Manager wants to record a new Test Centre Officer with the position ‘tester’. |
| **Typical Course of Events Actor Action** | **System Response** |
| 1. This use case starts when the Test Centre Manager wants to record a new Test Centre Officer’s position with “Tester”. |  |
| 1. The Test Manager logs in to records the username, password, and name of the officer and set the position to “Tester”. | The Test Centre Officer that have been recorded is set as “Tester”. |
| **Alternative Course of Events**  **Line 2:** If there another record new Centre Officer to set the position is “Tester”, repeat line 2. | |

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| **Use Case 3** | Manage Test Kit Stock |
| **Goal in Context** | To allow Test Centre Manager able to manage the stock of test kits |
| **Primary Actor**  **Secondary Actor** | Test Centre Manager |
| **Trigger** | The Test Centre Manager receives new stock of test kits |
| **Typical Course of Events Actor Action** | **System Response** |
| 1. This use case starts when the Test Centre Manager wants to manage the stock of test kits |  |
| 1. The Test Manager logs in to records the test kit name and stock | The Test Kit name and stock is recorded and kitID is generated |
| **Alternative Course of Events**  **Line 2:** If there is existing stock for a given kitID, the stock of the Test Kit is updated | |

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| **Use Case 4** | Generate Test Report |
| **Goal in Context** | To allow Test Centre Officer able to display the history all tests report |
| **Primary Actor**  **Secondary Actor** | Test Centre Officer |
| **Trigger** | The Test Centre Officer wants to view a test report |
| **Typical Course of Events Actor Action** | **System Response** |
| 1. This use case starts when the Test Centre Officer wants to view a test report |  |
| 1. The Test Officer logs in with a username and password | The Test Officer successfully logs in and display all history of test report that have been administered |
| **Alternative Course of Events**  **Line 2:** If the test report has not been administered before, the test report will not displayed | |

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| **Use Case 5** | Record New Test |
| **Goal in Context** | To allow Tester record the patient |
| **Primary Actor**  **Secondary Actor** | Tester |
| **Trigger** | The Tester wants to record a patient that has been taken a test |
| **Typical Course of Events Actor Action** | **System Response** |
| 1. This use case starts when the Tester wants to record a patients |  |
| 1. The Tester logs in with a username and password | The Tester successfully logs in |
| 1. The Tester records username, password, name, patient type, and symptoms for the patient | Successfully records data for the patient. The date of the test and the testID is automaticaly generated. The status of the test is “Pending” |
| **Alternative Course of Events**  **Line 2:** If the Test Centre Officer’s position is not “Tester”, the officer can not record the data of the patient.  **Line 3a:** If the Patient has taken a test before, the Tester updates the patient type and symptoms only. The date of the test and the testID is automaticaly generated. The status of the test is “Pending”  **Line 3b:** If the Tester is not fulfill the data of the patient, the system will not successfully record data of the patient**.** | |

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| **Use Case 6** | Update Test Result |
| **Goal in Context** | To allow Tester update the results of a test from the patient and patient can view the result |
| **Primary Actor**  **Secondary Actor** | Tester |
| **Trigger** | The result of the test is received and The Tester want to update the results of the test |
| **Typical Course of Events Actor Action** | **System Response** |
| 1. This use case starts when The Tester want to update the results of a test |  |
| 1. The Tester logs in with a username and password | The Tester successfully logs in |
| 1. The Tester enters the testID | Successfully retreive the test details |
| 1. The Tester enters the results and result date | Successfully record the results and the result date. The status of the test is “Complete” |
| **Alternative Course of Events**  **Line 2:** If the Test Centre Officer’s position is not “Tester”, the officer can not record the data of the patient.  **Line 3a:** If the Tester input wrong testID, it will not display the Patient’s data and can not update the results of the test.  **Line 3b:** If the Patient has not taken a test before, The Testet must record new test for the patient to get testID.  **Line 4:** If the Tester is not fulfill the results and result date, the system will not successfully record data of the patient**.** | |

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| **Use Case 7** | View Testing History |
| **Goal in Context** | To allow Patient view all history of tests that have been taken |
| **Primary Actor**  **Secondary Actor** | Patient |
| **Trigger** | The patient want to view the results of the tests |
| **Typical Course of Events Actor Action** | **System Response** |
| 1. This use case starts when The Patient want to view the results of the tests |  |
| 1. The Patient logs in with a username and password | Patient successfully logs in and display all the history of the tests |
| **Alternative Course of Events**  **Line 2a:** If the Patient input wrong username and password, it will not display the history of all the tests.  **Line 2b:** If the Patient have not the username and the password, the Patient must record new test with The Centre Officer’s Tester for record the test. | |

System Sequence Diagram

Contracts

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