**Feature 1: Authentication and member management system**

**System Test Case 01 (STC-01):** Administrator, Team leader, and Collector can log in to the system on web application.

**Description**

Administrator, Team leader, and Collector can login to the system using his e-mail and password.

**Test Script**

1. On login page.

2. User enters the E-mail and password in the text field.

3. User clicks “Login” button.

**Test Data:**

|  |  |
| --- | --- |
| **Username** | **Password** |
| Admin1@gmail.com | ad001 |

**Test Case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | Test login with input valid e-mail and password. | E-mail: “Admin1@gmail.com”  Password: “ad001” | The system allows user to access the application. |
| 2 | Test login with input invalid E-mail but valid password. | Username: “Ad1”  Password: “ad001” | The system shows error message” Invalid e-mail or password” and returns to the login page. |
| 3 | Test login with input valid e-mail but invalid password. | E-mail: “Admin1@gmail.com”  Password: “abcd” | The system shows error message “Invalid e-mail or password” and returns to the login page. |
| 4 | Test login with input invalid e-mail and password. | E-mail: “Ad1”  Password: “abcd” | The system shows error message “Invalid e-mail or password” and returns to the login page. |
| 5 | Test login with input empty e-mail and valid password. | E-mail: “”  Password: “abcd” | The system shows error message “Invalid e-mail or password” and returns to the login page. |
| 6 | Test login with input valid e-mail and empty password. | E-mail: “Ad1@gmail.com”  Password: “” | The system shows error message “Invalid e-mail or password” and returns to the login page. |

**System Test Case 02 (STC-02): Administrator, Team leader, and Collector can edit his profile which is name, password and telephone number on web application.**

**Description**

Administrator, Team leader, and Collector can update the personal information up to date and manage the wrong information of his profile.

**Test Script**

1. User clicks “Edit Profile” menu to go to edit profile page.

5. User enters new information (i.e. name, password, telephone).

6. User clicks “Save” button.

**Test Data:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Password** | **Re-password** | **Tel.** |
| Peerapong C | 1234 | 1234 | 0811668436 |

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test No.** | **Description** | **Input** | **Expect output** |
| 1. | Complete all step of input data Click “Save” button. | Name: “Peerapong C”  Password: “1234”  Confirm password: “ 1234”  Telephone number: “0811668436” | The system updates the new profile of user in the database. |
| 2. | Blank data on name field and click “save” button | Name: “”  Password: “1234”  Confirm password: “ 1234”  Telephone number: “0811668436” | The system shows the error message will show “Please input name” |
| 3 | Blank data on password field and click “save” button | Name: “Peerapong C”  Password: “”  Confirm password: “ 1234”  Telephone number: “0811668436” | The system shows the error messages “Password and confirm password not match”. |
| 4 | Blank data on confirm password field and click “save” button | Name: “Peerapong C”  Password: “1234”  Confirm password: “”  Telephone number: “0811668436” | The system shows the error messages “Password and confirm password not match”. |
| 3. | Blank data on telephone field and click “save” button | Name: “Peerapong C”  Password: “1234”  Confirm password: “ 1234”  Telephone number: “” | The system updates the new profile of user in the database. |
| 4. | Input the password does not match the confirm password | Name: “Peerapong C”  Password: “1234”  Confirm password: “ 6547”  Telephone number: “0811668436” | The system shows the error messages “Password and Confirm Password Not match”. |
|  | Input wrong format of telephone number and click “Register” button | Name: “Peerapong Chompootepa”  Password: “542115044”  Email: “pcchamp@gmail.com”  Tel.: “sdfghjk” | The system shows the error message shows “Telephone number must be a numeric only”. |
| 6 | Cancel to edit profile | Click “Close” button | The system redirects to project list page |

**System Test Case 03 (STC-03): Administrator can view list of new collector requests on web application.**

**Description**

Administrator can view a list of the new collector requests. In the list contains such as a name, email, and telephone number.

**Test Script**

1. User clicks “New Collector Request” menu to go to new collector request page.

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | Can view a list of the new collector requests. | Click “New Collector Request” button. | The system displays list of new account requests with the “Approve” and “Decline” buttons behind each account. |

**System Test Case 04 (STC-04):** Administrator can search a new collector request by name on a web application

**Description**

Administrator can search name of a new collector request that administrator need to find quickly by input the keyword in the search box.

**Test Script**

1. User click “New collector request” menu to go to new collector request page.

2. User input the keyword in the text box on the top right on new collector request page.

**Test Data:**

|  |
| --- |
| **Search** |
| Worrasete |

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | Input keyword matching with the name of new collector request in database | Search: “Worrasete” | The system shows list of new collector request that includes the word “Worrasete” on the screen. |
| 2 | Input some keyword matching with the name of new collector request in database | Search: “Worr” | The system shows list of new collector request that includes the word "Worr" on the screen. |
| 2 | Input keyword not matching with the name of new collector request in database | Search: “Varrased” | The system shows message “No matching records found”. |

**System Test Case 05 (STC-05): Administrator can select to approve or decline new collector requests on web application.**

**Description**

Administrator can approve the account which request from the collectors by clicking the “Approve” buttons to permit them to the system otherwise administrator can click “Decline” button if it is an unacceptable account.

**Test Script**

1. User clicks “New Collector Request” menu to go to new collector request page.

2. User clicks “Approve” button.

3. User clicks “OK” button.

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | Can approve the registered account successful. | Click “Approve” button. | The system removes the name of selected as a member from user interface and the system updates user status in the database. |
| 2 | Can decline the registered account out of the system. | Click “Decline” button | The system removes the name of selected as a member from user interface and deletes an account out of the database. |

**System Test Case 06 (STC-06):** Administrator can create a team which contains a team name, team leader and team members on web application.

**Description**

Administrator can create the team which he has to input the name of team. In addition, administrator has to choose the member into the team and also specify the team leader in the team then clicks save to create a new team to the system.

**Test Script**

1. User clicks “Team” menu to go to team information page.

2. User clicks “New Team” button to go to create team page.

3. User completes all input data.

4. User clicks “Save” button.

**Test data:**

|  |
| --- |
| **Team name** |
| TeamScience2 |

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | Complete all step of input data Click “Save” button. | Team name: “TeamScience2” | The new team will be created in the database. |
| 2 | Complete input data but blank the text box of name and click “Save” button. | Team name: “” | The system shows error message “Please input team name more than 6 characters”. |
| 3 | Complete input data but does not choose any member and click “Save” button. | Team name: “TeamScience2” | The system shows error message “Please select members”. |
| 4 | Complete input data but does not choose a team leader and click “Save” button. | Team name: “TeamScience2” | The system shows error message “Please select the team leader”. |
| 5 | Input a team name less than 6 characters and click “Save” button. | Team name: “Team1” | The system shows error message “Please input team name more than 6 characters”. |
| 6 | Cancel to create a team | Click “Cancel” button. | The system redirects to the team list page. |

**System Test Case 07 (STC-07):** Administrator and team leader can view list of team sorted by name on web application.

**Description**

Administrator can view a list of all teams that administrator created. Team leader can view list of a team which he is the team leader. The list of team is sorted by name to show on team list page.

**Test Script**

1. User clicks “Team” menu to go to team list page.

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | Administrator can view a list of all team | Clicks “Team” menu. | The system displays list of all teams with the “View”, “Edit”, and “Remove” buttons behind each row. |
| 2 | Team leader can view list of a team | Clicks “Team” menu | The system displays list of a teams that he is a team leader with the “View” and “Edit”, buttons behind each row. |

**System Test Case 08 (STC-08):** Administrator and Team leader can search the team by name on a web application

**Description**

Administrator and Team leader can search a name of team that they need to find quickly by input the keyword in the search box.

**Test Script**

1. User click “Team” menu to go to new team list page.

2. User input the keyword in the text box on the top right on team list page.

**Test Data:**

|  |
| --- |
| **Search** |
| Apple01 |

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | Input keyword matching with the name of team in database | Search: “Apple01” | The system shows list of team that includes the word “Apple01” on the screen. |
| 2 | Input some keyword matching with the name of team in database | Search: “ple” | The system shows list of team that includes the word "ple" on the screen. |
| 3 | Input keyword not matching with the name of team in database | Team: “addle” | The system shows message “No matching records found”. |

**System Test Case 09 (STC-09):** Administrator and team leader can modify the team includes editing name, changing team leader, adding team member, and removing team member on web application.

**Description**

Administrator can edit team name and change a team leader in the team by selecting from team members in the team. In addition, administrator can add and delete by selecting check boxes. Team leader can do as same as the administrator except changing a team leader.

**Test Script**

1. User clicks “Team” menu to go to team list page.

2. User clicks “Edit” button.

3. If administrator or team leader want to edit team name,

3.1 User inputs a name in the text box.

3.2 User clicks “Save” button.

4. If administrator want to change a team leader,

4.1 Administrator selects a radio button behind the row.

4.2 Administrator clicks “Save” button.

5. If administrator or team leader want to add new team members,

5.1 User selects members by checking on the check boxes.

5.2 User clicks “Save” button.

6. If administrator or team leader want to remove team members,

6.1 User unchecks the check boxes.

6.2 User clicks “Save” button.

**Test data:**

|  |
| --- |
| **Team name** |
| TeamScience2 |

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | Complete all step of input data Click “Save” button. | Team name: “TeamScience2” | The new team will be created in the database. |
| 2 | Complete input data but blank the text box of name and click “Save” button. | Team name: “” | The system shows error message “Please input team name more than 6 characters”. |
| 3 | Complete input data but does not choose any member and click “Save” button. | Team name: “TeamScience2” | The system shows error message “Please select members”. |
| 4 | Complete input data but does not choose a team leader. | Team name: “TeamScience2” | The system shows error message “Please select the team leader”. |
| 5 | Input a team name less than 6 characters. | Team name: “Team1” | The system shows error message “Please input team name more than 6 characters”. |
| 6 | Cancel to create a team | Click “Cancel” button. | The system redirects to the team list page. |

**System Test Case 10 (STC-10):** Administrator and team leader can view the selected team information includes a team name, team leader name, and list of members on web application.

**Description**

User can view team information by clicking the team that user want to view which contains a team name, team leader name and list of team members.

**Test Script**

1. User click “Team” menu to go to team list page.

2. User click “View” button behind each team at the team list page.

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | User can view the selected team information. | Click “View” button. | The system shows window of a team details. |

**System Test Case 11 (STC-11):** Administrator can remove a team on web application.

**Description**

Administrator can remove a team out of the database by clicking “Delete” button to remove the team from database.

**Test Script**

1. User clicks “Team” menu to go to team information page.

2. User clicks “Remove” button behind each team at the team list page.

3. User clicks “Ok” button.

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | User wants to remove a team by click ““Remove” button | Click “Delete” button | The system shows the confirmation popup “Do you want to delete?” and also shows “Cancel” button and “OK” button. |
| 2 | After user clicks “Remove” button, user confirms to remove the team by click “Ok” button. | Click “Ok” button | The system removes the team out of the user interface and deletes the team in the database. |
| 3 | After user clicks “Remove” button, user want to cancel to remove the team by click “Cancel” button. | Click “Cancel” button | The system hides the confirmation popup and redirect to team list page. |

**System Test Case 12 (STC-12):** Administrator, Team leader, and Collector can logout from the system on web application.

**Description**

Administrator, Team leader, and Collector can log out of the system by clicking “log out” menu to destroy the session of user. This case is for logging out on web application.

**Test Script**

1. User click “log out” menu.

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | Logout Successful | Click “Logout” menu | The system shows the login page and allow user to input E-mail and password again |

**System Test Case 13 (STC-13):** New collector can send register request to the administrator on mobile application requesting to be a member.

**Description**

New collector has to register their information on mobile application in order to use the system. The user has to provide the name, e-mail, password, and telephone number to register to the system.

**Test Script**

1. On the registration page.

2. User completes all the provided input text boxes.

3. User clicks “Register” button.

**Test Data:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Email** | **Password** | **Tel.** |
| Peerapong Chompootepa | pcchamp@gmail.com | 542115044 | 0811668438 |

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| Test No. | Description | Input | Expect output |
| 1 | Completes all the provided input text boxes like the test data and click “Register” button | Name: “Peerapong Chompootepa”  Password: “542115044”  E-mail: “pcchamp@gmail.com”  Tel.: “0811668438” | The system shows the message “Registered Successfully”. |
| 2 | Input length of name is too short and click “Register” button | Name: “Peer”  Password: “542115044”  E-mail: “pcchamp@gmail.com”  Tel.: “0811668438” | The system shows the error message “Length should be more than 5 characters”. |
| 2 | Input wrong e-mail format and click “Register” button | Name: “Peerapong Chompootepa”  Password: “542115044”  E-mail: “pcchamp”  Tel.: “0811668438” | The system shows the error message “E-mail must be an email format. |
| 4 | Input wrong format of telephone number and click “Register” button | Name: “Peerapong Chompootepa”  Password: “542115044”  E-mail: “pcchamp@gmail.com”  Tel.: “sdfghjk” | The system shows the error message shows “Telephone number must be a numeric only”. |
| 2. | Blank data on name field and click “Register” button | Name: “”  Password: “542115044”  E-mail: “pcchamp@gmail.com”  Tel.: “0811668438” | The system shows the error message shows “”. |
| 3 | Blank data on password field and click “Register” button | Name: “Peerapong Chompootepa”  Password: “”  E-mail: “pcchamp@gmail.com”  Tel.: “0811668438” | The system shows the error message shows “”. |
| 4 | Blank data on e-mail field and click “Register” button | Name: “Peerapong Chompootepa”  Password: “542115044”  E-mail: “”  Tel.: “0811668438” | The system shows the error message shows “”. |
| 3. | Blank data on telephone field and click “Register” button | Name: “Peerapong Chompootepa”  Password: “542115044”  E-mail: “pcchamp@gmail.com”  Tel.: “” | The system shows the error message shows “”. |
| 5 | Cancel to register | Click “Close” button | The system hides the popup and shows login page |

**System Test Case 14 (STC-14):** Team leader and collector can log in to the system on mobile application.

**Description**

Team leader and collector can login to the system using his E-mail and password on mobile application.

**Test Script**

1. On the login page.

2. User enters the E-mail and password in the text field.

3. User clicks “Login” button.

**Test Data:**

|  |  |
| --- | --- |
| **E-mail** | **Password** |
| steve@gmail.com | 1234 |

**Test Case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | Input e-mail and password | E-mail: “steve@gmail.com”  Password: “1234” | The system shows  Email: “steve@gmail.com”  Password: “⚫⚫⚫⚫” on the screen |
| 2 | Test login with input valid e-mail and password. | E-mail: “steve@gmail.com”  Password: “1234” | The system allows user to access the application. |
| 3 | Test login with input invalid e-mail but valid password. | E-mail: “sten@gmail.com”  Password: “1234” | The system shows error message “Invalid e-mail or password” and returns to the login page. |
| 4 | Test login with input valid e-mail but invalid password. | E-mail: “steve@gmail.com”  Password: “4321” | The system shows error message “Invalid e-mail or password” and returns to the login page. |
| 5 | Test login with input invalid e-mail and password. | E-mail: “sten@gmail.com”  Password: “4321” | The system shows error message” Invalid e-mail or password” and returns to the login page. |
| 6 | Test login with input empty e-mail and valid password. | E-mail: “”  Password: “1234” | The system shows error message “Invalid e-mail or password” and returns to the login page. |
| 7 | Test login with input valid e-mail and empty password. | E-mail: “steve@gmail.com”  Password: “” | The system shows error message “Invalid e-mail or password” and returns to the login page. |
| 8 | Test login with input empty e-mail and password. | E-mail: “”  Password: “” | The system shows error message “Invalid e-mail or password” and returns to the login page. |

**System Test Case 15 (STC-15):** Team leader and collector can logout from the system on mobile application.

**Description**

Team leader and collector can log out of the system by clicking “log out” button to destroy the session of user. This case is for logging out on mobile application.

**Test Script**

1. User click “log out” button.

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | User want to log out form the system by click “Log out” | Click “Logout” button | The system shows the confirmation popup “Do you want to exit?” and also shows “Cancel” button and “Yes” button. |
| 2 | After user clicks “Log out” button, user confirms to log out from the system by click “Yes” button. | Click “Yes” button | The system shows the login page and allow user to input E-mail and password again |
| 3 | After user clicks “Log out” button, user want to cancel to log out from the system by click “Cancel” button. | Click “Cancel” button | The system hides the confirmation popup. |

**Feature 2: Project management**

**System Test Case 16 (STC-16):** Administrator can create the project includes a project name, project description, and team on web application.

**Description**

Administrator can create the project which he has to input the name of project and project description. In addition, administrator has to select the team to do the project by a combo box.

**Test Script**

1. User clicks “Project” menu to go to project information page.

2. Use clicks “New Project” button to go to create project page.

3. Use completes the all text boxes and selects the team.

4. Use clicks “Save” button.

**Test Data:**

|  |  |  |
| --- | --- | --- |
| **Project name** | **Description** | **Assign Team** |
| AngKaew1 | ChiangMai | TeamA |

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | Use wants to create the project by click “New Project” button. | Click “New Project” button | The system provides a text box to input the project name, project description and a combo box to select the team to do the project. |
| 2 | User completes the all text boxes and selects the team and click “Save” button. | Project name:“AngKaew1”  Description: “ChiangMai”  Assign Team: “TeamA” | The system creates new project into database and shoe list of new project on project list page. |
| 3 | User completes the all text boxes and selects the team but input the project name less than 6 characters and click “Save” button. | Project name:“AngK”  Description: “ChiangMai”  Assign Team: “TeamA” | The system shows error message “Please input project name more than 6 characters” on the screen. |
| 4 | User blank the text box of project name and click “Save” button. | Project name:“”  Description: “ChiangMai”  Assign Team: “TeamA” | The system shows error message “Please input project name” on the screen. |
| 5 | User blank the text box of description and click “Save” button. | Project name:“AngKaew1”  Description: “”  Assign Team: “TeamA” | The system creates new project into database and shoe list of new project on project list page. |
| 6 | User don’t select the team to do the project and click “Save” button. | Project name:“AngKaew1”  Description: “ChiangMai”  Assign Team: “” | The system shows error message “Please select the team” on the screen. |
| 7 | Use want to cancel create the project | Click “Cancel” button | The system redirects to the project list page. |

**System Test Case 17 (STC-17):**  Administrator can remove the project out of the system on web application.

**Description**

Administrator can remove the project out of the system on web application.

**Test Script**

1. On project list page.

1. User clicks “Delete” button behind the project that user wants to remove

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | User wants to remove the project. | Click “Delete” button | The system shows the popup message “Do you want to remove the project?” with “Ok” and “Cancel” buttons. |
| 2 | After user click “Delete” button, user confirms to remove the project by click “Ok” button. | Click “”Ok” button | The system remove the project out of the system and shows the project remaining on project list page. |
| 3 | After user click “Delete” button, user wants to cancel to remove the project by click “Cancel” button. | Click “Cancel” button | The system hides the popup and shows project list page. |

**System Test Case 18 (STC-18):** Administrator, Team leader and Collector can search the project by name on web application.

**Description**

Administrator, Team leader and Collector can search the project that they need to find quickly by input the keyword in the search box.

**Test Script**

1. User click “Project” menu to go to project information page.

2. User input the keyword in the text box.

**Test Data:**

|  |
| --- |
| **Search** |
| Project001 |

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | Input keyword matching with the name of project in database | Search: “Apple01” | The system shows “Apple01” project on the screen. |
| 2 | Input some keyword matching with the name of project in database | Search: “ple” | The system shows list of team that includes the word "ple" on the screen. |
| 3 | Input keyword not matching with the name of project in database | Search: “Varrased” | The system shows message “No matching records found”. |

**System Test Case 19 (STC-19):** Administrator can modify the project includes editing project name, project description, and changing team on web application.

**Description**

Administrator can editing project name, editing project description and changing a team on web application.

**Test Script**

1. User clicks “project” menu to go to project list page.

2. User clicks “Edit” button.

3. If user want to edit project name,

3.1 User inputs a project name in the text box.

3.2 User clicks “Save” button.

4. If user want to edit project description,

4.1 User inputs a project description in the text box.

4.2 User clicks “Save” button.

5. If user want to change the team,

5.1 User selects the team by combo box.

5.2 User clicks “Save” button.

**Test Data:**

|  |  |  |
| --- | --- | --- |
| **Project name** | **Project description** | **Team** |
| AngKaew2 | CMU ChiangMail | TeamB |

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | Use wants to create the project by click “New Project” button. | Click “New Project” button | The system provides a text box to input the project name, project description and a combo box to select the team to do the project. |
| 2 | User completes the all text boxes and selects the team and click “Save” button. | Project name:“AngKaew1”  Description: “ChiangMai”  Assign Team: “TeamA” | The system creates new project into database and shoe list of new project on project list page. |
| 3 | User completes the all text boxes and selects the team but input the project name less than 6 characters and click “Save” button. | Project name:“AngK”  Description: “ChiangMai”  Assign Team: “TeamA” | The system shows error message “Please input project name more than 6 characters” on the screen. |
| 4 | User blank the text box of project name and click “Save” button. | Project name:“”  Description: “ChiangMai”  Assign Team: “TeamA” | The system shows error message “Please input project name” on the screen. |
| 5 | User blank the text box of description and click “Save” button. | Project name:“AngKaew1”  Description: “”  Assign Team: “TeamA” | The system creates new project into database and show list of new project on project list page. |
| 6 | User don’t select the team to do the project and click “Save” button. | Project name:“AngKaew1”  Description: “ChiangMai”  Assign Team: “” | The system shows error message “Please select the team” on the screen. |
| 7 | Use want to cancel create the project | Click “Cancel” button | The system redirects to the project list page. |

**System Test Case 20 (STC-20):** Administrator can view list of all project sorted by date created on a web application

**Description**

Administrator can view list of all project created by administrator. The project is sorted by date created to show on the project list page.

**Test Script**

1. User click “Project” menu to go to project list page.

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | User can view list of all project. | Click “Project” menu | The system displays list of all project with the “View”, “Edit”, and “Delete” buttons behind each row. |

**System Test Case 21 (STC-21):** Team leader and Collector can view the involved project list sorted by date created on a web application and mobile application.

**Description**

Team leader and Collector can view list of project assigned by administrator. The project is sorted by date created to show on project list page.

**Test Script**

1. User log in to the system.

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | On web application; team leader wants to view list of project. | Log in to the system | The system displays list of involved project list with the “View” and “Edit” buttons behind each row on project list page. |
| 2 | On web application; collector wants to view list of project. | Log in to the system | The system displays list of involved project list with the “View” button behind each row on project list page. |
| 3 | On mobile application; team leader wants to view list of project. | Log in to the system | The system displays list of involved project list on project list page. |
| 4 | On mobile application; collector wants to view list of project. | Log in to the system | The system displays list of involved project list on project list page. |

**System Test Case 22 (STC-22):** Administrator can view a project information which consisting of map and location information of the selected project on a web application.

**Description**

Administrator can view project information by clicking the project he want to view which contains a map and location information (place name, user, latitude, longitude, status, assigned date, and detail) of the selected project on a web application.

**Test Script**

1. User clicks “Project” menu to go to project list page.

2. User clicks “View” button behind each project to view the information.

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | User can view the selected project. | Click “View” menu | The system shows project which contains map and location information (place name, user, latitude, longitude, status, assigned date, and detail) of the selected project on project information page. |

**System Test Case 23 (STC-23):** Team leader and Collector can view a project information which consisting of map and location information of the selected project on a web application and mobile application.

**Description**

Team leader can view list of all location information of each collector of the selected project that has to assign previously. Collector can view location information of the selected project that assign by team leader. Project information contain a place name, collector name, latitude, longitude, status of collecting (Initial, Pending, Recollect, Finish), and date of update the project. In addition, map is shown together with a pin above the list on a web application and mobile application.

**Test Script**

1. User click “Project” menu to go to project information page.
2. On project information page
   1. On web application; user clicks “View” button behind each project to view the information.

2.2 On mobile application; user clicks on the project to view the information.

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | On web application; user can view the selected project that has himself as a team leader. | Click “View” button | The system will retrieves all location information of every collectors and displays project information page that has a map with a pin and a list of the location information consisting of place name, collector name, latitude, longitude, status of collecting(Initial, Pending, Recollect, Finish), and update date. |
| 2 | On web application; user can view the selected project that has himself as a collector. | Click “View” button | The system will retrieves only location information that was assigned by team leader of selected project and displays project information page that has a map with a pin and a list of the location information consisting of place name, collector name, latitude, longitude, status of collecting(Initial, Pending, Recollect, Finish), and update date. |
| 2 | On web application; user can view the selected project that has himself as a team leader. | Click on the project | The system will retrieves all location information of every collectors and displays project information page that has a map with a pin and a list of the location information consisting of place name, collector name, latitude, longitude, status of collecting(Initial, Pending, Recollect, Finish), and update date. |
| 2 | On web application; user can view the selected project that has himself as a collector. | Click on the project | The system will retrieves only location information that was assigned by team leader of selected project and displays project information page that has a map with a pin and a list of the location information consisting of place name, collector name, latitude, longitude, status of collecting(Initial, Pending, Recollect, Finish), and update date. |

**System Test Case 24 (STC-24):**  Administrator can view list of parameter test of the selected member on a web application

**Description**

Administrator can view history of parameter test such as PH and NI including parameter name, predicted result, status, and date of update status on parameter list page on a web application.

**Test Script**

1.User clicks “Project” menu to go to project information page.

2. User clicks “View” button behind each project to view the information of project.

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | User can view list of parameter test. | Click “View” button | The system shows list of parameter list including parameter name, predicted result, status, and date of update status on parameter list page. |

**System Test Case 25 (STC-25):** Team leader and Collector can view list of parameter test of the selected member on a web application and mobile application.

**Description**

Team leader and Collector can view history of parameter test such as PH and NI including parameter name, predicted result, status, date of update status on parameter list page on a web application and mobile application.

**Test Script**

1.User clicks “Project” menu to go to project list page.

2. On project list page

2.1 On a web application; user clicks “View” button behind each project to view the information of project.

2.2 On a mobile application; user clicks on project to view the information of project.

3. On parameter information page

3.1 On web application; user clicks “View” button behind each member to view the list of parameter.

3.2 On mobile application; user clicks on member to view the list of parameter.

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | On web application; user can view list of parameter test. | Click “View” button behind each member that he want to view | The system shows list of parameter list including parameter name, predicted result, status, and date of update status on parameter list page. |
| 2 | On mobile application; user can view list of parameter test. | Click on a member behind each member that he want to view | The system shows list of parameter list including parameter name, predicted result, status, and date of update status on parameter list page. |

**Feature 3: Map location management**

**System Test Case 26 (STC-26):** Team leader can assign work location on map to team members on web application.

**Description**

Team leader can identify the location for the team members to monitor the water sampling. This method is operated on the web application by the team leader of the project only.

**Test Script**

1. User clicks “Assign” button behind the project that he is a team leader.
2. User clicks “+place” button.
3. User enters the location name and mark the position including selects the team member into that place.
4. User clicks “Save” button.

**Test data:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Place Name** | **Latitude** | **Longitude** | **Assign To** |
| Lampang | 18.785645 | 99.00011599999993 | Worrasete T. |

* **Latitude and Longitude** will acquire from Google maps automatically when user mark the position on Google maps.
* **Assign To.** is a combo box to select the team member, user must selects the team member into that place.

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | User completes all the provided input text boxes and do all step like the test data and click “Save” button | **Place Name: “**Lampang”  **Latitude: “**18.785645”  **Longitude: “**99.00011”  **Assign To: “**Worrasete T.” | The system adds the assignment to the team member in the database and displays the new assignment in the list below of Google Maps and add a new marker on Google maps. |
| 2. | User do all step like the test data but blank the name of place and click “Save” button. | **Place Name: “”**  **Latitude: “**18.785645”  **Longitude: “**99.00011”  **Assign To: “**Worrasete T.” | The system displays popup message “Please input place name”. |
| 3. | User want to cancel to assign work by click “Cancel” button. | Clicks “Cancel” button. | The system hides the assignment window and marker disappear. |

**System Test Case 27 (STC-27):** Team leader and Collector can view the direction to assigned location on Google Maps on mobile application.

**Description**

Team leader and Collector can choose to enable or disable the direction of location that collector must to go for collecting the data.

**Test Script**

1. User selected project that collector want to view assignment on project information page.
2. Collector click “ON” button on the top right page.

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | Collector want to enable the direction of location. | Collector click “ON” button on the top right page. | The system get the shortest direction from Google maps and displays the assignment location using a blue line on Google maps. |
| 2 | Collector want to disable the direction of location. | Collector click “OFF” button on the top right page. | The system hide the direction on Google maps. |

**System Test Case 28 (STC-28):** Team leader and Collector can view other places information of the selected project by press on pin on mobile application.

**Description**

User can view other places information of the selected project by press on pin, the information consisting of place name, assign to, and update.

**Test Script**

1. On project information page.
2. User press on pin on Google maps.

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | User can view information of other location on each pin. | Press on pin on Google maps. | The system display information of selected pin consisting of place name, collector name, and date of update on Google maps. |

**Feature 4: Water parameter calculation**

**System Test Case 29 (STC-29):** Collector can add test parameter to collect the test data on mobile application.

**Description**

Collector can add a name of test parameter to collect the test data on mobile application. Example: pH, Ni.

**Test Script**

1. On parameter list page.
2. User clicks “+” button on the top right of the parameter list page.
3. User inputs the name of parameter that collector want to collect.
4. User clicks “Ok” button.

**Test data:**

|  |
| --- |
| **Please input parameter** |
| pH |

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | Input complete the name of parameter and click “Save” button. | Please input parameter: “pH” | The system displays “pH” on the screen and create new parameter show on the parameter list page. |
| 2. | Blank the name of parameter and Click “Save” button | Please input parameter: “” | The system displays “Please input parameter more than 1 character” on the screen. |
| 3. | Cancel to create a new parameter by click “Cancel” button. | Click “Cancel” button. | The system hides the pop-up for create parameter and redirect to the parameter list page. |

**System Test Case 30 (STC-30):** Collector can delete test parameter on mobile application.

**Description**

User can delete test parameter to collect the test data on mobile application. Example: pH, Ni.

**Test Script**

1. On parameter list page
2. User click “X” button on the right of the parameter.
3. User click “Yes” button.

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | User want to delete a test parameter by click “X” button behind each test parameter. | Click “X” button. | The system shows the pop-up “Do you want to delete” with “Yes” and “Cancel” button |
| 2. | User confirm to delete a test parameter by click “Yes” button. | Click “Yes” button. | The system removes test parameter out of the database and update the information and also displays the parameter remaining in the system on parameter list page. |
| 3 | User cancel to delete a test parameter by click “Cancel” button. | Click “Cancel” button. | The system hides the pop-up and show parameter list page. |

**System Test Case 31 (STC-31):**  Collector can choose the image from camera roll or take a new photo to collect RGB value with the test result on mobile application.

**Description**

Collector can choose the image from camera roll or take a new photo for collecting RGB value to calculate the test result

**Test Script**

1. On parameter information page
2. User clicks the button for chooses the image from camera roll or take a new photo

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | User can chooses the image from camera roll. | Click on button to choose the image | The system provides camera roll for selecting the image. |
| 2 | After user chooses the image, user select the image on camera roll | Select the image | The system redirects to parameter information page with the image for collecting RGB value. |
| 3 | User can take a new photo | Click on button to take a new photo | The system provides camera for take a new photo. |
| 4 | After click on button to take a new photo, user take a new photo | Take a new photo | The system redirects to parameter information page with the image for collecting RGB value. |

**System Test Case 32 (STC-32):**  Collector can input value and RGB to let the system calculate the test result based on standard color scale on mobile application.

**Feature 5: Parameter result tracing**

**System Test Case 33 (STC-33):**  Administrator can view detail of test result of selected parameter on a web application.

**Description**

Administrator can view detail of test result of selected parameter consisting name of parameter, predicted result with the RGB value, status and image with data that used to calculate the test result.

**Test Script**

1. On parameter list page.
2. User clicks “View” button to go to parameter information page.

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | User can view the test result | Click “View” button | The system displays information of test result on parameter information page. |

**System Test Case 34 (STC-34):**  Team leader and Collector can view detail of test result of selected parameter on a web application and mobile application

**Description**

Team leader can view detail of test result of selected parameter consisting name of parameter, predicted result with the RGB value, status and image with data that used to calculate the test result and also team leader can review test result in parameter information page. Collector can view detail of test result same with the team leader but collector can view only test parameter that collector collected.

**Test Script**

1. On parameter list page.
   1. On web application; user clicks “View” button to go to parameter information page.
   2. On mobile application; user click on the parameter test to go to parameter information page.

**Test case:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test no.** | **Description** | | **Input** | | **Expect output** |
| 1 | On a web application, team leader can view the test result | | | Click “View” button | The system displays information of test result with the “Recollect” and “Finish” buttons for review the test result on parameter information page. |
| 2 | On a mobile application, team leader can view the test result | Click on test parameter | | | The system displays information of test result with the “Recollect” and “Finish” buttons for review the test result on parameter information page. |
| 3 | On a web application, collector can view the test result | Click “View” button | | | The system displays information of test result on parameter information page. |
| 4 | On a mobile application, collector can view the test result | Click on test parameter | | | The system displays information of test result on parameter information page. |

**System Test Case 35 (STC-35):**  Team leader can mark status to recollect on parameter test on a web application and mobile application.

**Description**

Team leader can mark for recollecting on parameter test on a mobile application when team leader disagree to the test result and want collector to test again.

**Test Script**

1. On a parameter information page.
2. User clicks “Recollect” button.

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | User can update status for recollecting on test parameter. | User click “Recollect” button. | The system redirects to parameter list page and change the status in database and also displays status “Recollect” on the screen. |
| 2 | User want to cancel to update status for recollecting. | User click “Cancel” button. | The system redirects to parameter list page. |

**System Test Case 36 (STC-36):** Team leader can mark status to finish on parameter test on a web application and mobile application.

**Description**

Team leader can mark to finish on test parameters on mobile application when team leader agree with the test result.

**Test Script**

1. On parameter information page.
2. Team leader clicks “Finish” button.

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1 | User can update status to finish on test parameter by click “Finish” button. | User click “Finish” button. | The system redirects to parameter list page and change the status in database and also displays status “Finish” on the screen. |
| 2 | User want to cancel to update status for finishing by click “Cancel” button. | User click “Cancel” button. | The system redirects to parameter list page. |

**Feature 6: Messaging system**

**System Test Case 37 (STC-37):**  Team leader and Collector can send the message to each other via group message within the team on a mobile application.

**Description**

Team leader and Collector can send or receive the message to each other via group message within the team.

**Test Script**

1. User clicks “Teams” menu on the top left of the page.

3.  User selected team that user want to send a message.

5. User inputs the message that user want to conversation.

6. User clicks “Send” button.

**Test data:**

|  |
| --- |
| **Message** |
| Hi, everyone please check your e-mail |

**Test case:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Test no.** | **Description** | **Input** | **Expect output** |
| 1. | Input the message and click “Send” button | Message: “Hi, everyone please check your e-mail” | The system displays “Hi, everyone please check your e-mail” on the screen. |
| 2. | Blank the message and click “Send” button. | Message: “” | The system displays “” on the screen. |