CHAPTER III

SYSTEM FEATURES

The product features are discussed in this chapter to understand how the application operates. The features are distinct from other aid maps particularly that it is intended for ASEAN countries only. Explained with their corresponding description, priority, and stimulus and response sequences are the features. This chapter also presents illustrations on the flow of each module in the product decomposition.

1. System Decomposition

This section shows the breakdown structure of the modules in which the completion of the application would be based. Figure 2 depicts the graphical illustration of the specific features and functionalities of the application. The ASEAN Aid Map is divided into six modules namely the account management, profiling, transactions, reports, additional functionalities, and help. The account management is where the users, specifically NGO, create their account to make use of all the features of the application. This module includes the sign-up, sign-in, and account settings. The profiling module is where the users’ setup the profile of their organization as well as administer their projects for the public to view. The transaction module is where users of the application can associate to be involved in particular projects of an NGO or build a connection with them. This module includes the collaboration which contains the invitation and application, connections includes adding and removing, and matching is applied through collaborative filtering in inviting and suggestions of projects. The additional functionalities include the GIS which shows ASEAN aid map which includes the ASEAN countries with markers indicating a list of projects of NGO. The messaging is also part of the additional functionalities which shows the sent and received messages in the account of users. Users can start a chat and receive notifications if they accept messages from other users of the application. The reports module shows users the different kind of reports the system can provide them. Users can choose from the list of reports to be downloaded which they can use as references for decision making. Lastly, the help module, which includes the frequently asked questions and credits, wherein users can see recurring questions and answers for a specific topic related to the application. It also presents the information about the developers and the application itself.

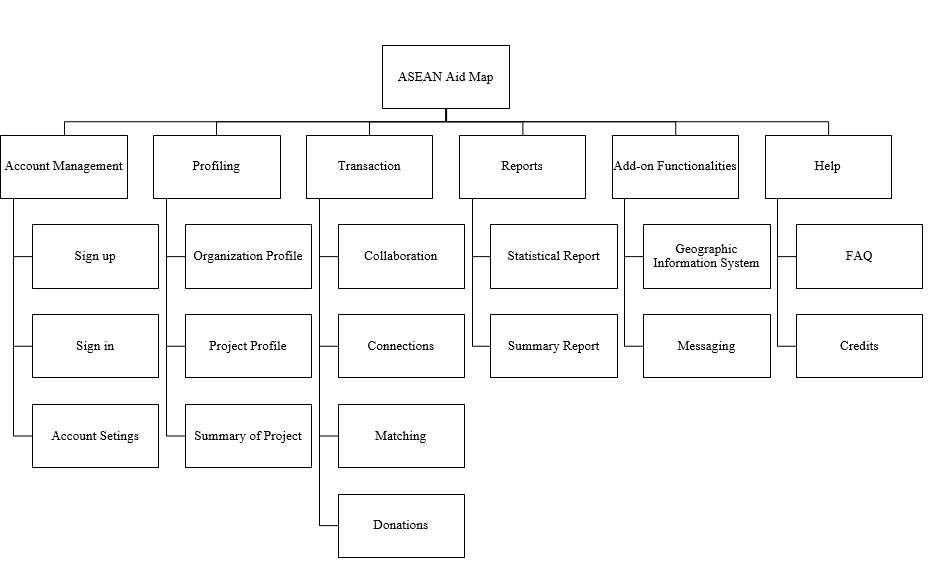


Figure 2. ASEAN Aid Map Decomposition Chart.

1. System Functionalities

This section discusses the different functionalities of the application. Described in details are the relevance of the features and their functions in the application. It also explains how the function can help with the goal of the application. The importance of the functions is also highlighted and discussed in this section. It also shows the process flow of the following modules, the account management, profiling, transactions, reports, additional functionalities, and help with their corresponding sub-modules which work together to serve the purpose of the application. It further explains the operation and how users can utilize the application. The response of the application to the stimuli that the users are encoding in it is also explained in this section. Also stated in this section are the functional requirements that the application must comply for the execution or completion of the function.

1. Account Management

ASEAN Aid Map account management module includes the three following processes: signing up, signing in, and account setting. If the organization has already signed up, they can immediately go through the application different functionalities and features like profiling, collaboration, messaging, and connections. They would be able to set up their organization profile to display to the public and other NGO users of the application. If the organization has yet to create an account, they must sign up first and provide the necessary information (e-mail, password, username, organization name, etc.) that the application has required. Their organization information may be modified later on through the use of the account settings.

1. Description and Priority

The account management has a high priority in the development process, especially in the perspective of the NGO. An NGO needs to set up an account to add their projects to the aid map. Several functions and features are unlocked if an NGO creates an account. In setting up an account, italso allows them to communicate, collaborate, and build connections with different NGO registered in the application in their projects. Suggestions and collaborative filtering are also unlocked to registered NGO to provide them with projects or organizations that they could be interested in collaborating or building connections.

1. Stimulus/Response Sequence

Users must first be on the home page of the application. After that, they are required to select sign in or sign up to access other functions/features of the application. This activity is required to the NGO because they are going to use the different features of the application. If the users do not have an account in the application, they must first sign up to create an account. If the users already have an account, they must fill in their credentials to go through the application and use the features. Table 4 shows the activity diagram for the account management module.

|  |  |
| --- | --- |
| Function Name | Account Management |
| Precondition | * Users must be in the Home Page. * Users click sign in/sign up. |
| Post Condition | * Sign in: View Profile * Sign up: Create new account. |
| Activity Flow | |
|  | |
| Alternate Flow | * The user has already a registered account. |
| Exception Flow | * The user entered wrong data format for a certain field. |

Table 4.ASEAN Aid Map Account Management Activity Diagram.

1. Functional Requirements

The account management feature allows the users to register an account and sign it in the system. It also gives the user the capability to edit the primary information of their account. Its functional requirements allow users to register or log into the application and use its other functionalities extensively. Account management function requires that the system must:

1. provide the users with sign up form to fill out to create their account in the application if they clicked sign up;
2. store the users’ information once they create their account;
3. provide the users with the sign in form to fill in their credentials if they clicked sign in;
4. authenticate if the users are registered when they sign in;
5. redirect the user to the home page after signing in if they are registered users;
6. display an error message once the user tries signing in without an account;
7. redirect the users to their profile page when they clicked Profile;
8. redirect the user to account settings page when they clicked Account Settings; and
9. allow the users to change its account information in account settings.
10. Profiling

Organization and project profiles contain relevant information that can be the basis for matching that is provided to the users. Profiling is where the registered users take control of their organization and project profile. This feature includes the editing of organization profile as well as the creation of the project, editing the project, and creating a summary of the project for the collaborators. Only the registered NGO can avail this function. With this function, the NGO can display and promote their on-going projects to attract collaborators.

1. Description and Priority

The provision of organizations and projects information and encouraging NGO collaboration in Southeast Asia is the primary purpose of this application. This feature has high priority because the profiles of both organization and project are the basis for matching to improve collaboration and without this function, this application does not meet its purpose. Aside from the registered users, projects are also one of the pillars of this application.

1. Stimulus/Response Sequence

The first section of profiling is for the users to complete or edit their organization profile. For the users to edit their profile, the first need to sign-in to the system with a registered account. After they signed in, they must select the profile option in the accounts section. The system then redirects them to their profile, and they can choose edit profile. Table 5 shows the activity diagram of editing of organization profile.

|  |  |
| --- | --- |
| Function Name | Editing of Organization Profile |
| Precondition | * The user must log-in to the system. |
| Post Condition | * Edited organization profile. |
| Activity Flow | |
|  | |
| Alternate Flow | * The user will choose the complete profile in the home page. |
| Exception Flow | * The system server bugs down. |

Table 5.ASEAN Aid Map Editing of Organization Profile Activity Diagram.

The registered users can check their list of projects in the project promotion management section. The application then displays the list of their ongoing projects once they selected it. The users can choose one of the projects and customize or edit it if they want to. If they have none, the users need first to create the project before they can manipulate it. Table 6 shows the activity diagram of project promotion management.

|  |  |
| --- | --- |
| Function Name | Project Promotion Management |
| Precondition | * The user must log-in to the system. |
| Post Condition | * Created or edited project. |
| Activity Flow | |
|  | |
| Alternate Flow | * The user will register an account |
| Exception Flow | * The system server bugs down. |

Table 6.ASEAN Aid Map Project Promotion Management Activity Diagram.

The registered users can also create a summary of that specific project to show the liquidation of the resources in it. If there is already a created summary, the users can edit it if there are additional changes in the utilization of the resources in the project. Table 7 shows the activity diagram of the summary of project.

|  |  |
| --- | --- |
| Function Name | Summary of Project |
| Precondition | * The user must have a created project. |
| Post Condition | * Created summary of project. |
| Activity Flow | |
|  | |
| Alternate Flow | * The user already created a summary of project. |
| Exception Flow | * The user is not the creator of the project. |

Table 7. ASEAN Aid Map Summary of Project Activity Diagram.

1. Functional Requirements

The project promotion management functional requirements give information to the users about what the system needs to provide for them to create a project, edit a project, and customize the content display of the project. Project promotion management function requires that the system must provide the:

1. allow the user to edit the organization profile;
2. list of ongoing projects of the user;
3. creation form for creating a project;
4. button to create the project once the user completed filling up the form;
5. profile of ongoing or created projects; and
6. user the capability to edit the project.
7. Transaction

The transaction module has four sub-functions namely collaboration, connection, matching, and donations. The feature aims to encourage collaboration between NGOs in Southeast Asia and building connections between them. The system provides a matching feature in the form of collaborative filtering suggestion and statistics to support the decision making of NGOs in collaborating.

1. Description and Priority

To achieve the purpose of the application which is to encourage collaboration between NGO, this feature is essential and has high priority. In having the collaboration to certain project allows collaborators to have a group message. Another way to encourage collaboration is through connections between NGO. The NGO would also receive notifications about the new projects of their connections to inform them. Also, connections between NGO allow them to have private messaging with each other to control privacy and spamming. The matching feature is presented in the form of suggestion and statistics that would be computed or measured based on different factors which are location, sector focus, connections, and resources of organizations and projects. The system also provides a donation module for the organizations to donate resources to their collaborated projects.

1. Stimulus/Response Sequence

The registered users must first select the project for collaboration which appeals to them. The system would then provide the profiles of the selected projects. They can now select the invite collaborators or apply for collaboration button, and then the application should display a form. If the user selects invite collaborators, the system would perform matching to provide a suggestion of an organization that best match with the project. The users should next fill out the form and send the request. The request would be received in the form of notification that also contains the matching statistics of the organization and the project to support the decision making in accepting or rejecting the request Table 8 shows the activity flow diagram of project collaboration.

|  |  |
| --- | --- |
| Function Name | Project Collaboration |
| Precondition | * The user must complete filling up the form. |
| Post Condition | * An invitation or application request will be sent. |
| Activity Flow | |
|  | |
| Alternate Flow | * The project does not belong to the user. |
| Exception Flow | * The user did not complete the form. |

Table 8.ASEAN Aid Map Project Collaboration Activity Diagram.

The user must first visit the profile of the organization. If the organization is already a connection, they can remove connection by clicking remove connection. Otherwise, they can add it as a connection by clicking the ‘add as connection’ button. Table 9 shows the activity flow diagram of the Connections.

|  |  |
| --- | --- |
| Function Name | Connections |
| Precondition | * The user is logged in. |
| Post Condition | * Add: Connection request sent * Remove: Connection removed |
| Activity Flow | |
|  | |
| Alternate Flow | * The organization is already added as a connection. |
| Exception Flow | * The server bugs down. |

Table 9.ASEAN Aid Map Connections Activity Diagram.

.ASEAN Aid Map Connections Activity Diagram.

The user must first collaborate with the project to donate resources. Once they collaborate, the user must go to the Resources tab and click the donate now button. The user must then add quantity to the resources and click the donate button. Table 10 shows the activity flow diagram of the Donations.

|  |  |
| --- | --- |
| Function Name | Donations |
| Precondition | * The user is collaborated with the project. |
| Post Condition | * Donation sent to the organization. |
| Activity Flow | |
|  | |
| Alternate Flow | * The user requested for collaboration first. |
| Exception Flow | * The resources of the project is already full. |

Table 10.ASEAN Aid Map Donations Activity Diagram.

1. Functional Requirements

The transactions functional requirements give information to the user on how to invite or apply for collaboration and add or remove connections. This also shows how the receiving organization can accept or reject the different requests. The transaction function requires that the system must:

1. display the list of projects where the users can choose from;
2. provide the project profile of the chosen project;
3. provide the application or invitation form for the users to fill out;
4. users with organization’s profile;
5. users with the add as connection button if the organization is still not one of its connections;
6. users with the remove connection button if the organization is already part of its connections; and
7. the system must send a notification.
8. Reports

Reports are information presented regarding a specific work or operation. The ASEAN Aid Map comprises statistical and summary reports about the organization. These generated reports can give the organization vital information which can help them in their decision-making process.

1. Description and Priority

The Reports module can be accessed through the Reports tab in the menu bar. It then presents three choices of reports namely statistical, summary, and progress report. The statistical report would generate the performance report of the organization and the average number of projects either ongoing of finished and collaborators of the organization in the form of graphs. The summary reports present the list of ongoing and finished projects with their corresponding liquidation of resource or summary of the project. Both of them are produced to help or support the decision making of the organization using the system. This feature has a high priority in the application because it serves a great purpose for users planning and a basis for decision making.

1. Stimulus/Response Sequence

The registered user must first select the reports tab in the menu. The system displays the different choices of reports available for the users to generate. The user then chooses an option of a report may it be statistical or summary. After the user chose an option, the system then gathers the information of the projects and generates a report according to the selected option of the user. If the report is the statistical type, the system generates either a performance report indicating the overall and specific performance or comparative graph for the average number of projects of the organization. For the summary type, the system would generate the list of projects and collaborated projects with their liquidation. The reports are in a document format that the users can download or print if they chose to. These reports would help support the decision making of the users. Table 11 shows the activity flow diagram of reports.

Table 11.ASEAN Aid Map Report Activity Diagram.

|  |  |
| --- | --- |
| Function Name | Report |
| Precondition | * The user is logged in. |
| Post Condition | * Generated report. |
| Activity Flow | |
|  | |
| Alternate Flow | * The user chose another kind of report. |
| Exception Flow | * The server bugs down. |

1. Functional Requirements

The reports module provides users with relevant information that can help them with their planning and decision making. The reports module requires that the system must:

1. allow users to select the report module;
2. provide the users with report options;
3. allow the users to select a report option;
4. generate the required report for the users; and
5. allow the users to download the report.
6. Additional Functionalities

This application aims to provide a network mechanism for NGO to improve collaboration and connection. The additional functionalities module includes messaging and graphical information system of the application. This feature allows NGO to communicate with their collaborated NGO or connections to improve updates between projects or events. It also contains the GIS that displays the aid map with markers containing the different projects.

1. Description and Priority

This feature has a moderate priority in the application but serves a great purpose. The first sub-function of this feature is the messaging module. One of the purposes of the application is to encourage and improve collaborations among NGO in Southeast Asia, and one of the solutions is to provide them a means of communication for updates and other matters related to their collaborated projects and connections. This can also help the NGOs in their operations which are outside the scope of the application. With this feature, we can bridge the gap of communication between collaborated NGO. The second sub-function is the GIS module which is to provide users with ease in locating a certain project in a particular part of the ASEAN member countries. This module also presents to the users the updated number of projects in a certain location on the map.

1. Stimulus/Response Sequence

The additional functionalities are divided into two sub-modules namely messaging and GIS module. Only users with accounts can make use of the messaging section while all users can access the GIS whether public or registered NGO. Each sub-module has a different activity flow that the users need to follow to accomplish it. This section would discuss the activity flows of the two sub-modules of this feature.

The first sub-module is the messaging module. The registered users must first have partners or collaborated projects to create either a private message or collaborators’ group message. If the users do not have partner/s or collaborated project/s, they must apply for collaboration with other NGO projects or request for connection with other NGO and wait for them to be accepted. But if the users have collaborated project/s or partner/s, they can create their message in the messaging section. They need to click the message button and select create a new message. Then they need to select a recipient of the message. After that, they need to compose the message in the form presented by the application. They then provide the topic of the discussion to provide control in it. The users then click send to deliver the message and notify the receiving users. For the receiving users to read the message or reply to the message, they must need first to click the message button. Then the system would display their inbox where they can choose one message to open. After clicking a message, a chat box should appear where they can reply. Table 12 shows the messaging activity diagram.

|  |  |
| --- | --- |
| Function Name | Messaging |
| Precondition | * The user must have collaboration or partners. * The user must choose a recipient * the user must compose a message |
| Post Condition | * The system will send the mail to the recipient. |
| Activity Flow | |
|  | |
| Alternate Flow | * The user replied to a message. |
| Exception Flow | * The user does not have collaboration or connections. |

Table 12.ASEAN Aid Map Messaging Activity Diagram.

.ASEAN Aid Map Messaging Activity Diagram.

The second sub-module is the GIS feature. All they need to do is to hover or click on the project markers plotted on the map to locate a specific project. Table 13 shows the activity diagram of this feature.

|  |  |
| --- | --- |
| Function Name | Geographical Information System |
| Precondition | * Users must be in the Home Page. |
| Post Condition | * Users will acquire information about a certain project/program. |
| Activity Flow | |
|  | |
| Alternate Flow | * The user can choose the two options |
| Exception Flow | * The user did not choose any of the options |

Table 13.ASEAN Aid Map GIS Activity Diagram.

1. Functional Requirements

The additional functionalities functional requirements provide users information on how to complete the tasks and what the system needs to provide for the users to accomplish the tasks. These tasks involve the creation of a message and sending it as well as operating the GIS. The additional functionalities require that the system must:

1. provide the messaging section;
2. provide the inbox of the user;
3. provide the list of collaborators’ group or partners of the user;
4. provide the message form where the user writes the message;
5. notify the recipient of the message;
6. display tooltip which contains the number of projects when the users hover on an area marker; and
7. display list of projects when the users click on an area marker.
8. Help

The ASEAN Aid Map includes help with both FAQ and credits part. In FAQ, the users may view the list of questions and answers. In the credits page, the users can view the information about the developers as well as their contact details.

1. Description and Priority

This feature includes the FAQ and credits options. This module has a low priority because, without this part, the application can still serve its purpose in managing projects.

1. Stimulus/Response Sequence

The user must first visit the profile of the organization. If the organization is already a connection, they can remove connection by clicking remove connection. Otherwise, they can add it as a connection by clicking the Add as connection button. Table 14 shows the activity flow diagram of the Help.

|  |  |
| --- | --- |
| Function Name | Help |
| Precondition | * The user should click the Help |
| Post Condition | * The application presents a list of questions and answers |
| Activity Flow | |
|  | |
| Alternate Flow | * The user wants to ask a new question. |
| Exception Flow | * There are no existing questions and answers. |

Table 14.ASEAN Aid Map Help Activity Diagram.

1. Functional Requirements

The Help shows the considerations of the users of the application. It also consists of a set of questions and corresponding answers. This function also includes the insights of the developers of the application. The Help module requires that the system must:

1. provide users with recurring questions related to the application;
2. provide users with answers that correspond to their chosen question;
3. allow users to ask questions in line with the features and functions of the application; and
4. provide users with basic information regarding the developers and the creation of the application.

The modules mentioned in the decomposition chart are the core functions of the system. Although there are additional features present in the application, the ones that are stated in this chapter are the core functions that the registered users can perform to achieve the goal of the application. The following descriptions and priorities stated to describe the different functionalities of the application as they are. The stimulus/response section described the steps that the users need to perform to complete a certain function. The developers would address the functional requirements of the different functions stated in this document to make it possible to finish or perform specific module.