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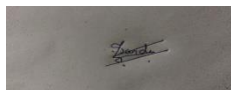
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Abstract

The purpose of writing this document is to provide a detail idea of the project that we have completed within two semesters, 8 month of period. The project was developed by divided in to two parts. The first iteration of the project was developed at the first semester under the Software Engineering Project – 1 module. At the end of the first iteration a deliverable half of the project was developed. And a prototype presentation was done to the clients to get the feedback of the first iteration. With the feedback the second iteration was started at the second semester under the Software Engineering project – 2 modules. At the end of the second iteration the whole project was delivered as a working project.

The project was kind of a social application for the Royal college 1994 group. All the group members are Royal college past students and they are currently doing their professions on different streams at different countries. As a one batch, they all wanted to create a smart application for get-together with each other. The application can only be accessible by the members of the 1994 batch members. Because when registering to the application initially the register request goes to the administrator and class representative. If and only if the administrator or the class representative accept the request the members will be having authority to access the application.

There are two applications which is Mobile application and a web application. The web application is only to perform the administrative tasks and the class representative tasks. So, the web application can be only access by the administrator and the class representative.

The mobile application should be run on three platforms Android, IOS and Windows. But because there was a time constraint the windows application could not be able to developed. Because there was a separate technology for developing windows applications rather than the android and IOS.

The Cordova framework was used as the main framework for the Mobile application front end, and the Angular framework used to connect the back end and front end. The back end was developed with the PHP, and MySQL database connection was used. For the Web application, the HTML and CSS was used as the front-end languages and PHP was used as the backend language. As same in the mobile application MySQL database connection was used.

And this document will carry out the detail descriptions of the tasks and the functions that was allocated to me by the client within the second iteration under the Software Engineering project – 2.

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Introduction

Software Engineering Project-2 is belonging to the subjects of Third year second semester. And SEP-2 was a continuation of Software Engineering Project-1. In the SEP-1 our team has been assigned with a project belongs to the Royal college 94 group. Within the first iteration our team could develop a half of the project scope. The workload of the SEP-2 was to continue and complete the scope of the project assigned in SEP-1.

Mr. Indraka Udayakumara was acted as the client as well as Mr. Udara Samarathunga was acted as the supervisor for the project. As in the first iteration all the requirements regard to the second iteration were collected by conducting several Client Meetings time to time. The idea of sequencing the requirements and the way of developing the application was given by the supervisor Mr. Udara Samarathunga. As well as the idea of which coding standards and design patterns should be used was given by the supervisor. The requirements given in the second iteration were complex than in the SEP-1 project scope.

The project belongs to the 1994 group of Royal college. As the members of the group are professionals the purpose of developing the application was to provide a way of gathering every one of the batch together. And provide facilities to post advertisement for the revenue purpose. The members will be able to gather information of each member and communicate through the application. Specific event details will be delivered to each member through the application. The application can only be accessed by the 94'group of the Royal Collage. When a user registered to the mobile application the request will be send to the administrator or class representative. A user can access the system if and only if administrator or class representative accept the request.

The project was to develop a smart mobile application which should provide the features of maintaining a main profile, advance search, create favorite contact list, private chat and group chat, manage groups and group posts, customize events with a calendar, maintaining a business profile and advertisement management. Another part of the project was to develop a web application for the administrator and the class representative to make administrative activities easier and class representative tasks easier. Manage advertisements and register users are main administrative tasks.

All together SEP-1 and SEP-2 was 12-month project with large scope. There were two iterates. At the end of the period the fully completed Mobile Application and Web application were delivered to the client. External to the project development scope hosting and the testing of the applications also included to the SEP-2 project workload. The mobile application should be able to downloaded through the Play Store and App Store.

SEP-2 Project Scope

Project scope of the SEP-2 was a continuation of SEP-1. The content of the project was to develop a smart mobile application and a web application for the 1994 batch of Royal Collage. The main purpose of the web application is to make administrative tasks easy for the administrator and provide facilities to the class representative.

The features of the Mobile application related to the second iteration were login to the system manually or using Facebook login, maintaining a main profile, advance search, create favorite contact list, maintain a timeline, private chat and group chat, manage groups and group posts, customize events with a calendar, maintaining business cards, retrieve data from the LinkedIn profile and advertisement management under the advertisement management there are several features available for members and Administrator separately. As a member advertisement, should be sent to the administrator through the system and view the advertisements and as the administrator post advertisement and customize advertisement are concerned as main features.

The web application provides features for the administrator to make day to day activities easier such as post advertisement to the system, edit or customize advertisement. Administrative tasks should be able to access through the mobile application and web application. As well as the web application provides the features for the class representative.

The goal of developing both mobile application and web application is to gather the information of all the members and make the information available to other members. Mobile application is the main point where the member's get-together with each other and share the information. Members can even join for the subgroups in the application.

To deliver the applications both applications should be hosted. Users should be able to download the application through the App Store for the apple devices and through the play store for the android devices. Administrator should be able to use the web application from any device over the internet at any time.

The project had two iterates. First iteration of the both applications Mobile and Web have been delivered to the Client at the end of the SEP-1. It was only a half of the deliverable product. And at the end of the second iteration fully working product was delivered to the client. The product contained both Mobile and Web application.

The Project was completed as the workload of both Software Engineering project - 1 and Software Engineering Project – 2 subjects. Each subject had six-month period of development time. And all together the whole project has been given 12-month period of development time to complete and deliver the project.

SEP-2 Problem Specification

Mobile Application

Import data from the LinkedIn Profile

Within the main Functions of Business profile showing Business card is a major one. There are several types of Business cards exists for each member. LinkedIn Business card takes the priority among them. The details of the LinkedIn business card are retrieved from the LinkedIn profile of the corresponding member. The details are retrieved using the LinkedIn API (Application Program Interface). Except to LinkedIn Business card every member can maintain a normal business card which can be created manually. The card can be refreshed manually using pull by refresh.

Import Data from the Facebook Profile

Among the Business Cards the Facebook Business card is given the second place. The members who are not having a LinkedIn Profile can retrieve data from the Facebook profile. The Facebook profile data are retrieved using Facebook API. As because the Facebook developers have been given limited access to the data only the basic details can be retrieved from the API. Except to Facebook Business card every member can maintain a normal business card which can be created manually. Facebook card also can be refreshed manually using pull by refresh.

Create Manual business card

The Functionality of creating manual Business card was done in the previous Iteration. (for SEP-1). But as because there were changes in the requirement at the second iteration after the client prototype presentation the interfaces were changed. But there were no changes in the logic of the functionality or the implementation of the creating manual business card functionality. If manual Business card is not updated automatically using pull by refresh card can be refreshed manually.

Send Advertisement

Send advertisement is a user function. The purpose of send advertisement function is to provide ability to send advertisement details to the administrator over the system. All the advertisement that needed to be posted to the system can be send using the send advertisement function. Administrator will receive the advertisements.

Show User Advertisements

The main purpose of the functionality is to show all the advertisements that member has send to the administrator over the system. The details of the advertisement and the time which it sends to the administrator will be displayed in the my Adds area. And according to the administrators' reaction of the advertisement, the status will be automatically updated and displayed in the My Adds area. The advertisements are displayed sort by the time of the administrators respond. And the advertisements rejected by the administrator can be deleted by the members, the delete function is only available for the advertisements rejected by the administrator.

Show Notifications

The notifications area is used to display the status of the advertisement that member has posted to the administrator. Whether the advertisement has been accepted or rejected by the administrator can be known by the member from the notifications. The notifications can be cleared by the member as they prefer. The notifications conclude the status of the advertisement and accept or rejected date. The notifications are real time and displayed according to the time.

Slide banners

The advertisements are displayed as banners within the system. All approved advertisements will be shown at the bottom of the Mobile application. The number of advertisement banners are unlimited. As soon as an advertisement posted the banner will be displayed at the bottom. The banners are rotate at a given time unit. And members also have given the ability to slide advertisements manually.

View Banners

When slides are sliding at the bottom of the application administrator or member should be able to view the details of the advertisements. To provide that facility the View banner function was implemented. While sliding clicking on a banner administrator or member would be able to go to the Full detail view page of the corresponding advertisement. The detail view page contained all the details regarding to the advertisement.

Disable User or Admin Banners

When needed administrator or member should be able to disable the advertisement bar. When disable button is activated no banners will be displayed at the bottom of the application. By inactivating the disable advertisement button administrator or member could be able to view the advertisement bar again. When disabling the advertisements, there are some restrictions for members. Administrator has given the Authority to lock the advertisements in the system as they could appear in the system until administrator disable them.

Lock System Advertisements

Administrator has given the authority to prevent members from disabling the special advertisements. When administrator activate the lock advertisement button even if the members activate disable advertisement button the special advertisements will not be disabled. The function was implemented for specific situations where the advertisements are important. The Advertisements which have marked as special are important and should always appear in the system. As a solution for the situation the lock advertisement method was introduced.

Show Pending Advertisement

The functionality of pending advertisement is basically a functionality which is available to administrator. All the advertisement send by the members will be displayed to the administrator sort by the date. Administrator can accept or the reject the advertisements by reviewing them. The accepted advertisements will be available on the system and the rejected advertisements will be removed from the system. Pending advertisements can be refreshed using pull by refresh in order to view the real-time updates.

Accept Reject Advertisement (Mobile View)

The advertisement send over the Mobile application should be able to accept or reject by the administrator after reviewing them. The accepted advertisements will be shown in the Mobile Application and the rejected advertisement will be deleted from the database tables.

Access other social Medias

Member has provided the facility of accessing other social media profiles through the Mobile application. While accessing the Business cards each member could be able to access the Facebook profile, LinkedIn profile and Google+ profile.

View Business cards

Within the Advance search function (Jayasundara, 2016) members could view the Business card of other members. When view the business card of a member from another member's profile, only the read permission has been given.

Search Lists

Every Lists in the Mobile system which I have developed have been provided with the search functionality to make it easier for members and administrator to find out relevant result by searching instead of dropping down.

View Favorite Advertisements

Every member has given the facility of mark advertisements as favorite. When a member marked an advertisement as favorite the advertisement will be listed in a separate area as members can quickly access and view the favorite advertisements only. And member also has given the features to remove advertisements from the list using the button in the favorite advertisement list or using the button in the detail view page of the banners in the slider.

View Special Advertisements

The administrator has given the facility of mark advertisements as special. When the administrator marked an advertisement as special the advertisement will be listed in a separate area as administrator can quickly access and view the special advertisements only. And administrator also has given the features to remove advertisements from the list using the button in the special advertisement list or using the button in the system advertisement list.

Web Application

Web application can be accessed by the administrator for the administrative tasks. The purpose of web application was to make administrative tasks and class representative tasks easier.

Post advertisement to the System

Post advertisement function was partially completed function of the first iteration. Only the interface and validation part was completed at the end of the first iteration. And at the time of second iteration it was totally completed with the post mechanism. Using the functionality administrator could be able to send advertisement to the system. To post advertisements the advertisements should be received from the member from external medias or through the mobile application.

View and Delete System Advertisements

Display advertisement function also a partially completed functionality of the first iteration. The purpose of this functionality is to display all the advertisements currently available in the system. The interface is changed to a new style and as a new features a view button and delete button has been included and implemented. The details of the advertisement can be viewed through the view button. The advertisement edits and delete can be also perform through the web view. All the activities done through the mobile view can be done through the Web view also.

Show Pending Advertisements

The function is providing the same tasks as in the mobile application. Administrator would be able to Accept or reject advertisements sent through the Mobile application by the members. As well as a detail view of the advertisement can be seen by the view function.

Accept, Reject and view Advertisement (Web View)

The advertisements send over the Mobile application should be able to accept or reject by the administrator after reviewing them from the web application. The accepted advertisements will be shown in the mobile application and the rejected advertisement will be deleted from the database tables. And the detail description of the advertisement can also be viewed.

View Special Advertisements

The functionality is as same as the functionality of the mobile application. The administrator has given the facility of mark advertisements as special. When the administrator marked an advertisement as special the advertisement will be listed in a separate area as administrator can quickly access and view the special advertisements only. And administrator also has given the features to remove advertisements from the list using the button in the special advertisement list or using the button in the system advertisement list.

Lock System Advertisements

The lock advertisement functionality in the web application is as same as the lock advertisement functionality in the mobile application. Both has the same mechanism and implemented to do the same task.

Send Advertisement

The class representative has been given a special functionality to send advertisement to the administrator over web application. The purpose of send advertisement function is to provide ability to send advertisement details to the administrator over the system. Class representative can send all the advertisement that needed to be posted to the system, using the send advertisement function in the mobile or web application. Administrator will receive the advertisements.

View User Business Cards

In the mobile application as members do class representative can also view a business card of another member by searching him. But for make it easier class representative has given a special feature to access business cards through web application without searching.

In this function the class representative will be displayed the list of users currently registered to the system. And from the list class representative would be able to view the business card of any user.

- View customized business card

A button is provided to view the customized business card of any user. If there is no customized business card for the user, a message will be displayed that the user has no customized business card to display.

- View LinkedIn business card

A button is provided to view the LinkedIn business card of any user. If there is no LinkedIn business card for the user, a message will be displayed that the user has no LinkedIn business card to display.

- View Facebook business card

A button is provided to view the Facebook business card of any user. If there is no Facebook business card for the user a message will be displayed that the user has no Facebook business card to display.

View Favorite Advertisement

As in the mobile application class representative has been provided the features in the web application to view the favorite advertisements that he is marked as favorite from the mobile application. The list of favorite advertisements will be displayed to the class representative and as well as the advertisements can be removed from the favorite in the web application.

Project Procedure

After gathering requirements by conducting several client meetings and supervisor meetings the software requirement specification was created. After creating the specification, the first thing to do was break down the requirements into sub parts and identified the core units. Finally created a reliable schedule for the SEP-2 in order to spread the development process throughout the semester.

Each and every sub part was categorized and selected by each member. Analyzing the activities of each unit that I have given, the learning curve was created. The learning curve contained all the time spent for implementing purposes and technology learning purposes. It was around 8 hours for the learning curve because the technology is familiar from the SEP-1.

As because the Mobile application and the Web application was a continuation from the SEP-1 project the technology was not changed and same mechanism had to be used. The frameworks used for the Mobile application was Cordova and Angular. And as the back-end programming language PHP was selected. As because the Web Application is a small one no specific frameworks are used. Front end was developed using HTML, CSS and for the backend PHP was used. The Mobile Application was developed as a Hybrid application. And it can be operated using IOS and Android platforms from any mobile devices.

The next stage of the procedure was to create the low level, High level and Architectural Diagrams. By analyzing the diagrams, got the idea of the procedure of developing. Such as ER diagram, Use case diagrams, Architectural Diagram.

When comes to the development phase the first thing that has done was identified the interfaces that should be implemented. And getting feedbacks from the client made sure that the requirements have been achieved in to the clients expected level. The Implementation of activities of the interfaces was begun as soon as the interface design part was over. The coding part started with the database designing part as done in the SEP-1. First created the database rationale and database connections.

For the implementation process it took nearly 12 weeks (3 months) due to the scope was a larger one than the scope of the SEP-1. After implemented all the component separately the final stage was to integrate the System.

Before Delivered the system, the system testing was started using several test cases to make sure all the functions operating as per to the client's expected level.

At the end of the Semester 2 (End of SEP-2) the fully completed mobile application and web application was delivered to the client for the usage. Both mobile application and web application have been hosted and the mobile application can be used with Android and IOS.

SEP-2 Functional Requirement Specification

Within the Section Functional requirement specification, the functional activities that I have completed within the second iteration (Software Engineering Project- 2) will be discussed in detailed vice. The brief Description of the functionalities have been given under the problem Specification heading.

User Functional Requirements in Mobile Application

Access Social Medias

The application has provided the facility of accessing external social medias through the Mobile Application.

While Accessing the Facebook business card and the LinkedIn business card members will be able to login to their Facebook profile, LinkedIn profile, Google+ profile and twitter profile through the Mobile application.

The function of accessing social medias is not available for other members when searching a business card.

But through the LinkedIn card and Facebook business card any member will be able to view the LinkedIn profile and Facebook Profile of another member. When the other member views the Facebook or LinkedIn profile they will only provide read only permissions. But when the owner of the cards views the profiles they will be provided both read write permissions.

Import Data from LinkedIn Profile

As specified in the requirement specification each member who is maintaining a LinkedIn profile should have provided the facility to retrieve profile data from the LinkedIn profile. The function was implemented due to without entering bunch of data members should be able to retrieve their data from a single button click. The main purpose was to improve the User-friendliness and Easiness of working with the software.

The data can be accessed through the LinkedIn API (Application program interface). When the member asks for LinkedIn data the authentication page will be prompted to provide credentials to log in to the LinkedIn profile. After member authenticated himself as a LinkedIn member the data related to the given credentials will be retrieved to the mobile Application. There is a separate interface for displaying LinkedIn card. If member has no LinkedIn card when member logs in, he will be displayed create a business card option.

To access LinkedIn API, I have created a separate Developer Account. The data is being retrieve as Jason variables. Before send the values to the database they have been converted in to the PHP variables. Because to show data in the LinkedIn card they should be retrieved from the localhost.

When retrieving data from the LinkedIn API there are some restrictions. The basic profile details such as first name, last name, position, industry, profession, summery, number of connections, LinkedIn profile URL can be retrieved easily using the developer account that I have created. But for further details such as company details and other professional details they asked for special authentication. If and only if a developer is a partner developer the professional details can be retrieved. For become a partner developer a request should be made.

Even if I made that request The LinkedIn community had not provided the authority for me to become a partner developer because of my current position as a student.

The LinkedIn card page can be refreshed using pull by refresh. Even the page refreshed automatically, to ensure the members trustiness pull by refreshed method has also been provided.

Import Data from Facebook Profile

The members who are not having a LinkedIn profile should also have to maintain a Business card. the one way of maintaining a business card is to import data from Facebook API (Application program interface). The main reason for implementing a business card with Facebook is to retrieve data from the Facebook API instead of entering data for the manual Business card.

The data can be accessed through the Facebook API. When the member asks for Facebook data the authentication page will be prompted to provide credentials to log in to the Facebook profile. After member authenticated himself as a Facebook user the data related to the given credentials will be retrieved to the mobile Application. There is a separate interface for displaying Facebook card. The Facebook card is given the priority only if the LinkedIn card is not presented.

To access Facebook API, I have created a separate Developer Account. The data is being retrieve as Jason variables. Before send the values to the database they have converted in to the PHP variables. Because to show data in the Facebook card they should be retrieved from the localhost. First the retrieved data are send to the database of the mobile phone application and from the table the data retrieved for the card.

When retrieving data from the Facebook API there are some restrictions. The basic profile details such as first name, last name, Facebook profile URL can be retrieved easily using the developer account that I have created. But for further details such as company details and other professional details or for the Skills and Education Details they asked for special authentication. If and only if a developer is reviewed the application, the professional details and other details can be retrieved. For each External data, the reason should be provided with why do we need those data.

As client required only the basic profile details from the Facebook API the special data is not requested because the process is bit harder.

The Facebook card page can be refreshed using pull by refresh. Even the page refreshed automatically, to ensure the members trustiness pull by refreshed method has also used.

If member has no Facebook card, when member logs in he will be displayed create a business card option. From the option, member will be redirected to the place where they can create business cards.

View users Business Card

A business card is an information card which hold data of the members. As main profile gathers the basic profile data of a member business card gathers the professional data of a member.

The working place details, Profession, Email, contact numbers and other professional details are gathered using business cards. There are 3 types of business cards. First one is the normal business card which members should fill the details using registration forms provided with the mobile application. The second one is LinkedIn business card. Each member who is having a LinkedIn profile could generate a LinkedIn business card by importing the LinkedIn profile details. The third business card is Facebook business card. Each member who is having a Facebook profile could generate a Facebook business card by importing the Facebook profile details.

Members can also maintain the three business cards together.

The purpose of Creating business cards is to share the details of a member to other members. The details will mainly focus about the professional details. The member who search another member of the system could be able to view the business cards of the searched member Search-(Jayasundara, 2016).

The members can edit their Business cards but while searching, the business cards are in the read-only format. Because one member cannot edit the details of another member's business cards.

The member who has searched another member with no business cards will be shown that the corresponding member has no business cards.

The importance of the business cards is any member can view the details and get an idea about another member.

Any member can view the Facebook profile and LinkedIn profile of another member through their Facebook and LinkedIn business cards after searching.

Send Advertisement

Send Advertisement is a function used to send the advertisement banner and other details of the advertisement through the mobile application to the administrator. Within the details Title of the advertisement, Description of the advertisement, start date and the end date of the advertisement are included. The purpose of using start and end date of the advertisement is to post the advertisement at the time to the system and remove the advertisement when the end date is passed. The adding and removing task is done by the administrator.

In the requirement specification, the client has mentioned no specific details about sending advertisement through the Mobile application. The requirement specification has specified if there are no way it is ok to use the method of sending advertisement over the external medias instead of using Mobile application. But to make it easier I have created a separate function to send advertisement details over the mobile application.

As mentioned above members have been given the facility to send advertisement over the mobile application or using external medias. External medias derive E-Mail, Facebook etc.

When using, the Mobile application send advertisement functionality members just have to fill the form and send the advertisement. And the advertisement will be available for administrator as soon as it sends.

The main important thing is when using mobile application to send advertisement the advertisement will be received by the administrator with all the details necessary for advertisement to post on the system. What administrator has to do is review the received advertisement and click the post button. If the advertisement received from external medias administrator will have to organize details of the advertisement and fill the form to post the advertisement to the system. It will be time consuming and long process.

Providing the function send advertisement both members and administrative tasks will be easier than the way it was before.

Show Advertisement Status

Every member will be able to view the advertisements that he has send to the administrator for the reviewing purpose.

When the member logs in to the system and view the advertisements in the My Advertisement bar each member will be displayed the advertisements that he has send to the administrator from all the time. The advertisements will be displayed according to the time that the advertisement send. The latest advertisement that has send will be displayed at the beginning and go on.

The advertisement status is changing according to the respond of the administrator. When the advertisement sends initially at the bottom of the advertisement it will displayed as 'pending advertisement' in yellow color and when the administrator accepts the advertisement at the bottom of the advertisement which displayed under my advertisement category will be changed as 'advertisement accepted' in green color. As well as when the administrator rejected the advertisement it will displayed as 'advertisement rejected' in the red color.

Also the advertisements can be refreshed by pull refresh. When the administrator and member log in to the system simultaneously to see the updates the page should be refreshed. Pull by refresh provide the facility of refreshing pages.

Members have provided a special functionality for delete advertisements. The advertisements which have been rejected by the administrative will be displayed to the member who send it with a delete button. Because the rejected advertisements have no use members would be able to delete them or keep them. When the delete button clicks, the advertisement will be deleted from the list.

But the pending advertisements and accepted advertisements cannot be deleted by the member. Only read permission is given for those advertisements because at the time they are in use.

Show Notification

The Notification is kind of a message which is used to let members know about the response for their advertisement from the administrator.

When the administrator accepts an advertisement, a message saying the advertisement has been accepted will be send to the member who has send the corresponding advertisement to the administrator. As well as when the administrator rejects an advertisement a message saying that the advertisement has been rejected will be send.

The message contains the accepted or rejected time and the date of the advertisement and the message of the status of the advertisement. The notification saying rejected will be displayed in red color and the notifications saying accepted will be displayed in blue color.

Member has provided the facility to clear the notification. Notifications cannot be deleted one by one but all together. If member wants clear all the messages in the list, the clear button function will clear all the notifications currently existing.

The notifications will be displayed sort by date. The latest notifications will be shown at the beginning and the oldest notifications will be displayed at the end of the list.

The notification list can be refreshed using pull by refresh method. The simultaneous results will be shown when using the refresh method.

Mark Advertisements as Favorite

Every member has given the facility of showing the advertisements that he has marked as favorite from the system advertisement list.

The purpose of giving the functionality is to make it easier for users to access specific advertisements quickly without going through all the system advertisements.

When a member marked an advertisement as favorite the button will change to remove from favorite and vice versa. And the advertisement which is marked as favorite will be appeared in the favorite advertisement list in the members' area.

The button for marking an advertisement as favorite has been provided at the detail view page of the slider advertisements.

View Favorite Advertisements

When member marked an advertisement as favorite it will be appeared in the favorite advertisement area. A list of all favorite advertisements will be appeared in the favorite advertisement area. If member wants he would be able to view the full details about the advertisement through the detail view page.

Once a member clicks on an advertisement the detail view page will be appeared. In the detail view page, all the details regarding to the advertisement will be displayed.

At the bottom of the detail view page the button has provided to remove an advertisement from the favorite list. Once user clicks the button mark as remove from favorite, the advertisement will be disappeared from the favorite list. And the button of the detail view page of the slider add will be changed to add to favorite.

Admin Functional Requirements in Mobile Application

Administrator has given the chance to perform the administrative task over the mobile application and from the web application. Under this heading I will categorized all the mobile related administrative tasks.

Show pending Advertisement

Members has been provided the facility to send advertisements to the administrator over external medias or through the Mobile Application.

When members send advertisements over the mobile application the advertisements will be available for the administrator from the mobile application. According to the received time the advertisement will be in a list. The latest advertisement will show in the beginning.

But the advertisements send over external medias will not be displayed under the list of pending advertisements.

The title of the advertisement, description of the advertisement and the send date will be displayed in each advertisement of the list.

For the acceptance or rejection purposes the accept and reject button will also displayed at the bottom of the advertisement.

The pending advertisement list can be able to refresh by pulling. When a member and administrator logs in to the system simultaneously, to see the advertisements send by the member just at the moment the list should be refreshed.

Accept/Reject Pending Advertisements

This functionality is part of pending advertisements. Every advertisement will be able to reject or accept by the administrator.

This functionality could only be used for the advertisements send through the mobile application by the members.

When administrator clicks the reject button the advertisement will be discarded from the list and a message saying that the advertisement is being rejected will be send to the corresponding member who send the advertisement to the administrator. Then if want member could delete the rejected advertisement.

When administrator clicks the accept button the advertisement details will be send to the database and the banner will be available at the banner slider. And a message saying that the advertisement is being accepted will be send to the corresponding member who send the advertisement to the administrator.

And the advertisement will also be available to the administrator at the system advertisement list of the mobile view and the web view. From using the system advertisement list administrator will be able to edit or delete advertisement from both web application and mobile application.

View Pending Advertisement Details

This function is also a part of the function of pending advertisement. Under the pending advertisement there is a separate button for viewing the details of a particular advertisement.

This function is available in both mobile and web application.

When administrator clicks on the corresponding advertisement he will be redirected to the detail view page of the advertisement. And it contains all the information regarding to the advertisement.

Lock System Advertisements

Advertisements are shown at the bottom of the application in a separate slider. Administrator and member both will be shown the slider.

As specified the administrator and the member both will be able to disable advertisements any time when necessary.

But there are some restrictions for members when disabling advertisements. As client mentioned in the requirement specification when there are special advertisements available in the system the members should not be able to disable only the special advertisements until the time period of that special advertisement is removed.

For that the administrator has provide a separate functionality for disable the disable advertisement button of the members. The main activity of advertisement lock functionality is to prevent members from disabling the advertisements.

When administrator activate the lock advertisement button even when the members activate disable advertisement button all the advertisement will not disappear. The advertisements which have been marked as special will be remain while the other advertisements are disappear. Unless administrator disable the lock advertisement button the advertisement will appear on the mobile application all the time.

But the specialty of this functionality is even when the advertisement lock button is activated the administrator would be able to disable all his advertisements including the special ones show at the bottom of the application.

When administrator enable the lock advertisement button the members will display a message saying that the administrator has enabled the lock advertisement option.

Mark Advertisements as Special

The administrator has given the facility of showing the advertisements that he has marked as special from the system advertisement list.

The purpose of giving the functionality is to make special advertisements available at the system all the time and make it easier for administrator to access specific advertisements that are marked as special quickly without going through all the system advertisements.

When the administrator marked an advertisement as special, the button will change to remove from special and vice versa. And the advertisement which is marked as special will be appeared in the special advertisement list in the administrators' panel.

The button has been provided at the detail view page of the system advertisements.

View Special Advertisements

When administrator marked an advertisement as special it will be appeared in the special advertisement area. A list of all special advertisements will be appeared in the special advertisement area. If administrator wants he would be able to view the full details about the advertisement through the detail view page.

Once the administrator clicks on an advertisement the detail view page will be appeared. In the detail view page, all the details regarding to the advertisement will be displayed.

At the bottom of the detail view page the button has provided to remove an advertisement from the special list. Once administrator clicks the button mark as remove from the special, the advertisement will be disappeared from the special advertisement list.

Admin & User Functional Requirements in Mobile Application

Under this heading all the Functional requirement that can be accessed by both Administrator and Members will be discussed. These functional requirements are common for both parties.

View Banner Slider

The client wants to use the mobile application as a way of getting revenue. For that the client asked me to develop the system in order to show advertisements.

The advertisements management is a process with lot of activities. Each member has given the facility to post advertisements to the system. Before posting advertisements, the administrator needs to accept the advertisements. The accepted advertisements will be available on the Mobile application for every member.

The available advertisements will be shown at the bottom of the application. The advertisements are sliding over. The slider is created to slide an advertisement for every 8000 frequencies.

As well as member and administrator would be able to slide advertisement using the touch screen also. The slider can view number of advertisements.

Within the mobile application except several specific pages every other page will be contained the banner area. Even administrator will also display the banners.

Member and administrator has given the facility to disable advertisements.

View Detail Page of the slider

While displaying advertisements at the bottom of the application as a slider the administrator and the member should be able to view the details regarding to each banner.

While rotating advertisements by touching on a specific advertisement the administrator or the member will be able to enter to the detail view page of the corresponding advertisement. Detail View page contains the detail description of the advertisement.

Title of the advertisement, the advertisement posted date, the end date of the advertisement, the description regarding to the banner and the image of the banner will be displayed on the detail view page of the advertisement.

Every advertisement has a separate detail view page with the information regards to the corresponding advertisement.

Member and administrator has given read only permission for the detail view page. There is no any edit or delete functions provided with the detail view.

For the editing and deleting purposes of the advertisements administrator has provide a separate area in the administrator panel.

Disable Advertisement

As mentioned above within the application there is an advertisement management area. According to the clients point of view the application is a kind of earning revenue method. Posting advertisements will be the main way of earning revenues.

For that at the bottom of the application there is a separate area for displaying banners. The banners posted to the system will be displayed as a slider at the bottom of the application. Each and every member and the administrator also will see the banners.

The advertisement can be posted to the system only by the administrator. Even the ownership of the advertisement is with a member, members have not given permission to post advertisements directly to the system.

But there is some time that members should be given the facility of removing advertisement. Removing in the sense the advertisement could be able to disable by the members and also by the administrator. To fulfill the purpose of disabling advertisements each member and administrator has been given the facility to disable advertisements separately.

When disable advertisements the slider will be removed and the advertisements will not be available. But when disabling advertisements, the members have some restrictions. For the administrator the restrictions are not applicable.

Enable disable button is a toggle button. But the problem with this function is the changes are not applying real-time. When member disable or enable the advertisements the changes will apply from the next login. But member will be prompted a message saying that the changes will be apply from the next login.

Admin Functional Requirements in Web Application

As mentioned before Administrator has given the chance to perform the administrative task over the mobile application and also from the web application. Under this heading I will categorized all the web related administrative tasks. The web related administrative tasks are as same as the mobile view tasks.

Show pending Advertisement

The procedure of the activity is as same as the mobile task but the implementation method will be different.

Members has been provided the facility to send advertisements to the administrator over external medias or through the Mobile Application.

When members send advertisements over the mobile application the advertisements will be available for the administrator from the web application as in the mobile application. According to the received time the advertisement will be in a list. The latest advertisement will show in the beginning.

But the advertisements send over external medias will not be displayed under the list of pending advertisements.

The title of the advertisement, description of the advertisement, the send date of the advertisement and the banner which is used to display at the bottom of the mobile application will be displayed in each advertisement of the list.

For the acceptance or rejection purposes the accept and reject button will also displayed at the bottom of the advertisement. Along with the buttons a separate button called view has provided in order to view the content in a form in specific manner.

Accept/Reject Pending Advertisements

The task is as same as the mobile application.

This functionality is part of pending advertisements. Every advertisement will be able to reject or accept by the administrator.

This functionality could only be used for the advertisements send through the mobile application by the members.

When administrator clicks the reject button the advertisement will be discarded from the list and a message saying that the advertisement is being rejected will be send to the corresponding member who send the advertisement to the administrator. Then if want member could delete the rejected advertisement.

When administrator clicks the accept button the advertisement details will be send to the database and the banner will be available at the banner slider. And a message saying that the advertisement is being accepted will be send to the corresponding member who send the advertisement to the administrator.

And the advertisement will also be available to the administrator at the system advertisement list of the web view and the mobile view. From using the system advertisement list administrator will be able to edit or delete advertisement from both web application and mobile application.

View Pending Advertisement Details

This function is also a part of the function of pending advertisement. Under the pending advertisement there is a separate button for viewing the details of a particular advertisement.

This function is available in both mobile and web application.

When administrator clicks the view button the details of the advertisement will be able to see in a form format.

All the details will be loaded in to a form except the banner. Banner will only display in the advertisement list.

Mark Advertisements as Special

The administrator has given the facility of showing the advertisements that he has marked as special from the system advertisement list.

The purpose of giving the functionality is to make the special advertisements available I the mobile application all the time and make it easier for administrator to access specific advertisements that are marked as special quickly without going through all the system advertisements.

When the administrator marked an advertisement as special, the button will change to remove from special and vice versa. And the advertisement which is marked as special will be appeared in the special advertisement list in the administrators' panel.

The button to remove from the special has been provided at the bottom of every advertisement in the system advertisements list.

View Special Advertisements

When administrator marked an advertisement as special it will be appeared in the special advertisement area. A list of all special advertisements will be appeared in the special advertisement area. If administrator wants he would be able to view the full details about the advertisement through the detail view page.

Once the administrator clicks on the view button of an advertisement the detail view page will be appeared. In the detail view page all the details regarding to the advertisement will be displayed in a form format. The detail view page is a separate window.

At the bottom of the advertisement in the list view the button has provided to remove an advertisement from the special list. And in the detail view page there is another button to remove advertisements from favorite. Once administrator clicks the button mark as remove from the special, the advertisement will be disappeared from the special advertisement list.

View System Advertisement Details

This function is also similar to the function of view pending advertisement details. Under the show advertisement there is a separate button for viewing the details of a particular advertisement.

The show advertisement function is showing all the current advertisements available in the mobile system.

As part of current advertisement, the function view current advertisement is only available in the web application.

When administrator clicks the view button the details of the advertisement will be able to see in a form format.

All the details will be loaded in to a form except the banner. Banner will only display in the advertisement list.

Delete system advertisement (Administrator Function)

The show advertisement function was implemented partially in the first iteration (SEP - 1). the advertisements available in the system are shown as a list. The list view was implemented in the first iteration. And a nonfunctioning delete button was also there.

Within the tasks of second iteration the delete mechanism was implemented. The delete button deletes the corresponding advertisement from the system. When deleting the advertisement, the deleted advertisement will be removed from the banner as well as the advertisement list. Only administrator has given the authority of deleting system advertisements.

And before there were no sequence of showing the list but in the second iteration the list was updated to show accordingly the date the advertisement was posted.

Lock System Advertisements in Web

Advertisements are shown at the bottom of the application in a separate slider in mobile application. Administrator and member both will be shown the slider.

As specified the administrator and the member both will be able to disable advertisements any time when necessary.

As mentioned before there are some restrictions for members when disabling advertisements. As client mentioned in the requirement specification when there are special advertisements available in the system the members should not be able to disable only the special advertisements until the time period of that special advertisement is removed.

For that the administrator has provide a separate functionality for disable the disable advertisement button of the members. The main activity of advertisement lock functionality is to prevent members from disabling the advertisements. This functionality has been implemented in the mobile application also.

When administrator activate the lock advertisement button even when the members activate disable advertisement button all the advertisement will not disappear. The advertisements which have been marked as special will be remain while the other advertisements are disappear. Unless administrator disable the lock advertisement button the advertisement will appear on the mobile application all the time.

But the specialty of this functionality is even when the advertisement lock button is activated the administrator would be able to disable all his advertisements including the special ones show at the bottom of the application.

When administrator enable the lock advertisement button the members will display a message saying that the administrator has enabled the lock advertisement option.

Class Representative Functional Requirements in Web Application

As specified the class representative has given some of the main functionalities in both mobile and web application. Under this section I will discuss all the functionalities of the class representative which have been provided with the web application. The main idea of providing some of the features in web application is to make it easy for the class representative to access the functionalities any time.

Send Advertisement

The send advertisement function is available for class representative both on mobile application and web application.

The tasks of the functionality in the web application is as same as the activity of the mobile application. For the representatives' easiness the functionality has been provided with both applications.

A form is designed to gather data such as title, banner image, description, contact number, email, start and end dates of an advertisement.

The purpose of providing the same facility both in the mobile application and web application is to use the functionality any time when required.

View Users Business Cards

This functionality is only available for the class representative in the web application. The main purpose of this functionality is to make it easy for class representative to view the business cards of each user.

Initially the list of users who are registered to the system will be displayed with the buttons to the business cards. Only the name and the image of the user will be displayed. To view the business cards corresponding button regarding to the business card should be clicked.

The details of the business cards will be displayed in a separate window.

- View customized business card

When the class representative clicks the customized business card button a separate window will be opened and display the details regarding to the customized business card in a form format. The details have been assigned to the text fields in the form.

If there is no customized business card exists for the current user, the class representative will be displayed a message that the user has no customized business card.

- View LinkedIn business card

When the class representative clicks the LinkedIn business card button a separate window will be opened and display the details regarding to the LinkedIn business card in a form format. The details have been assigned to the text fields in the form.

If there is no Linked business card exists for the current user, the class representative will be displayed a message that the user has no LinkedIn business card.

- View customized business card

When the class representative clicks the Facebook business card button a separate window will be opened and display the details regarding to the Facebook business card in a form format. The details have been assigned to the text fields in the form.

If there is no Linked business card exists for the current user, the class representative will be displayed a message that the user has no Facebook business card.

View Favorite Advertisement

The main purpose of this functionality is to provide the feature of viewing the favorite advertisements that he has marked as favorite from the mobile application.

A list of favorite advertisements will be displayed to the class representative.

While viewing the class representative will be able to remove the advertisements from the favorite list. When removing the removed advertisement will remove from the mobile application also.

Because the favorite advertisements are familiar to the user, only the banner of the advertisement, title of the advertisement and the description of the advertisement is displayed to the class representative.

The purpose of providing the favorite advertisement feature both in the mobile application and web application is to make it easier to access the functionalities quickly for the class representative. Because class representative is one of the committee members of the Royal Collage '94 group he should be given such features.

Updated Functionalities from Iteration 1(SEP-1)

Create Manual Business card (User Function)

The creation of manual business card was done by the first iteration under Software engineering project 1.

But according to the client's requirement few changes was done. As client wanted to create LinkedIn business card and Facebook business card along with the manual business card the interfaces were changed. A new interface called Settings has been designed.

Under updated functionalities members have been provided a new feature to select business cards. There are three options for three business cards.

And when there is no business card the members will be redirected to a new interface where they will be able to the create business cards.

Post Advertisement

Post advertisement was a half implemented functionality of Sep-1 project work. Only the interface has designed in the first iteration.

This functionality is only available for the administrator. When administrator needs to post an advertisement to the system the post advertisement form can be used.

The post functionality is implemented as part of the second iteration for the SEP-2 project work. A form is designed to gather data such as title, banner image, description, contact number, email, start and end dates of an advertisement.

As the project work the fully functioning post functionality was implemented. Through this functionality administrator would be able to post advertisement to the system.

Non-Functional Requirement Specification

Usability

The Mobile Application and web application both have achieved the usability up to considerable extent. Because the applications are very easy to use and easy to perform tasks with less learning. And using applications an enjoyable user experience can be gathered. Because the mobile application is kind of a social application the users will willing to use the application with the current interfaces. The safety of the applications has been improved to prevent users from having accidents and prevent the loss of information. And also the applications are effective and efficient to use in normal operations.

Availability

The word availability is used when an application is available when required. The applications are achieved the availability since they provide the services when required and available percentage is high.

Reliability

In the mobile applications it provided services as specified in the requirement specification. As well as the web application also provide services as specified. The services are categorized for each member according to their roles.

Maintainability

To achieve the maintainability different coding standards have been used. When the service upgrades have to be done it will be easier when using the coding standards and variable define patterns and coding patterns. Both mobile application and web application has been used the coding standards and coding patterns.

Security & Safety

When developing an application safety and security takes the priority other than everything. Because the applications contain private data the security should be high. As a safety method before accepting a user as a member the administrator or class representative would need to accept the users request to be a member.

As safety methodology the error messages are displayed at the right time. And users are asked to confirm before submitting the actions.

Platform Independent

Mobile application can be able to use in both Android and IOS platform. The web application can be run on any web browser. As client requested the both applications are running on the specified platforms. So the applications are platform independent.

User-Friendliness

The both applications are user-friendliness because the interfaces and the icons used for the operation are easy to identify by the users. And informative error messages are provided when necessary. Within the applications the users are guided.

Complexity

The complexity of the application has been reduced by reducing the extra interfaces and making simple interfaces. When the complexity increases the response time will be high and the software size may also be increased. When creating a software keep the complexity low is a good practice.

Technology

Mobile Application technologies

The Mobile Application should be developed using Mobile Languages such as Android, Windows or IOS according to the requirement.

I have Installed Windows 8.1 Pro 64-bit Operating System to install all the Application software needed for the Project. The average capacity to install Windows 8.1 is around 20GB. Windows 8.1 is released on April 8, 2014.

On the Windows Platform, I had to install the Application software needed for the Project to be continued. Cordova is a framework which is used to build Native Mobile applications using HTML5, CSS and Java Script. Normally web applications cannot access the functionalities of native Mobile. But with Cordova it has provide the functionalities to access the Native mobile features with web functionalities. The mobile application which is developed for the SEP-1 project is a hybrid application which can access both Native Mobile features and web features. The Application is developed by using Cordova as the Framework.

Android is A Mobile Application Development language which is familiar with the java. The Operating System only support android if the Java JDK is installed in the Machine. I have used Java Development Kit 1.8.0_77 Version and JRE 1.8.0_77 which is released 2016. After installing Java, it should be accessed globally. in order to access globally the environment variable must be declared.

The Cordova is working with Android so that the android should be installed in the machine in order to working with the Cordova framework. I have used the Android SDK Installer version 1.16.0.0. The Android SDK provide the facility to select the version of the Android we need to install. When working with the latest versions of android the size of the application will be high. But using older version will not provide facility to access the application. By considering the terms, I have used Android Jellybean Version. (Version 4.1–4.3.1) which has released July 9, 2012.

Cordova should be installed using Command prompt. Command prompt can be accessed by the following way.

Ctrl + windows Key → Type 'cmd'

In the Command Prompt to install Cordova the command `npm install -g Cordova` will be needed. It will be installed the latest version of the Cordova framework into the corresponding machine.

And, I have installed Anton Windows which is needed for Android app development. Anton Windows is an insurance company in India. I have installed Anton Windows version 7.

Even though the GitHub is not Needed for developing Android applications I have installed the GitBash to commit all the changes of my Application while it is developing. The version I have used is 2.8.0 64 bit GitBash.

I have Used Ionic on the Cordova Framework to develop the Application. Ionic use Cordova proper at the core. Ionic provides HTML5 SDK to build native mobile applications. the web technologies like HTML, CSS, and JavaScript are used. Ionic is used to create user interfaces in much interactive way in mobile applications. Ionic use AngularJS for the data binding and data passing.

AngularJS is a Structural Framework for developing Dynamic web apps. AngularJS is mostly working with the HTML. It is used for data Binding purposes and dependency Injection purposes. AngularJS also is a Framework for JavaScript. In the mobile Application, I have used Backend as PHP and MySQL. When parsing data through the ionic and PHP the data should be converted to JSON format.

JSON is short for JavaScript Object Notation, and is a way to store information in an organized, and easy-to-access manner

Web Application Technologies

The administrator and class representative have been provided a web application in order to make the Administrative tasks and class representative tasks easy. The technology which is using for the web application and mobile application is different. But both applications use PHP and MySQL as back end development technologies.

For the Web Application, I have used HTML, CSS as the front-end Development methods. And as Back End Development Technologies I have used PHP, MySQL and JavaScript.

I have Used the PHP as the Main backend language. PHP is an open source language which is used for web development. PHP also is a general-purpose scripting language and it can be used with embedded to the HTML. The PHP version which I have used for the Web Application is 5.5.12 which has released on 30 Apr 2014.

The data Retrieved by the PHP are send to the database using MySQL language. MySQL is specially using for store data into a database. The version of the MySQL is 5.6.17 which is released on 2012 and changed in 2014-03-07.

To Connect the Web Application to the Server I have used the Apache Server. Apache is open source license and freely available web server for web development purposes. I am Using the Apache HTTP 2.4.9 version which is released on 17 Mar 2014.

CSS (Cascading Style Sheets) is used for designing purposes of the Web Application. It is a Markup language. There are Several methods for styling purposes. Inline Style, Embedded CSS, Import CSS file.

To improve the Quality and the Eye-catching of the Web Application I have used the Designing features provide by the Bootstrap framework. The Bootstrap is also called as frond end development Framework. Bootstrap is the most popular framework for developing responsive web sites with the CSS, HTML, And JavaScript.

WampServer is used in windows. It provides facilities to create web applications along with the PHP, MySQL and Apache. Wamp Uses PHPMyadmin to connect with the databases. WampServer 2.5 64-bit version is used to developed the Web application. And the WampServer 2.5 has released on 2014-05-06.

IDE

For the Coding Purposes I have used different IDE's. The main IDE which I was used to code is Sublime text 3 which was released on 12 May 2016. And the notepad ++ is also used for the Coding purposes. It was released on 2016-03-28. The version I am using is Notepad++ 6.9.1.

(Adikaram, 2016)

The technology part is referred from the SEP-1 individual report of mine. Same technology should be used.

Link - <https://github.com/shawntharoo/SmartApp.git>

or

https://drive.google.com/open?id=0B15hKi6G_zRSUUVJTIFOWndCemc - Page 26

Hardware and Software Specification

Software Specification

Mobile Application

The mobile Application which is developed for 94'Royalist group can be able to run on Android, and IOS. In Android there are several versions. Such as Gingerbread, honeycomb, Ice Cream Sandwich, Jellybean, Kit Kat, Lollipop and the latest stable version Marshmallow. According to my Knowledge the Application can be run on Every Version after released from Android Jellybean. Because the Ionic is support up to Android 6(Marshmallow) from Android 4.1(Jellybean).

As in the Android the IOS also has released several versions from IOS 1 to 9. Our Application can be run any IOS version released after the IOS 7. Because the Ionic is support up to IOS 9 from IOS 7.

The Internet facilities should be there in Order to Access most features. The App can be run on any device Under the Platforms mentioned above.

Web Application

The web application can be accessed by both administrator and class representative. To run the web application there should be a web support. There are some Specific browsers which are allowed for the Application due to the usage of Bootstrap.

In android mobile or other android media devices, the bootstrap support only for the Chrome, Firefox and android mobile device browser.

The Internet facilities should be there to Access most features.

In IOS Mobile or other IOS Media devices the Web Application can only run on Chrome and Safari web browsers.

As well as the web application, can be accessible through the Desktop, laptop, notebook and all the other devices which provide facilities related to the web browsers. In other Media device external to the Mobile Devices the Web application will working fine for the Most Browser versions. Every device should have Internet Facilities.

Hardware Specification

Mobile Application

For the Installation purpose of the Mobile Application it will need around 40MB. And for the Offline Services extra 5MB will have to be used. The Capacity can be changed under some circumstances.

To Run the Application, it should be installed on a platform so the RAM capacity will be changed according to the Platform.

Web Application

Web Application is running on the Web browser. And a browser is necessary to have the features of the Web Application.

(Adikaram, 2016)

The hardware and software part is referred from the SEP-1 individual report of mine. Same specifications should be used.

Link - <https://github.com/shawntharoo/SmartApp.git>

Or

https://drive.google.com/open?id=0B15hKi6G_zRSUUJVTIFOWndCemc - Page 29

SEP-2 Learning Curve

Learning Curve is used to identify how the time is managed within the project duration. The time taken for the implementation process and also the time taken for learning purposes will be displayed as a curve using learning curve. The curve also contains the time taken for hosting purposes and the testing purposes. Learning curve represent the process flow within the project scope. The time spent for the total project will be proportionally related to the total project size. The size will be measured by using number of user stories that has to be completed within the project workload.

If consider about one process when was the process started, when the process finished and the duration of the process completion can be identified using learning curve.

The **Figure 1** will be displayed the learning curve for the Software Engineering project – 2. The total time taken for the study purposes and the total time taken for the implementation process will be displayed using below graph.

Bar Chart

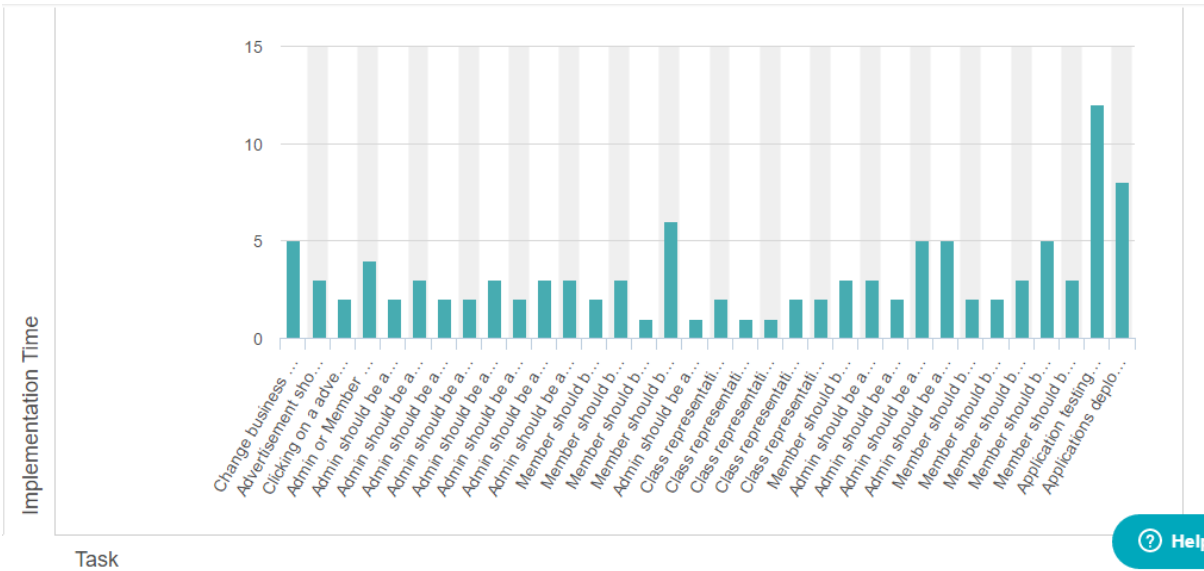


Figure 1

Line Chart

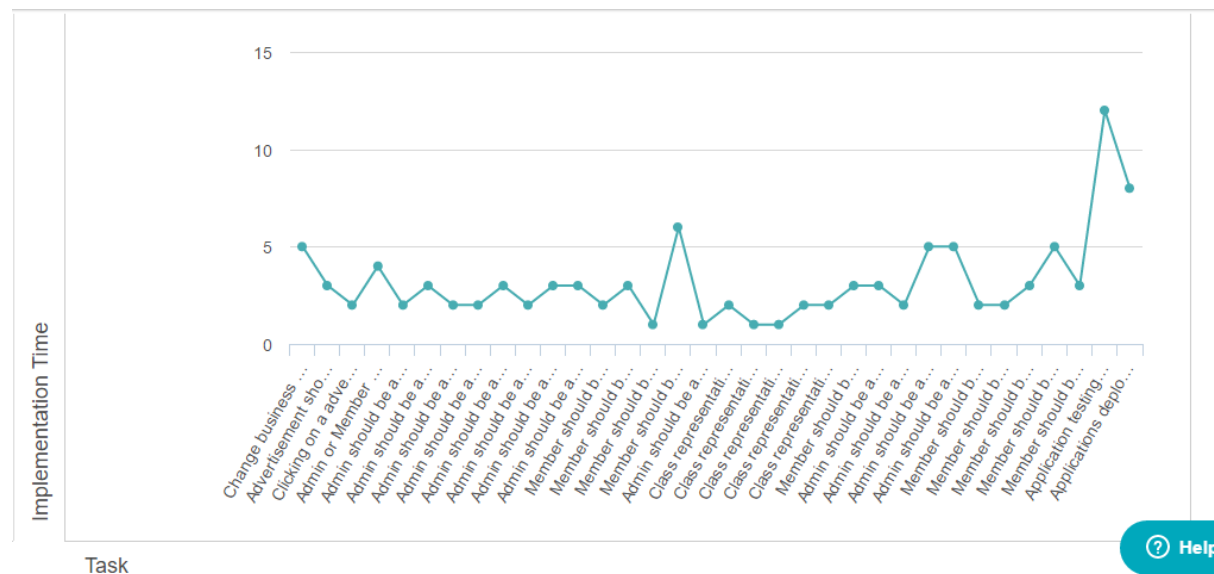


Figure 2

Total time taken for tasks

1	Task	Start Date	End Date	Implementation	Learning Hours
2	Change business card interface and register forms. Change the web application interface of post advertisement and show ad	12/08/2016	18/08/2016	5	
3	Advertisement should display in a slider at the bottom of the application	19/08/2016	22/08/2016	3	1
4	Clicking on a advertisement in the bar the detail view of the advertisement should be retrieved	23/08/2016	25/08/2016	2	
5	Admin or Member should be able to disable the advertisements.(Admin has given more options)	26/08/2016	29/08/2016	4	
6	Admin should be able to post advertisement to the system in web application	30/08/2016	01/09/2016	2	
7	Admin should be able to lock specific advertisements to show all the time in the system	02/09/2016	03/09/2016	3	
8	Admin should be able to delete a current system advertisement and changed the appearance in web application	04/09/2016	06/09/2016	2	
9	Admin should be able to view the details of system advertisement in a separate window in web application	07/09/2016	08/09/2016	2	
10	Admin should be able to mark advertisements as special or normal in mobile application	09/09/2016	11/09/2016	3	1
11	Admin should be able to mark advertisements as special or normal in web application	11/09/2016	12/09/2016	2	
12	Admin should be able to view list of advertisements marked as special in mobile application	12/09/2016	14/09/2016	3	
13	Admin should be able to view list of advertisements marked as special in web application	14/09/2016	15/09/2016	3	
14	Member should be able to mark advertisement as favourite	16/09/2016	18/09/2016	2	
15	Member should be able to view the list of advertisements marked as favourite	18/09/2016	20/09/2016	3	
16	Member should be able to access other social medias through the mobile application	21/09/2016	22/09/2016	1	1
17	Member should be able to create and view a business card retrieving data from LinkedIn API	23/09/2016	27/09/2016	6	3
18	Admin should be able to lock system advertisement in web application	28/09/2016	29/09/2016	1	
19	Class representative should be able to view customised business card details of all the users	30/09/2016	02/10/2016	2	
20	Class representative should be able to view LinkedIn business card details of all the users	02/10/2016	03/10/2016	1	
21	Class representative should be able to view Facebook business card of all the users	03/10/2016	04/10/2016	1	
22	Class representative should be able to send advertisement to the administrator over web application	04/10/2016	05/10/2016	2	
23	Class representative should be able to view favourite advertisements that he has marked as favorite	05/10/2016	06/10/2016	2	
24	Member should be able to send advertisement to the administrator over mobile application	07/10/2016	09/10/2016	3	
25	Admin should be able to view list of all the advertisements send by user from the mobile application	10/10/2016	12/10/2016	3	
26	Admin should be able to view list of all the advertisements send by user from the web application	12/10/2016	13/10/2016	2	
27	Admin should be able to view details, accept and reject advertisements received by the members in mobile application	14/10/2016	17/10/2016	5	
28	Admin should be able to view details, accept and reject advertisements received by the members in web application	18/10/2016	20/10/2016	5	
29	Member should be able to view the advertisement that he has sent to the administrator from the mobile application	21/09/2016	22/10/2016	2	
30	Member should be able to delete rejected advertisements	23/10/2016	24/10/2016	2	
31	Member should be able to view the messages regarding the status of advertisements and clear them	25/10/2016	27/10/2016	3	
32	Member should be able to create and view a business card retrieving data from Facebook API(Using PHP SDK)	28/10/2016	31/10/2016	5	2
33	Member should be able to view other members business cards while searching	01/11/2016	03/11/2016	3	
34	Application testing time period	01/11/2016	08/11/2016	12	
35	Applications deployment time period	09/11/2016	13/11/2016	8	
36				108	8
37	Name : K.K.S.T.Adikaram				

Figure 3

SEP-2 Implementation Progress

I have separately design a graph to represent the implementation progress within the project scope. The graph will only contain the details about the implementation processes. The time taken to implement each process and time taken for the interface design tasks will be shown by the graph in the **Figure 4**.

In this **Figure 4** the time taken for the study purposes as well as the time taken for the hosting purposes and testing purposes will not be included. As shown in the learning Curve the tasks will be displayed against the total time spent for the implementation tasks. Implementation will include both interface designing and coding activities.

In the following **Figure 4** the implementation progress has been showed with a bar chart and a line chart.

Bar Chart

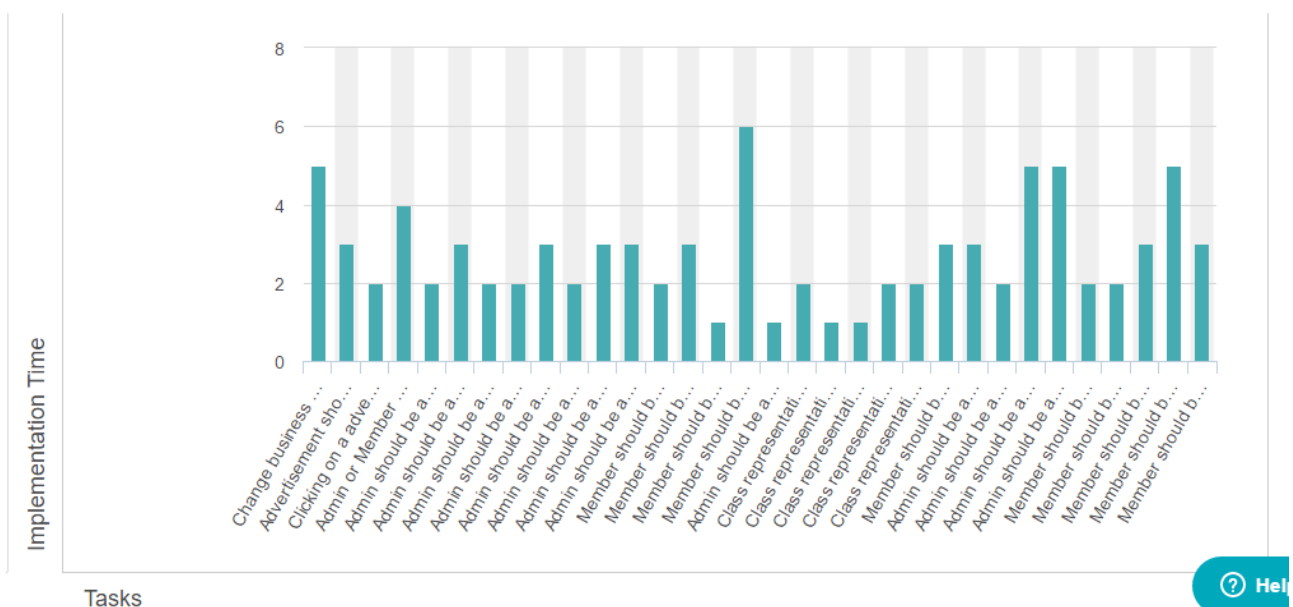


Figure 4

Line Chart

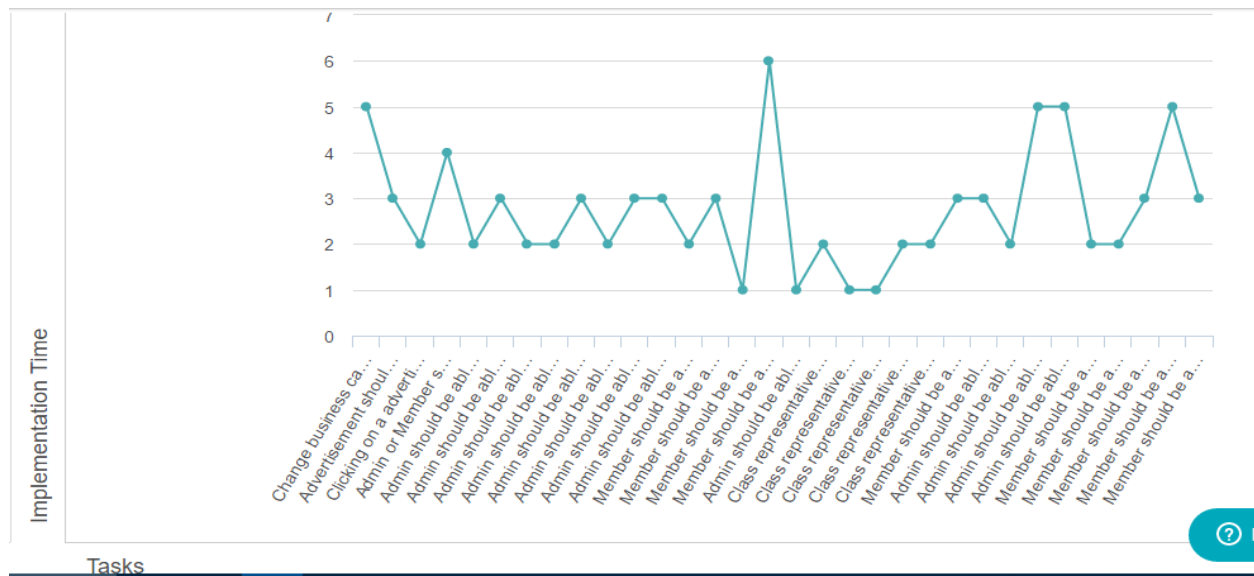


Figure 5

Implemented tasks with the time

1	Task	Start Date	End Date	Implementation
2	Change business card interface and register forms. Change the web application interface of post advertisement and show advertisement	12/08/2016	18/8/2016	5
3	Advertisement should display in a slider at the bottom of the application	19/08/2016	22/08/2016	3
4	Clicking on a advertisement in the bar the detail view of the advertisement should be retrieved	23/08/2016	25/08/2016	2
5	Admin or Member should be able to disable the advertisements.(Admin has given more options)	26/08/2016	29/08/2016	4
6	Admin should be able to post advertisement to the system in web application	30/08/2016	01/09/1905	2
7	Admin should be able to lock specific advertisements to show all the time in the system	02/09/2016	03/09/2016	3
8	Admin should be able to delete a current system advertisement and changed the appearance in web application	04/09/2016	06/09/2016	2
9	Admin should be able to view the details of system advertisement in a separate window in web application	07/09/2016	08/09/2016	2
10	Admin should be able to mark advertisements as special or normal in mobile application	09/09/2016	11/09/2016	3
11	Admin should be able to mark advertisements as special or normal in web application	11/09/2016	12/09/2016	2
12	Admin should be able to view list of advertisements marked as special in mobile application	12/09/2016	14/09/2016	3
13	Admin should be able to view list of advertisements marked as special in web application	14/09/2016	15/09/2016	3
14	Member should be able to mark advertisement as favourite	16/09/2016	18/09/2016	2
15	Member should be able to view the list of advertisements marked as favourite	18/09/2016	20/09/2016	3
16	Member should be able to access other social medias through the mobile application	21/09/2016	22/09/2016	1
17	Member should be able to create and view a business card retrieving data from LinkedIn API	23/09/2016	27/09/2016	6
18	Admin should be able to lock system advertisement in web application	28/09/2016	29/09/2016	1
19	Class representative should be able to view customised business card details of all the users	30/09/2016	02/10/2016	2
20	Class representative should be able to view LinkedIn business card details of all the users	02/10/2016	03/10/2016	1
21	Class representative should be able to view Facebook business card of all the users	03/10/2016	04/10/2016	1
22	Class representative should be able to send advertisement to the administrator over web application	04/10/2016	05/10/2016	2
23	Class representative should be able to send favorite advertisements that he has marked as favorite	05/10/2016	06/10/2016	2
24	Member should be able to send advertisement to the administrator over mobile application	07/10/2016	09/10/2016	3
25	Admin should be able to view list of all the advertisements send by user from the mobile application	10/10/2016	12/10/2016	3
26	Admin should be able to view list of all the advertisements send by user from the web application	12/10/2016	13/10/2016	2
27	Admin should be able to view details, accept and reject advertisements received by the members in mobile application	14/10/2016	17/10/2016	5
28	Admin should be able to view details, accept and reject advertisements received by the members in web application	18/10/2016	20/10/2016	5
29	Member should be able to view the advertisement that he has sent to the administrator form the mobile application	21/09/2016	22/10/2016	2
30	Member should be able to delete rejected advertisements	23/10/2016	24/10/2016	2
31	Member should be able to view the messages regarding the status of advertisements and clear them	25/10/2016	27/10/2016	3
32	Member should be able to create and view a business card retrieving data from Facebook API(Using PHP SDK)	28/10/2016	31/10/2016	5
33	Member should be able to view other members business cards while searching	01/11/2016	03/11/2016	3
34				88
35	Name : K K S T Adikaram			

Figure 6

Use case Scenarios of Functionalities

User Related Use Case Scenarios in Mobile Application

LinkedIn Business Card

Level : User Level

Actors : Registered Members

Goal :

This use case shows how a member can view his LinkedIn business card. The data for the LinkedIn business card has retrieved from the LinkedIn profile through LinkedIn API.

Main Success Scenario:

The use case starts when a member wishes to view his LinkedIn business card through the mobile application.

1. Member selects the LinkedIn business card from the given list.
2. Member will be viewed his LinkedIn profile details.
3. Member will visit to his LinkedIn profile through the link provided.
4. Member will visit to his Facebook profile.
5. Member will visit to his Google+ profile.
6. Member will visit to his Twitter profile.
7. Member will back to the system successfully.
8. Member will refresh the LinkedIn Card.

Alternative Flows:

3.1. If member does not click the link in the business card the LinkedIn profile will not appear.

4.1. If member does not click the Facebook icon the Facebook profile will not appear.

5.1. If member does not click the Google + icon the Google + profile will not appear.

6.1. If member does not click the Twitter icon the Twitter profile will not appear.

Pre-Conditions:

The User should have a stable Internet Connection.

The User should successfully login to the system.

Post-Conditions:

If the use case successful, the member would be able to view the details of his LinkedIn profile through the LinkedIn business card.

Facebook Business Card

Level : User Level

Actors : Registered Members

Goal :

This use case shows how a member can view his Facebook business card. The data for the Facebook business card has retrieved from the Facebook profile through Facebook API.

Main Success Scenario:

The use case starts when a member wishes to view his Facebook business card through the Mobile Application.

1. Member selects the Facebook business card from the given list.
2. Member will be viewed his Facebook profile details.
3. Member will visit to his LinkedIn profile.
4. Member will visit to his LinkedIn profile through the link provided.
5. Member will visit to his Google+ profile.
6. Member will visit to his Twitter profile.
7. Member will back to the system successfully.
8. Member will refresh the Facebook Card.

Alternative Flows:

4.1. If member does not click the LinkedIn icon the LinkedIn profile will not appear.

5.1. If member does not click the Google + icon the Google + profile will not appear.

6.1. If member does not click the Twitter icon the Twitter profile will not appear.

Pre-Conditions:

The User should have a stable Internet Connection.

The User should successfully login to the system.

Post-Conditions:

If the use case successful, the member would be able to view the details of his Facebook profile through the Facebook business card.

Send Advertisement to the Administrator

Level : User Level

Actors : Registered Members

Goal :

The Main purpose of this use case is to show how a user can send an advertisement details to the administrator over the mobile application. The advertisement can be send using mobile application and external medias. This use case only shows the function of the mobile application.

Main Success Scenario:

The use case starts when a member wishes to send an advertisement to the administrator for reviewing purpose over the mobile application.

1. Member enters to the Send advertisement tab.
2. Member enter the title of the advertisement in the given text field.
3. Member select the type of the advertisement from the given drop box.
4. Member upload the banner of the advertisement.
5. Member enter a brief description about the advertisement in the given text area.
6. Member enter the contact number of which the calls should receive regarding to the advertisement.
7. Member enter the Email of which the mails should receive regarding to the advertisement.
8. Member enter start date when the advertisement should post to the system.
9. Member enter End date when the advertisement should remove from the system.

Alternative Flows:

2.1. If member keeps the title text field empty system will display an appropriate error message. Then member will have to enter the title again.

3.1. If member has not uploaded the banner the system will display an appropriate error message. Then member will have to upload the banner.

4.1. If member keeps the description text area empty system will display an appropriate error message. Then member will have to enter the description again.

5.1. If member enter a contact number with lower than 10 digit or more than 10-digit system will display an error message. Then member will have to enter the contact no again.

5.2. If member enter a contact number which the first digit is not 0(Zero) the system will display an appropriate error message. Then member will have to enter the contact no again.

6.1. If member enter an E-Mail address without '@' sign system will display an appropriate error message. Then member will have to enter the E-Mail again.

7.1. If member keeps the start date field empty system will display an appropriate error message. Then member will have to enter date again.

8.1. If member keeps the end date field empty system will display an appropriate error message. Then member will have to enter date again.

Pre-Conditions:

The User should have a stable Internet Connection.

The User should successfully login to the system.

Post-Conditions:

If the use case successful, the member would be able to send the advertisement to the administrator with no issue.

A success message will display.

Show My Advertisement

Level : User Level

Actors : Registered Members

Goal :

This use case shows all the advertisements that the member has send to the administrator for reviewing purpose.

Main Success Scenario:

The use case starts when a member wishes to view all the advertisements that he has send to the administrator for reviewing purpose. The advertisements displayed with the status.

1. Member will refresh the advertisements.
2. Member will delete rejected advertisements.

Alternative Flows:

2.1. If not deleted the advertisement will be available at the list.

Pre-Conditions:

The User should have a stable Internet Connection.

The User should successfully login to the system.

To delete an advertisement that advertisement should be rejected by the administrator.

Post-Conditions:

If the use case successful, the member would be able to view the details of his Facebook profile through the Facebook business card.

Show Notification

Level : User Level

Actors : Registered Members

Goal :

This use case shows the messages about the advertisements whether the advertisement has been accepted by the administrator or rejected.

Main Success Scenario:

The use case starts when a member wishes to view all the messages that he has received regarding to the advertisement status.

1. Member will be viewed the notifications.
2. Member will refresh the notifications.
3. Member will clear the notifications.

Alternative Flows:

3.1. if user does not clear the messages, all the messages will be remained.

Pre-Conditions:

The User should have a stable Internet Connection.

The User should successfully login to the system.

Post-Conditions:

If the use case successful, the member would be able to view the notifications. But if user has no advertisements the area would be empty.

Mark Favorite Advertisement

Level : User Level

Actors : Registered Members

Goal :

This use case shows how a member can mark advertisements as favorite to access quickly.

Main Success Scenario:

The use case starts when a member wishes to mark an advertisement as favorite.

1. Member will click an advertisement in advertisement bar.
2. Member will click the add to favorite button.

Alternative Flows:

2.1. if member does not click the button the button will not change.

Pre-Conditions:

The User should have a stable Internet Connection.

The User should successfully login to the system.

Post-Conditions:

If the use case successful, the member would be able to view the favorite advertisements in the favorite advertisement list.

Show favorite Advertisement Details

Level : User Level

Actors : Registered Members

Goal :

This use case describes the way of showing detail view of the favorite advertisement.

Main Success Scenario:

The use case starts when a member clicks on an advertisement in the favorite list.

1. Click an advertisement.

Alternative Flows:

- 1.1. if the user does not click on an advertisement only the banner will be displayed.

Pre-Conditions:

The User should have a stable Internet Connection.

The User should successfully login to the system.

The user should have at least one advertisement in the favorite list.

Post-Conditions:

If the use case successful, the members would be able to get the details of a particular advertisement.

Administrator Related Use Case Scenarios in Mobile Application

Show Pending Advertisement

Level : Administrator Level

Actors : Administrator

Goal :

This use case shows all the advertisements that the Administrator has received from the members for reviewing purpose.

Main Success Scenario:

The use case starts when an Administrator wishes to view all the advertisements that he has received from the members for reviewing purpose. The advertisements can be accepted or rejected.

1. Administrator will be viewed the received advertisements.
2. Administrator will accept the advertisement.
3. Administrator will reject the advertisement.
4. Administrator will refresh the advertisements.

Alternative Flows:

2.1. if advertisement is being accepted a message will be send to the member saying that the advertisement has been accepted.

2.2. The advertisement will be available at the system advertisement bar.

3.1. if advertisement is being rejected a message will be send to the member saying that the advertisement has been rejected.

Pre-Conditions:

The User should have a stable Internet Connection.

The User should successfully login to the system.

Post-Conditions:

If the use case successful, the advertisement should be accepted or rejected by the Administrator.

Lock System Advertisements

Level : Administrator Level

Actors : Administrator

Goal :

This use case describes how to lock the system advertisements from preventing users to disable special advertisements.

Main Success Scenario:

The use case starts when administrator enable the lock advertisement button in the mobile application.

1. Enable lock the system advertisement.

Alternative Flows:

1.1. if the advertisements are locked currently pressing the button again will disable the lock system advertisement process.

Pre-Conditions:

The User should have a stable Internet Connection.

The User should successfully login to the system.

Post-Conditions:

If the use case successful, the members would not be able to disable special advertisements. But administrator has the authority to disable the advertisements.

Mark Special Advertisement

Level : Administrator Level

Actors : Administrator

Goal :

This use case shows how the administrator can mark advertisements as special to access quickly.

Main Success Scenario:

The use case starts when the administrator wishes to mark an advertisement as favorite.

1. Administrator will click an advertisement in the system advertisement list.
2. Administrator will click the add to special button.

Alternative Flows:

2.1. if Administrator does not click the button the button will not change.

Pre-Conditions:

The administrator should have a stable Internet Connection.

The administrator should successfully login to the system.

Post-Conditions:

If the use case successful, the administrator would be able to view the special advertisements in the special advertisement list.

Show Special Advertisement Details

Level : Administrator Level

Actors : Administrator

Goal :

This use case describes the way of showing detail view of the special advertisement.

Main Success Scenario:

The use case starts when a member clicks on an advertisement in the special advertisement list.

1. Click an advertisement.

Alternative Flows:

1.1. if the administrator does not click on an advertisement only the banner will be displayed.

Pre-Conditions:

The administrator should have a stable Internet Connection.

The administrator should successfully login to the system.

The administrator should have at least one advertisement in the special list.

Post-Conditions:

If the use case successful, the administrator would be able to get the details of a particular advertisement.

Both Administrator and User Related Use Case Scenarios

Show Banner and Advertisement Details

Level : User Level and Administrator Level

Actors : Registered Members and Administrator

Goal :

This use case describes the way of showing advertisement bar and the detail view of the advertisement.

Main Success Scenario:

The use case starts when administrator or user has disabled the disable advertisement button in the mobile application.

1. View the banner.
2. Click an advertisement.
3. View the Details of the advertisement.

Alternative Flows:

2.1. if the user does not click on an advertisement the advertisements will be rotated as usual.

3.1. After viewing the details user could go back to the other functions.

Pre-Conditions:

The User should have a stable Internet Connection.

The User should successfully login to the system.

The user should have disabled the disable advertisement button.

Post-Conditions:

If the use case is successful, the members would be able to get the details of a particular advertisement.

Disable System Advertisements

Level : User Level and Administrator Level

Actors : Registered Members and Administrator

Goal :

This use case describes how to disable the system advertisements in order to remove the advertisement bar of the mobile application.

Main Success Scenario:

The use case starts when administrator or member enable the disable advertisement button in the mobile application.

1. Enable disable advertisement button.

Alternative Flows:

1.1. if the advertisements are disabled currently pressing the button again will enable the advertisements to show at the advertisement area.

Pre-Conditions:

The User should have a stable Internet Connection.

The User should successfully login to the system.

Post-Conditions:

If the use case successful, the administrator and the members would be able to disable/enable the advertisements.

Administrator Related Use Case Scenarios in Web Application

Show and Accept Reject Pending Advertisement

Level : Administrator Level

Actors : Administrator

Goal :

This use case shows all the advertisements that the Administrator has received from the members for reviewing purpose.

Main Success Scenario:

The use case starts when an Administrator wishes to view all the advertisements that he has received from the members for reviewing purpose. The advertisements can be accepted or rejected.

1. Administrator will be viewed the received advertisements.
2. Administrator will accept the advertisement.
3. Administrator will reject the advertisement.
4. View the details

Alternative Flows:

2.1. if advertisement is being accepted a message will be send to the member saying that the advertisement has been accepted.

2.2. The advertisement will be available at the system advertisement bar.

3.1. if advertisement is being rejected a message will be send to the member saying that the advertisement has been rejected.

4.1. If details viewed the data will be viewed in a form format.

Pre-Conditions:

The User should have a stable Internet Connection.

The User should successfully login to the system.

Post-Conditions:

If the use case successful, the advertisement should be accepted or rejected by the Administrator.

Show Pending Advertisement Details

Level : Administrator Level

Actors : Administrator

Goal :

This use case shows the way of displaying the details of the pending advertisements.

Main Success Scenario:

The use case starts when an Administrator wishes to view the detail description of an advertisement that he has been received.

1. Administrator will view the details of received advertisements.

Alternative Flows:

- 1.1. if the view detail button is not being clicked the detail window will not open.

Pre-Conditions:

The User should have a stable Internet Connection.

The User should successfully login to the system.

there should be already received advertisements.

Post-Conditions:

If the use case successful, the administrator will be displayed the details of the corresponding advertisement in a form format with a separate window.

Mark Special Advertisement

Level : Administrator Level

Actors : Administrator

Goal :

This use case shows how the administrator can mark advertisements as special to access quickly in web view.

Main Success Scenario:

The use case starts when the administrator wishes to mark an advertisement as favorite.

1. Administrator will click the add to special button in an advertisement in the system advertisement list.

Alternative Flows:

1.1. if Administrator does not click the button the button will not change.

Pre-Conditions:

The administrator should have a stable Internet Connection.

The administrator must have logged in to the web application.

Post-Conditions:

If the use case successful, the administrator would be able to view the special advertisements in the special advertisement list.

Show Special Advertisement Details

Level : Administrator Level

Actors : Administrator

Goal :

This use case describes the way of showing detail view of the special advertisement in web view.

Main Success Scenario:

The use case starts when a member clicks on an advertisement in the special advertisement list.

1. Click the view button of an advertisement.

Alternative Flows:

1.1. if the administrator does not click on an advertisement only the banner will be displayed.

Pre-Conditions:

The administrator should have a stable Internet Connection.

The administrator should have at least one advertisement in the special list.

The administrator must have logged in to the web application.

Post-Conditions:

If the use case successful, the administrator would be able to get the details of a particular advertisement in a form view.

Post Advertisement to the system

Level : Administrator Level

Actors : Administrator

Goal :

The Main purpose of this use case is to show how the administrator can post advertisement to the system through the web application.

Main Success Scenario:

The use case starts when the administrator wishes to post an advertisement to the system.

1. Administrator enters to the post advertisement page.
2. Administrator enter the title of the advertisement in the given text field.
3. Administrator select the type of the advertisement from the given drop box.
4. Administrator upload the banner of the advertisement.
5. Administrator enter a brief description about the advertisement in the given text area.
6. Administrator enter the contact number of which the calls should receive regarding to the advertisement.
7. Administrator enter the Email of which the mails should receive regarding to the advertisement.
8. Administrator enter start date when the advertisement should post to the system.
9. Administrator enter End date when the advertisement should remove from the system.

Alternative Flows:

2.1. If administrator keeps the title text field empty system will display an appropriate error message. Then administrator will have to enter the title again.

3.1. If administrator has not uploaded the banner the system will display an appropriate error message. Then administrator will have to upload the banner.

4.1. If administrator keeps the description text area empty system will display an appropriate error message. Then administrator will have to enter the description again.

5.1. If administrator enter a contact number with lower than 10 digit or more than 10-digit system will display an error message. Then administrator will have to enter the contact no again.

5.2. If administrator enter a contact number which the first digit is not 0(Zero) the system will display an appropriate error message. Then administrator will have to enter the contact no again.

6.1. If administrator enter an E-Mail address without '@' sign system will display an appropriate error message. Then administrator will have to enter the E-Mail again.

7.1. If administrator keeps the start date field empty system will display an appropriate error message. Then administrator will have to enter date again.

8.1. If administrator keeps the end date field empty system will display an appropriate error message. Then administrator will have to enter date again.

Pre-Conditions:

The User should have a stable Internet Connection.

Post-Conditions:

If the use case successful, the advertisement will be available at the advertisement bar as well as system advertisement list in mobile and web application.

A success message will display.

Show Current Advertisement Details (Web View)

Level : Administrator Level

Actors : Administrator

Goal :

This use case shows the way of displaying the details of the Current advertisements.

Main Success Scenario:

The use case starts when an Administrator wishes to view the detail description of an advertisement that are currently available in the system.

1. Administrator will view the details of current advertisements.

Alternative Flows:

- 1.1. if the view detail button is not being clicked the detail window will not open.

Pre-Conditions:

The User should have a stable Internet Connection.

The User should successfully login to the system.

there should be advertisements available in the system.

Post-Conditions:

If the use case successful, the administrator will be displayed the details of the corresponding advertisement in a form format with a separate window.

Delete Current Advertisements (Web View)

Level : Administrator Level

Actors : Administrator

Goal :

This use case shows the way of deleting the details of the Current advertisements.

Main Success Scenario:

The use case starts when an Administrator wishes to delete an advertisement that is currently available in the system.

1. Administrator will delete the details of selected current advertisement.

Alternative Flows:

- 1.1. if the delete button is not being clicked the advertisement will not delete.

Pre-Conditions:

The User should have a stable Internet Connection.

The User should successfully login to the system.

there should be advertisements available in the system.

Post-Conditions:

If the use case successful, the administrator will be able to delete the corresponding advertisement in the list.

Lock System Advertisements in Web

Level : Administrator Level

Actors : Administrator

Goal :

This use case describes how to lock the system advertisements from preventing users to disable special advertisements in web application.

Main Success Scenario:

The use case starts when administrator enable the lock advertisement button in the web application.

1. Enable lock the system advertisement.

Alternative Flows:

1.1. if the advertisements are locked currently pressing the button again will disable the lock system advertisement process.

Pre-Conditions:

The User should have a stable Internet Connection.

The administrator must have logged in to the web application.

Post-Conditions:

If the use case successful, the members would not be able to disable special advertisements. But administrator has the authority to disable the advertisements.

Class Representative Related Use Case Scenarios in Web Application

Send Advertisement to the Administrator

Level : Class Representative Level

Actors : Registered Class representative

Goal :

The Main purpose of this use case is to show how the class representative can send an advertisement details to the administrator over the web application. The advertisement can be send using mobile application, web application and even using external medias. This use case only shows the function of the web application.

Main Success Scenario:

The use case starts when the class representative wishes to send an advertisement to the administrator for reviewing purpose over the web application.

1. Class representative enters to the Send advertisement page.
2. Class representative enter the title of the advertisement in the given text field.
3. Class representative select the type of the advertisement from the given drop box.
4. Class representative upload the banner of the advertisement.
5. Class representative enter a brief description about the advertisement in the given text area.
6. Class representative enter the contact number of which the calls should receive regarding to the advertisement.
7. Class representative enter the Email of which the mails should receive regarding to the advertisement.
8. Class representative enter start date when the advertisement should post to the system.
9. Class representative enters end date of the advertisement.

Alternative Flows:

2.1. If class representative keeps the title text field empty system will display an appropriate error message. Then class representative will have to enter the title again.

3.1. If class representative has not uploaded the banner the system will display an appropriate error message. Then class representative will have to upload the banner.

4.1. If class representative keeps the description text area empty system will display an appropriate error message. Then class representative will have to enter the description again.

5.1. If class representative enters a contact number with lower than 10 digit or more than 10-digit system will display an error message. Then class representative will have to enter the contact no again.

5.2. If class representative enters a contact number which the first digit is not 0(Zero) the system will display an appropriate error message. Then class representative will have to enter the contact no again.

6.1. If class representative enters an E-Mail address without '@' sign system will display an appropriate error message. Then class representative will have to enter the E-Mail again.

7.1. If class representative keeps the start date field empty system will display an appropriate error message. Then class representative will have to enter date again.

8.1. If class representative keeps the end date field empty system will display an appropriate error message. Then class representative will have to enter date again.

Pre-Conditions:

The User should have a stable Internet Connection.

The administrator must have logged in to the web application.

Post-Conditions:

If the use case successful, the class representative would be able to send the advertisement to the administrator with no issue.

View Users Business Cards

Level : Class Representative Level

Actors : Registered Class representative

Goal :

This use case describes how the class representative can view a business card of a member. The business card can be one of customized business card, LinkedIn business card or Facebook business card.

Main Success Scenario:

The use case starts when the class representative clicks one of the customized business card, LinkedIn business card or Facebook business card in the web application.

1. Click the button to view the customized business card
2. Click the button to view the LinkedIn business card.
3. Click the button to view the Facebook business card.

Alternative Flows:

1.1. if the Customized business card is not available the user will be redirected to another page.

1.2. if the LinkedIn business card is not available the user will be redirected to another page.

1.3. if the Facebook business card is not available the user will be redirected to another page.

Pre-Conditions:

The User should have a stable Internet Connection.

The class representative must have logged in to the web application.

Post-Conditions:

If the use case successful,

When the class representative clicks the customized business card button he will be displayed the details of the customized business card in a separate window.

When the class representative clicks the Facebook business card button he will be displayed the details of the Facebook business card in a separate window.

When the class representative clicks the LinkedIn business card button he will be displayed the details of the LinkedIn business card in a separate window.

Show favorite Advertisement List

Level : Class Representative Level

Actors : Registered Class representative

Goal :

This use case describes the way of showing list of the favorite advertisements to the class representative.

Main Success Scenario:

The use case starts when class representative visits to the favorite advertisement list page.

1. Go to the favorite list page.

Alternative Flows:

- 1.1. if there no favorite advertisements the page will be empty.

Pre-Conditions:

The User should have a stable Internet Connection.

The class representative should successfully login to the system.

The class representative should have at least one advertisement in the favorite list.

Post-Conditions:

If the use case successful, the class representative would be able to view the list of advertisements that he has marked as favorite.

Implementation

Under the header of implementation, I am discussing about how I achieved the assigned functionalities and the mechanism used for developing functionalities.

As discussed in the technology section ionic is used as the framework for developing mobile application. Ionic is embedded in to the Cordova framework. The basic mechanism of ionic is related to the HTML. So the front end development was done using ionic framework.

The backend was developed using PHP as the programming language. MySQL query language is used for the database connection.

To retrieve data from the ionic to PHP or send data to Ionic from the databases there should be a bridge between two ends. As the result of that the Angular framework has used to bridge the gap between front end and back end. When retrieving data from the back end to front end the Angular accepts data in JSON format.

The MVC (Model View Control) architecture has been used for the implementation process in order to achieve the quality of the codings'. In MVC architecture Model is the way of handling data on the back end. View is used to show data through the interfaces to the users. The Controller is used to handle the functions and provide the outcome.

As each and every architecture has a different folder structure the MVC architecture also has a common folder structure. The way of structuring the folders will provide the quality of handling the flow of data processing. Other than all the folders the WWW folder has the priority. Because the developer only considers about the files and folders inside the WWW folder. Other folders are used to maintain the Cordova and Ionic frameworks.

The main two folders inside the WWW directory are Template and JS folders. Template folder contains all the HTML format files which used to create interfaces to show data to users. JS folder contains all the java script files related to data handling. The Controller.js and Route.JS files have a considerable impact than the others. Controller.JS file contains all the functions related to the mechanisms of showing data, and data processing is done within the Controller.js file. Route.Js file provide the connection between each HTML file and its' related controller. Without routes the user would not be able to travel through the interfaces.

Except to those folders mentioned above there are several folders that are important. Such as Image folder and CSS folder. Image folder will contain all the images that used for front end designing purposes. And the CSS folder also contains the files of CSS format which used to design the front end.

All the PHP files are hosted in the server. And the databases also hosted in MySQL format. Through the front end those database tables are called using the PHP files.

The database connection has established using a separate file called db.php. and the db.php file has included into every PHP file.

User Related Functionalities in Mobile Application

Access Social Medias

This functionality provides members to access social medias through the mobile application. Facebook, LinkedIn, Google+, Twitter are some of social medias that users would be able to access.

User has provided icons of social medias through the interface. When an icon is clicked a window will be opened with the corresponding profile. The icon has included the linked to the profile and set it to open through a separate window. The window can be closed separately.

Import Data from LinkedIn Profile

This functionality is used to get the data from the LinkedIn profile through the LinkedIn API and display as a business card in the mobile application.

When the Import from LinkedIn button clicks a window will be open with the authentication button to the LinkedIn profile. When user authenticate by providing username and password the data will be retrieved from the LinkedIn profile.

The methods of authenticating and retrieving data from LinkedIn has been implemented using JavaScript. JavaScript methods get the field information from the LinkedIn profile as requested. The data is received in JSON format. And those JSON data will be assigned to the JavaScript variables. And through the JavaScript variables the data is passed to the corresponding PHP file.

Inside the PHP file the data received from the JavaScript method is assigned to the PHP variables. And using MySQL queries the data is passed to the MySQL database. The connection to the database has created including the created db.php file.

After the data is stored in the database, from the LinkedIn card interface the data will be shown to the members. For that inside the controller the data is retrieved from the database using a function and placed in the interface.

Import Data from Facebook Profile

This functionality is used to get the data from the Facebook profile through the Facebook API and display as a business card in the mobile application.

When the Import from Facebook button clicks a window will be open with the authentication button to the Facebook profile. When user authenticates by providing username and password the data will be retrieved from the Facebook profile.

The methods of authenticating and retrieving data from Facebook has been implemented using JavaScript. JavaScript methods get the field information from the Facebook profile as requested. The data is received in JSON format. And those JSON data will be assigned to the JavaScript variables. And through the JavaScript variables the data is passed to the corresponding PHP file.

Inside the PHP file the data received from the JavaScript method is assigned to the PHP variables. And using MySQL queries the data is passed to the MySQL database. The connection to the database has been created including the created db.php file.

After the data is stored in the database, from the Facebook card interface the data will be shown to the members. For that inside the controller the data is retrieved from the database using a function and placed in the interface.

View users Business Card

When a member searches for another member that search will provide the facility to view the business card of the searched member. (Jayasundara, 2016).

The data is stored in the database for the business cards, when a member searches and views a business card of another member the data will be retrieved from the database according to the selected business card. For that inside the controller the id of the searched user will be passed to the PHP file and through the PHP file the data related to the business card is retrieved from the database using a function and placed in the interface.

View My Advertisements

The function is used to display all the advertisements that user has send to the administrator over the mobile application.

When user sends an advertisement to the administrator over mobile application the advertisement will be saved to a table with the advertisement id and the corresponding user id. When showing the advertisement to the members, first check the logged in user id and retrieve all the data fields which are belongs to the logged in member from the table.

First the logged in member id is send to the PHP file from the controller and within the PHP file it is checking whether there are any records belongs to the member id. I there are any those records will be retrieved using MySQL queries and pass to the controller again.

The advertisement is sorted in order to show the latest posted advertisement first. In the interface the advertisements are displayed as a list with the basic information.

And in the Interface there is a search field. The Advertisements can be filtered using the search field by typing the keywords.

View Notifications

The function is used to display the notifications regards to the status of the advertisements that user has send to the administrator over the mobile application.

When administrator has accepted or rejected an advertisement a new record will be added to the notification table with the advertisement id and the corresponding user id whom owns the advertisement. When showing the messages to the members, first check the logged in user id and retrieve all the data fields which are belongs to the logged in member from the table.

First the logged in member id is send to the PHP file from the controller and within the PHP file it is checking whether there are any records belongs to the member id. I there are any those records will be retrieved using MySQL queries and pass to the controller again.

The messages are sorted in order to show the latest message first. In the interface the messages are displayed as a list of cards with the status of the message.

Send Advertisement

This Functionality provide the facility of sending advertisements over the mobile application to the administrator.

From a given form the data are gathered and check the validity of the details. If the data are valid for the given validations the data will be send to a PHP file through the controller.

Inside the PHP file the data will be send to the database using MySQL queries. From the database administrator is able to receive the data.

Admin Related Functionalities in Mobile Application

Show pending Advertisements

This functionality is used to show all pending advertisements from the members to the administrator.

The advertisements are displayed as a list. All the advertisements are retrieved from the corresponding table using a PHP and MySQL queries. Administrator would be able to accept or reject the advertisements. The Advertisements are sorted in order to show the latest advertisement first.

Accept or Reject Advertisement

When accepting an advertisement, the data regards to the advertisement goes to the table where all the system advertisements are stored. The mechanism is happening inside the PHP file. The id of the selected advertisement will be send to the PHP through the controller and inside the PHP file the data regards to the id will be selected from one table and insert to another table. While the data being transferred a notification will be send to the user.

When rejecting an advertisement, the advertisement will be stayed in the same table and change the status to rejected. The mechanism is happening inside the PHP file. The id of the selected advertisement will be send to the PHP through the controller and inside the PHP file the advertisement status will be changed to reject. and a notification will be send to the user.

Lock System Advertisement

Lock advertisement is more advance than to the disable advertisements. When administrator enables the lock advertisement button a value regards to the status of the button will be send to the PHP file over the controller.

And when administrator logs into the system the controller checks the value of the toggle button from the database and set the button active or inactive.

The purpose of the lock advertisement is to display the special advertisements even if the member has enable the disable advertisement button. For that when user logs in it will retrieve the toggle button status and the status of the advertisement disable button of the logged in member from the database over a PHP file to the controller, and retrieve all advertisement status from the database to check whether there are any special advertisements. If the lock advertisement button is enabled and there are any special advertisements those advertisements will be displayed even if the user has enabled the advertisement disable button. If user has disabled, the disable advertisement button all the advertisements will be displayed as usually.

Admin & User Functional Requirements in Mobile Application

Show advertisement banner

Advertisement Banner is used to display all the banners in the mobile application. When a member or the administrator logs in to the system from the controller all the advertisement currently in the system will be retrieved from the database through a PHP file.

When the advertisements are received to the controller assign them to the corresponding slider according to the disable advertisement and lock advertisement buttons behavior.

The slider will be changed every 4000-time unit. And also given the feature of manually sliding. The advertisements are assigned to the slider using a loop.

View detail description of advertisement

When user or administrator click the banner slider the details of the corresponding banner will be displayed in another window.

When the button clicks along with function the id of the corresponding advertisement will be passed to the controller and from the controller the details regarding to the advertisement will be retrieved from the database and display in a separate window.

Disable advertisement

when administrator or user logs into the system the controller checks the value of the toggle button from the database and set the button active or inactive. For that the controller will retrieve the button status from the database to the controller over a PHP file.

As well as when user or administrator clicks the disable advertisement button the value regards to the status of the button will be post to the database and update the table.

Admin Functional Requirements in Web Application

The web application has a different structure. There are no frameworks used in implementing web application because the web application is only for the administrative tasks and class representative tasks.

In the web application the HTML has used as the front end language and the PHP used for the backend programming language. The data pass from the HTML to PHP. When passing data from front end to back end there was no conversion applied because the data could be directly passed with no conversion.

Except those languages the scripting language used for the scripting purposes and CSS used for designing front end.

MySQL database used for the saving data, and using SQL queries the data has send to the PHP MyAdmin database.

The database connection has established using a separate file called db.php. and the db.php file has included into every PHP file.

Show pending advertisements

This functionality used to show all the pending advertisements from the members. When administrator logs in to the application and redirect to the pending advertisement page the advertisements will display from retrieving the data from the corresponding table.

The list view has been created with the CSS and HTML5 and the details of the advertisements are showed using the PHP with the MySQL queries.

The advertisements are sorted when retrieving from the table.

Accept Reject pending advertisement

The pending advertisement can be able to accept or reject by the administrator.

When administrator clicks the accept button, the details of the advertisement will be transferred from one table to another inside the PHP file with the queries.

While the data is transferring the notification table will be updated with success notification. All tasks are happening inside a one PHP file.

When the administrator clicks the reject button the status of the advertisement will be updated to reject in the table and notification table will be updated with reject notification. All tasks are happening inside a one PHP file.

When the accept button or reject button clicks a JavaScript function will be redirect the data to the corresponding PHP file.

View pending advertisement details

The view button will display the detail description of the advertisement in a separate window.

When the button clicks the JavaScript function will be called and redirect to the corresponding PHP file. And the data will be displayed in the text fields in a HTML form view. Using queries, the data will be retrieved and PHP is used to assign the data to the text fields.

Show Special advertisements

This functionality used to show all the special advertisements that the administrator marked as special. When the administrator logs in to the web application and redirect to the special advertisement page the advertisements will display from retrieving the data from the corresponding table.

The list view has been created with the CSS and HTML5 and the details of the advertisements are showed using the PHP with the MySQL queries. From the corresponding table in the database all the advertisements have been retrieved which the administrator has marked as special.

Even the advertisements can be removed from the special list. When administrator click the remove button the id of the advertisement will be passed to the corresponding PHP file through the JavaScript function. And inside the PHP file the record belongs to the passed id will be removed from the table.

The advertisements are sorted when retrieving from the table.

Show Special advertisement details

The view button will display the detail description of the advertisement in a separate window.

When the button clicks the JavaScript function will be called and redirect to the corresponding PHP file. And the data will be displayed in the text fields in a HTML form view. Using queries, the data will be retrieved and PHP is used to assign the data to the text fields.

Delete system advertisement (Administrator Function)

The functionality of delete advertisement provide the facility of deleting system advertisement currently available on the system.

When the delete button pressed the advertisement id will be passed to the PHP file along with a function. Inside the PHP file the row with that id will be deleted using MySQL queries.

Show system advertisement (Administrator Function)

Same mechanism has been used here as in the pending advertisement view feature. The view button will display the detail description of the advertisement in a separate window.

When the button clicks the JavaScript function will be called and redirect to the corresponding PHP file. And the data will be displayed in the text fields in a HTML form view. Using queries, the data will be retrieved and PHP is used to assign the data to the text fields.

Lock system advertisement

Lock advertisement functionality is as same as to the mobile application lock advertisement functionality. When administrator enables the lock advertisement button a value regards to the status of the button will be send to a JavaScript functionality. And through the function the values will be passed to the PHP file. From the PHP file using queries the values are passed to the database.

And when the page gets reload the value of the button is checked from the database Using PHP and MySQL queries. According to the status of the button the calling JavaScript function will be changed.

If the button is enabled when click on the button, the java script functionality to disable the button will be called. And If the button is disabled when click on the button, the java script functionality to enable the button will be called.

Class representative Functional Requirements in Web Application

Send Advertisement

This Functionality provide the facility of sending advertisements over the web application to the class representative.

From a given form the data are gathered and check the validity of the details. The form is designed using HTML and the validation is done by the JavaScript. If the data are valid for the given validations the data will be send to a PHP file through the form.

Inside the PHP file the data will be send to the database using MySQL queries. From the database administrator is able to receive the data.

Show favorite advertisements

This functionality used to show all the favorite advertisements of the class representative. When the class representative logs in to the web application and redirect to the favorite advertisement page the advertisements will display from retrieving the data from the corresponding table.

The list view has been created with the CSS and HTML5 and the details of the advertisements are showed using the PHP with the MySQL queries. From the favorite advertisement table all the records have been retrieved where the user is class representative.

The advertisements are sorted when retrieving from the table.

Show users' business cards

In this method first all the users' details have been retrieved from the table using PHP and MySQL queries. And there are three buttons provided to select any of the three business cards.

When the class representative clicks the customized business card button to view the details of the customized business card, along with the button click the id of the user who is being viewed will be passed to a HTML file along with the JavaScript function related to the button click. Inside the HTML file the customized business card details of the passed id will be retrieved from the corresponding table using the MySQL queries. And the retrieved data has been displayed using a HTML form.

As well as when the class representative clicks the LinkedIn business card button to view the details of the LinkedIn business card, along with the button click the id of the user who is being viewed will be passed to a HTML file along with the JavaScript function related to the button click. The same mechanism has been used as in the customized business card. Inside the HTML file the LinkedIn business card details of the passed id will be retrieved from the corresponding table using the MySQL queries. And the retrieved data has been displayed using a HTML form.

And when the class representative clicks the Facebook business card button to view the details of the Facebook business card, along with the button click the id of the user who is being viewed will be passed to a HTML file along with the JavaScript function related to the button click. The same mechanism has been used as in the customized business card. Inside the HTML file the LinkedIn business card details of the passed id will be retrieved from the corresponding table using the MySQL queries. And the retrieved data has been displayed using a HTML form.

Identified Test cases

Mobile Application

Test 1

The test case is used to make sure that the data from the LinkedIn profile are retrieving successfully without causing any errors.

Test case -

If member press the import from LinkedIn button in members' settings area.

Preconditions -

Member must have logged in to the mobile application successfully.

Input test data -

Press the import form LinkedIn button.

Steps to be executed -

1. click import from LinkedIn button
2. View the LinkedIn card to see the data have retrieved correctly.

Expected results -

The LinkedIn business card should be displayed with the data retrieved from the LinkedIn profile.

Actual results -

The LinkedIn business card displayed with the data retrieved from the LinkedIn profile.

Pass/fail -

Pass

Test 2

The test case is used to make sure that the data from the Facebook profile are retrieving successfully without causing any errors.

Test case -

If member press the import from Facebook button in members' settings area.

Preconditions -

Member must have logged in to the mobile application successfully.

Input test data -

Press the import form Facebook button.

Steps to be executed -

1. click import from Facebook button
2. View the Facebook card to see the data have retrieved correctly.

Expected results -

The Facebook business card should be displayed with the data retrieved from the Facebook profile.

Actual results -

The Facebook business card displayed with the data retrieved from the Facebook profile.

Pass/fail -

Pass

Test 3

The test case is used to make sure that when member or administrator disable advertisements the banner is disappeared.

Test case -

If member or administrator enable the disable advertisement toggle button the advertisement banner should be disappeared.

Preconditions -

Member or Administrator must have logged in to the mobile application successfully.

Administrator should have disabled the lock advertisement button.

Input test data -

Enable the disable advertisement toggle button in settings area.

Steps to be executed -

1. click the Toggle button to activate it.
2. Logout and Login again to the system.

Expected results -

The success message and when next time login the Advertisement banner should be disappeared.

Actual results -

Showed the success message and the advertisement banner disappeared.

Pass/fail -

Pass

Test 4

The test case is used to make sure that when administrator lock advertisements only the special advertisements are displayed in the banner.

Test case -

If administrator enable the lock advertisement toggle button the advertisement banner should display only the special advertisement for the members if member has enabled the lock advertisement button. But administrator should not be displayed any advertisement if administrator has enabled the disable advertisement button.

Preconditions -

Member or Administrator must have logged in to the mobile application successfully.

User should have enable the disable advertisement button.

Input test data -

Enable the lock advertisement toggle button in administrator's settings area.

Steps to be executed -

1. click the Toggle button to activate it.

Expected results -

The success message and banner with special advertisements in every members' profile.

Actual results -

Showed the success message and the banner with special advertisement in each members' profile.

Pass/fail -

Pass

Test 5

The test case is used to make sure that a member can send an advertisement to the administrator over mobile application. And the validations are working properly.

Test case -

Member send an advertisement to the administrator.

Preconditions -

Member must have logged in to the mobile application successfully.

Input test data -

Fill the text fields of the form.

Steps to be executed -

1. Try to send an advertisement with empty fields. Try emptying one field at a time.
2. Try filling all the fields.

Expected results -

If fields are empty corresponding error message should be displayed.

If fields are filled the success message should be displayed.

Actual results -

When fields were empty error messages displayed.

When fields are filled success message displayed and advertisement send to the administrator.

Pass/fail -

Pass

Test 6

The test case is used to make sure that when member send an advertisement to the administrator, it successfully received by the administrator.

Test case -

The advertisement send by the members should appear to the administrator.

Preconditions -

Administrator must have logged in to the mobile application successfully.

At least one member should have send an advertisement already.

Input test data -

Go to the corresponding page.

Steps to be executed -

1. Go to the corresponding page.

Expected results -

The advertisements send by the members should available to the administrator.

Actual results -

The advertisements send by the members are available to the administrator.

Pass/fail -

Pass

Test 7

The test case is used to make sure that the advertisements received by the administrator can be accepted and rejected the detail description in mobile application.

Test case -

The advertisement send by the members should appear to the administrator.

Preconditions -

Administrator must have logged in to the mobile application successfully.

At least one member should have send an advertisement already.

Input test data -

Try accepting advertisement.

Try rejecting advertisement.

Steps to be executed -

1. Accept advertisement.
2. Reject advertisement.

Expected results -

When accept the advertisement the advertisement should be displayed in the system advertisement list in mobile application and web application.

When accept the advertisement should be appeared in the banner of the mobile application.

When reject the advertisement the advertisement should not display in the banner or advertisement list in mobile or web application.

When accept or reject a message should be send to the member who send the advertisement regards the status of the advertisement.

When accept or reject the status of the advertisement should be updated in the members' advertisement list.

Actual results -

When accept the advertisement the advertisement displayed in the system advertisement list in mobile application and web application.

When accept the advertisement appeared in the banner of the mobile application.

When reject the advertisement the advertisement did not displayed in the banner or advertisement list in mobile or web application.

When accept or reject a message send to the member who send the advertisement regards the status of the advertisement.

When accept or reject the status of the advertisement updated in the members' advertisement list.

Pass/fail -

Pass

Test 8

The test case is used to make sure that administrator can view the details of an advertisement that received by the administrator from a member in mobile application.

Test case -

The details of a received advertisement should be able to view.

Preconditions -

Administrator must have logged in to the mobile application successfully.

At least one member should have send an advertisement already.

Input test data -

Click the corresponding advertisement which administrator wants to view the details.

Steps to be executed -

1. Click on the advertisement.

Expected results -

The details of the advertisement.

Actual results -

The details of the advertisement.

Pass/fail -

Pass

Test 9

The test case is used to make sure that a member can view all the advertisements that he has send to the administrator over mobile application and delete rejected advertisements.

Test case -

The list of advertisements that a member has send to the administrator.

Preconditions -

Member must have logged in to the mobile application successfully.

The member should have send at least one advertisement to the administrator.

Administrator should have reject at least one advertisement of current member.

Input test data -

Go to the correct tab.

Steps to be executed -

1. Go to the correct tab.
2. Delete advertisement.

Expected results -

The list of advertisements that the member has send to the administrator.

The deleted advertisement should be disappeared from the list.

Actual results -

The list of advertisements that the member has send to the administrator.

The deleted advertisement disappeared from the list.

Pass/fail - Pass

Test 10

The test case is used to make sure that a member can mark advertisement as favorite and view all the advertisements that he has marked as favorite.

Test case -

Mark advertisement as favorite and view the list of advertisements that a member marked as favorite.

Preconditions -

Member must have logged in to the mobile application successfully.

The banner bar should have least one advertisement.

Input test data -

Click the button add to favorite.

Steps to be executed -

1. Click an advertisement in the advertisement bar.
2. Click the favorite button.

Expected results -

A success message.

The advertisement should be displayed in the favorite list.

Actual results -

A success message.

The advertisement displayed in the favorite list.

Pass/fail -

Pass

Test 11

The test case is used to make sure that the administrator can marked advertisement as special and view all the advertisements that he has marked as special.

Test case -

Mark advertisement as special and view the list of advertisements marked as special.

Preconditions -

Administrator must have logged in to the mobile application successfully.

At least one advertisement should be available in the system.

Input test data -

Click the button add to special.

Steps to be executed -

1. Click an advertisement in the advertisement in the system advertisement list in mobile application.
2. Click the special button.

Expected results -

A success message.

The advertisement should be displayed in the special list.

Actual results -

A success message.

The advertisement displayed in the special list.

Pass/fail -

Pass

Test 12

The test case is used to make sure that administrator can view the details of an advertisement in the advertisement bar while rotating.

Test case -

The details of an advertisement in the advertisement bar should be able to view.

Preconditions -

Administrator must have logged in to the mobile application successfully.

At least one advertisement should be available in the system.

Input test data -

Click the corresponding advertisement which administrator wants to view the details from the bar while rotating.

Steps to be executed -

1. Click on the advertisement.

Expected results -

The details of the advertisement.

Actual results -

The details of the advertisement.

Pass/fail -

Pass

Test 13

The test case is used to make sure that a member can view the messages regarding to the advertisements that he has send to the administrator and clear the messages.

Test case -

Check the messages to get the status of the advertisements that he has send to the administrator and clear the messages.

Preconditions -

Member must have logged in to the mobile application successfully.

Administrator should have responded to an advertisement which is belonging to current login user.

Input test data -

Go to the correct page

click the clear message button.

Steps to be executed –

1. Go to the correct page
2. click the clear message button.

Expected results -

Should display the message regarding to the responded advertisement.

Should remove all the messages.

Actual results -

Displayed the message and then removed all the messages.

Pass/fail - Pass

Test 14

The test case is used to make sure that a member can view a business card of another member.

Test case -

View the business card of another user by searching.

Preconditions -

Member must have logged in to the mobile application successfully.

Member should search another member.

Input test data -

Click the business card view button.

Steps to be executed –

1. Search a member.
2. click the business card view button.

Expected results -

Business card should be viewed.

Actual results -

Business card displayed.

Pass/fail -

Pass

Web Application

Test 1

The test case is used to make sure that the advertisements received by the administrator can be accepted and rejected the detail description from the web application.

Test case -

The advertisement send by the members should appear to the administrator.

Preconditions –

The administrator must have logged in to the web application successfully.

At least one member should have send an advertisement already.

Input test data -

Try accepting advertisement.

Try rejecting advertisement.

Steps to be executed -

1. Accept advertisement.
2. Reject advertisement.

Expected results -

When accept the advertisement the advertisement should be displayed in the system advertisement list in mobile application and web application.

When accept the advertisement should be appeared in the banner of the mobile application.

When reject the advertisement the advertisement should not display in the banner or advertisement list in mobile or web application.

When accept or reject a message should be send to the member who send the advertisement regards the status of the advertisement.

When accept or reject the status of the advertisement should be updated in the members' advertisement list.

Actual results -

When accept the advertisement the advertisement displayed in the system advertisement list in mobile application and web application.

When accept the advertisement appeared in the banner of the mobile application.

When reject the advertisement the advertisement did not displayed in the banner or advertisement list in mobile or web application.

When accept or reject a message send to the member who send the advertisement regards the status of the advertisement.

When accept or reject the status of the advertisement updated in the members' advertisement list.

Pass/fail -

Pass

Test 2

The test case is used to make sure that administrator can view the details of an advertisement in a form window that received by the administrator from a member in web application.

Test case -

The details of a received advertisement should be able to view.

Preconditions –

The administrator must have logged in to the web application successfully.

At least one member should have send an advertisement already.

Input test data -

Click the view button of the corresponding advertisement which administrator wants to view the details.

Steps to be executed -

1. Click on the view button of the advertisement.

Expected results -

The details of the advertisement in a form view in a different window.

Actual results -

The details of the advertisement in a form view in a different window.

Pass/fail -

Pass

Test 3

The test case is used to make sure that the administrator can marked advertisement as special and view all the advertisements that he has marked as special in web application.

Test case -

Mark advertisement as special and view the list of advertisements marked as special.

Preconditions –

The administrator must have logged in to the web application successfully.

At least one advertisement should be available in the system.

Input test data -

Click the button add to special.

Steps to be executed -

1. View the list of current system advertisements.
2. Click the special button.

Expected results -

A success message.

The advertisement should be displayed in the special list.

Actual results -

A success message.

The advertisement displayed in the special list.

Pass/fail -

Pass

Test 4

The test case is used to make sure that administrator can view the details of an advertisement currently available in the system in a form window in web application.

Test case -

The details of a currently existing advertisement should be able to view.

Preconditions –

The administrator must have logged in to the web application successfully.

At least one advertisement should be available in the system.

Input test data -

Click the view button of the corresponding advertisement which administrator wants to view the details in system advertisement area.

Steps to be executed -

1. Click on the view button of the advertisement.

Expected results -

The details of the advertisement in a form view in a different window.

Actual results -

The details of the advertisement in a form view in a different window.

Pass/fail -

Pass

Test 5

The test case is used to make sure that administrator can delete an advertisement currently available in the system in web application.

Test case -

A currently existing advertisement should be able to delete.

Preconditions –

The administrator must have logged in to the web application successfully.

At least one advertisement should be available in the system.

Input test data -

Click the delete button of the corresponding advertisement which administrator wants to delete from the system.

Steps to be executed -

1. Click on the delete button of the advertisement.

Expected results -

The advertisement should be disappeared form the system advertisement list.

The advertisement should be disappeared form the advertisement bar in mobile application.

Actual results -

The advertisement disappeared form the system advertisement list.

The advertisement disappeared form the advertisement bar in mobile application.

Pass/fail -

Pass

Test 6

The test case is used to make sure that the administrator can post advertisement to the system through the web application.

Test case -

Administrator post advertisement to the system through the web application.

Preconditions –

The administrator must have logged in to the web application successfully.

There should be a stable internet connection.

Input test data -

Post the advertisement through the form.

Steps to be executed -

1. Go to the desired page.
2. Post the advertisement.

Expected results -

Success message should be displayed.

The advertisement should be available at the advertisement banner and system advertisement list of both mobile and web application.

Actual results -

Success message displayed.

The advertisement available at the advertisement banner and system advertisement list of both mobile and web application.

Pass/fail - Pass

Test 7

The test case is used to make sure that when administrator lock advertisements only the special advertisements are displayed in the banner. The test case used for the functionality in web application

Test case -

If administrator enable the lock advertisement toggle button the advertisement banner should display only the special advertisement for the members if member has enabled the lock advertisement button. But administrator should not be displayed any advertisement if administrator has enabled the disable advertisement button.

Preconditions -

Member or Administrator must have logged in to the web application successfully.

User should have enable the disable advertisement button.

Input test data -

Enable the lock advertisement toggle button in the page where the system advertisement list displayed.

Steps to be executed -

1. click the button to activate the lock.

Expected results -

The success message and banner with special advertisements in every members' profile.

Actual results -

Showed the success message and the banner with special advertisement in each members' profile.

Pass/fail -

Pass

Test 8

The test case is used to make sure that the send advertisement functionality in the web application which is used by the class representative is working properly. And the validations are working properly.

Test case -

The class representative sends an advertisement to the administrator.

Preconditions -

The class representative must have logged in to the web application successfully.

Input test data -

Fill the text fields of the form.

Steps to be executed -

1. Try to send an advertisement with empty fields. Try emptying one field at a time.
2. Try filling all the fields.

Expected results -

If fields are empty corresponding error message should be displayed.

If fields are filled the success message should be displayed.

Actual results -

When fields were empty error messages displayed.

When fields are filled success message displayed and advertisement send to the administrator.

Pass/fail -

Pass

Test 9

The test case is used to make sure that the class representative can view the business cards of any user from the list.

Test case -

The class representative views the customized business card of a member.

The class representative views the LinkedIn business card of a member.

The class representative views the Facebook business card of a member.

Preconditions -

The class representative must have logged in to the web application successfully.

Input test data -

Go to the page where the list of users is displayed.

Steps to be executed -

1. The class representative clicks the customized business card button of a member.
2. The class representative clicks the LinkedIn business card button of a member.
3. The class representative clicks the Facebook business card button of a member.

Expected results -

When the class representative clicks the customized business card button he will be displayed the details of the customized business card in a separate window. If there is no customized business card user will be redirected to another page.

When the class representative clicks the Facebook business card button he will be displayed the details of the Facebook business card in a separate window. If there is no Facebook business card user will be redirected to another page.

When the class representative clicks the LinkedIn business card button he will be displayed the details of the LinkedIn business card in a separate window. If there is no LinkedIn business card user will be redirected to another page.

Actual results -

When the class representative clicks the customized business card button the details of the customized business card is being displayed in a separate window. when there is no customized business card user is being redirected to another page.

When the class representative clicks the Facebook business card button the details of the Facebook business card is being displayed in a separate window. when there is no Facebook business card user is being redirected to another page.

When the class representative clicks the LinkedIn business card button the details of the Linked business card is being displayed in a separate window. when there is no LinkedIn business card user is being redirected to another page.

Pass/fail -

Pass

Test 10

The test case is used to make sure that the class representative can view all the advertisements that he has marked as favorite. The test case is used for the web application.

Test case -

View the list of advertisements that the class representative marked as favorite from the web application.

Preconditions -

The class representative must have logged in to the web application successfully.

Input test data -

Click the button add to favorite.

Steps to be executed -

1. Click an advertisement in the advertisement bar.
2. Click the favorite button.
3. Go to the favorite list page in web application.

Expected results -

The advertisement should be displayed in the favorite list.

Actual results -

The advertisement displayed in the favorite list.

Pass/fail -

Pass

Bugs in the Product

The members of the 1994 batch are professionals who work around all over the world. In order to connect them together the applications should be globalized. Every member should have provided with the facility to access the applications from anywhere in the world. Because through the mobile application members should be able to access the details of each and every member and chat with each other. As well as administrator should also be able to use the web application from anywhere in the world. While developing the two applications several bugs were identified.

The necessity of internet connection can be identified as one bug. In order to access most of the features of the mobile application and web application the internet connection is a must. Without internet more than half of the features cannot be accessed. Because all the details passing through the mobile and web application are stored in a middle server which data can be retrieved easily from any place. Without internet connection the access to the server is impossible. The efficiency of the applications will be reduced because every post or update will require internet connection. The speed of the applications will depend on the speediness of the internet connection.

The problem of using offline features in mobile application is it drains system memory lot. Offline features require lot of memory capacity within the device because the data will be stored using device memory. Usage of device memory will cause to slow the features of the device when the storage capacity is getting low. In default, system memory has small memory capacity. So offline features will not provide more efficiency than online features.

The applications should be trustworthy. The mobile application is contained lot more private information of each member. Before login to the system there should be a security mechanism to identify whether the member is authorized or not. Due to the mobile application and web application is directly connected to the internet the intruders can be entered to the system without authorization.

When consider about the Mobile platforms there are several mobile platforms. Such as Android, IOS, Windows, blackberry. The mobile application should be able to use with any platform. But currently the smart application is only worked for Android and IOS platforms. So the application is not platform independence for all the platforms. That is a considerable bug when using the mobile application other than apple or android mobile phones.

Every application should have maintained the feature of user-friendliness. In order to maintain user-friendliness, the Applications should contain the gamification items. But usage of gamification items and other colorful stuff will increase the size of the applications. Then it will be an effect to the response time of the application. Even the applications are user-friendly if they are not fast enough to response with a minimum time the user satisfaction will be low. Maintain both user-friendliness and response time is difficult when compared to small applications. And the other bug is when the server is accessing concurrently by several members the response time will take more time.

Development Challenges

The Mobile Application was developed using Cordova and Angular frameworks. The frameworks are new technologies. But as I have done the half of project at the first semester under SEP-1 I could get some idea about the procedure of working on those frameworks. Even if it is while implementing some functions it took much time than expected because the functions are bit complex and the resources are less.

As the software that I was developing needed to be connected with the mobile phone the number of plugins had to be installed. When finding the plugins, I faced many impediments for choosing the right plugins needed for the Android platform and IOS platform separately.

The web application was a small one and due to the reason it was not took much days to develop. But because of the case that both the Mobile Application and the Web Application needed to be connected it became harder.

As mentioned in the requirement specification the mobile application should be able to access both the LinkedIn application program interface and Facebook application program interface. It took considerable time to identify how the APIs are working. The purpose of accessing LinkedIn API and Facebook API is to retrieve basic profile data and professional data. Even the both APIs are allowed to retrieve basic profile data, to retrieve professional details a special authentication was required. Even I have requested for the special authentication by considering the state they haven't provided the authentication.

The Angular version 2 was released at 3rd of May 2016 and Ionic Version 2 was releases at 20th of May 2016 And while changing the versions it needed to update and install more plugins rather the first versions. Therefore, I had to keep work with the Angular 1 and Ionic 1.

After the first Prototype with the clients they have changed half of their requirements of the application. Already implemented requirements also had to be changed and some parts had to be removed from the system even though they were already implemented due to the changes of the requirements. So I had to face for the time constraints.

The Agile Process is used for as the work flow. The tools were trial versions and registration is required for the online tools also. To use them the tools needed to be purchased. Due to the reason when recording the sprint details, User stories, Time spent for each user stories and dates regarding to the implementation progress had to be recorded calculating manually using spreadsheets.

The main Problem of ionic was to emulate the Software that I have developed. The emulator was difficult to install and took too much time to operate.

Identified Solutions for the challenges

While developing the Second Iteration there were several challenges to face. For the prevention of challenges alternatives had to be used. The main problem was, to face challenges while keeping the quality remains.

As in the Software requirement specification the user-friendliness and the response time has given a most priority than robust and informative. Due to adding gamification items and other functions to system would directly affect to the response time and speed, as solution for maintaining user-friendliness the interfaces were designed in eye-catching way.

As done in the first iteration most information about the ionic and Angular was gathered from using news forums and Blogs.

When accessing LinkedIn application program interface, it was impossible to retrieve professional details without requesting authentication. As a solution LinkedIn API as well as Facebook API both accessed together and create different cards with member details.

Since the changes of the technology cause for the entire project I stick with the Ionic 1 version and the Angular 1 version.

As an alternative to the Tools of Agile process the Charts and the tables were created using spreadsheets. And Online trial versions.

For make the software fast and smooth the interfaces and unnecessary functions were reduced without losing the user-friendliness.

For the Integration purposes all group members worked together to find out the connections of each other's and created one folder structure for everyone such as one image folder and one CSS folder.

Lessons Learned

The project was to develop a mobile application for 94 group of royal collage. While developing the project the mechanisms of requirement gathering methods and how to keep communicate with the client within the project periods and what are the specific areas that we need to look in before starting the project are identified. As well as the agile process and iteration methods was followed for developing the project.

The mobile application was developed using hybrid mobile application development methods. As this is the first time that I have developed a mobile application using ionic framework the knowledge gathered was very helpful. I could get the idea of the difference between the native mobile applications and the hybrid applications.

The experience of how to use MVC architecture for developing applications, retrieve data form the current existing API's (Application Programming Interface) are the main important areas that I have achieved with the SEP project.

And separate web application was developed for the administrative tasks and class representative tasks. The design practice and what are the specifications of admin panel rather than a normal web application was understood during the project period.

In additional to the academic stuff we all got the experience of team working how to distribute project work with each other and how to choose workload to be distributed over the project time. And we created our own way for integration.

Within the project time I have experienced several project management tools both desktop applications and online tools.

The hosting of the web application and mobile application was a new experience for me. I had the knowledge of hosting a web application, how to put android application to the Play Store and how to put a IOS application to the App Store.

And also I got the developer accounts for several API's and platforms.

Repository and blog Information

Group Blog and Repository Details

Group Blog

Name – Curtin_Sep_06
Created with – Blogger
Blog Address - <http://oursepgroup.blogspot.com/>

Group Repository

Name – SmartApp
Created with – BitBucket
Repository Link - <https://bitbucket.org/sep5/smartapp/src>

Individual Blog and Repository details

Individual Blog

Name – SEP – Project
Created with – WordPress
Blog Address - <https://sepprojectblog.wordpress.com/>

Individual Repository

Name – SmartApp
Created with – GitHub
Repository Link - <https://github.com/shawntharoo/SmartApp.git>

Project Summery

The Software Engineering Project (SEP) was developed as two parts. In SEP-1 the first deliverable half was developed as the first iteration. And within SEP-2 the other half of the project was completed and delivered to the client.

The first task was to analyses the requirement using requirement gathering methods and different approaches. And Agile tools has to be used within the whole time of the project duration because we selected the agile process.

The project was to develop a mobile application for the Royal collage 1994 group. The application is almost like a social mobile application but it has contained some exclusive functionalities which are important for the Royal collage 1994 group. As the client mentioned the main purpose of the application is to earn revenue from letting members to post advertisements to the system.

The mobile application was developed as a hybrid mobile application because the application is web based mobile application. And it needed to be installed on both android and IOS mobile platforms. Because of the reason the Cordova framework was chosen as the framework. PHP language used for the backend development and the connection between the backend and frontend was created using the angular.

As well as there was a separate web application for administrative tasks and class representative. Only administrator and class representative have been provided the facility of doing administrative tasks and other specific tasks both in the mobile application and web application. The administrator of the system is not a member of the Royal 94 group and he has been hired for administrative tasks.

The web application was a simple one. Due to the reason no framework is used and for the front end HTML5 is used and for the backend PHP was used.

Finally, the completed two applications have been deployed. The web application was hosted in a web server as well as the android application is put in to the Play Store and the IOS application was put in to the App Store. Any user would be able to download the applications through the App Store and the Play store. But only the authorized members will be able to use the system according to the clients' concerns.

At the end of the project duration including both semesters, I have completed all my tasks that were assigned to me and I also have completed some additional functionalities for ease of usage.

Reference

SEP-1 Individual report.

https://drive.google.com/open?id=0B15hKi6G_zRSUUJVTIFOWndCemc - Page 26 to Page 30

Test Case

http://www.tutorialspoint.com/software_testing_dictionary/test_case.htm

Online UML Diagram Designer

<https://creatly.com/app/#>

Online Graph creator

<https://app.datahero.com/>

Appendix

Architectural diagram for the Mobile Application

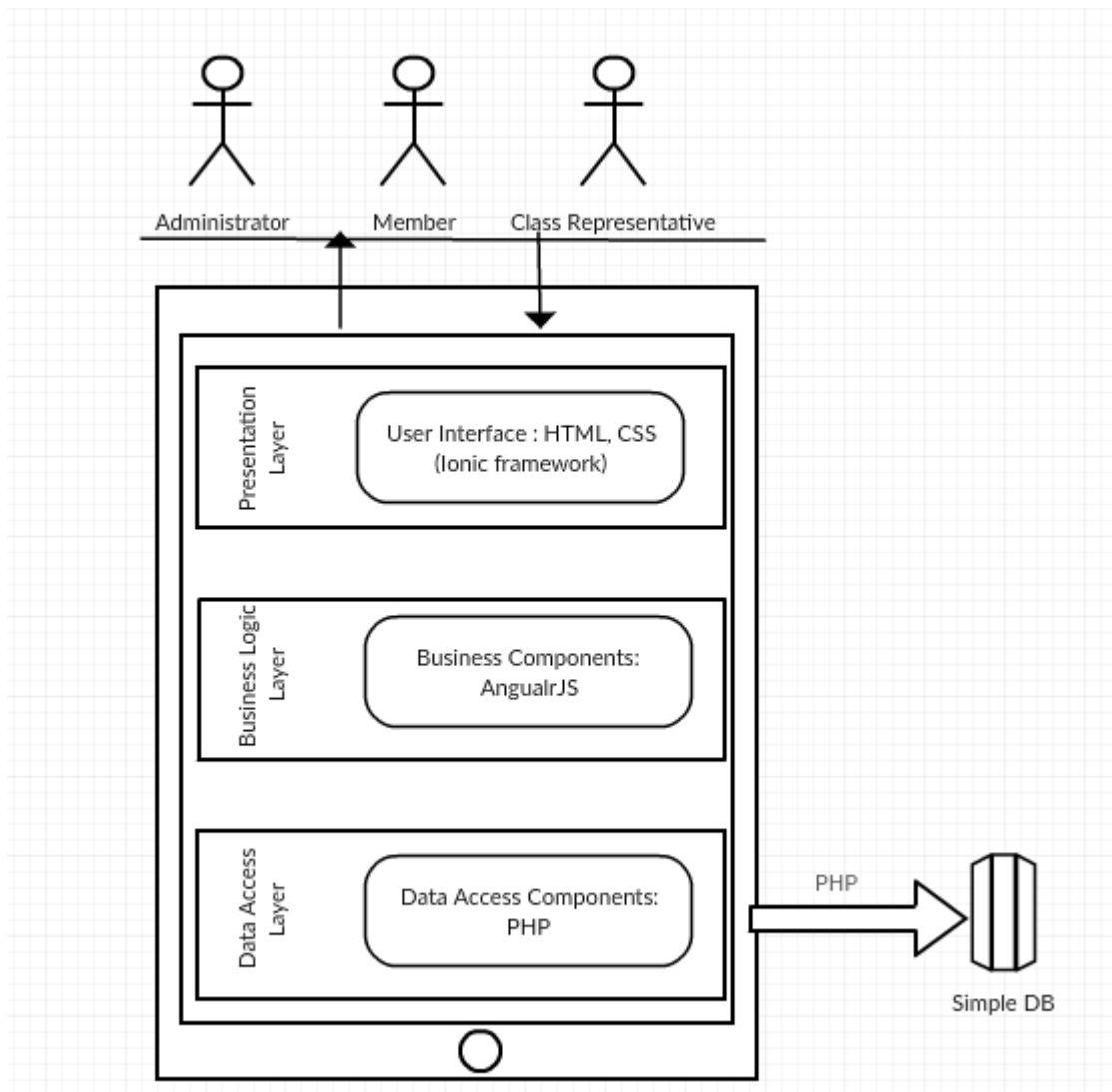


Figure 7

Architectural diagram for the Web Application

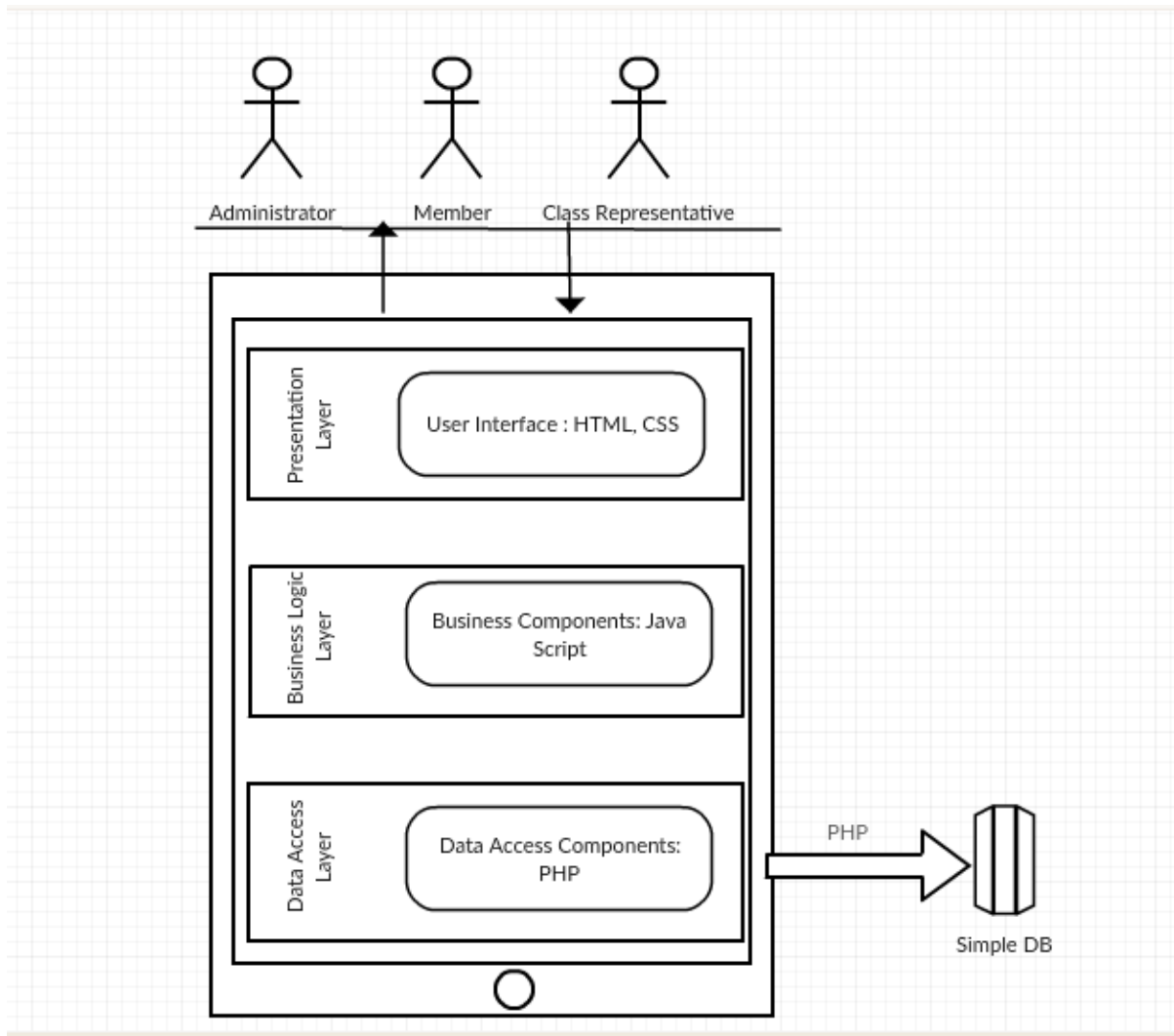


Figure 8

Use case diagram for members' mobile application functionalities

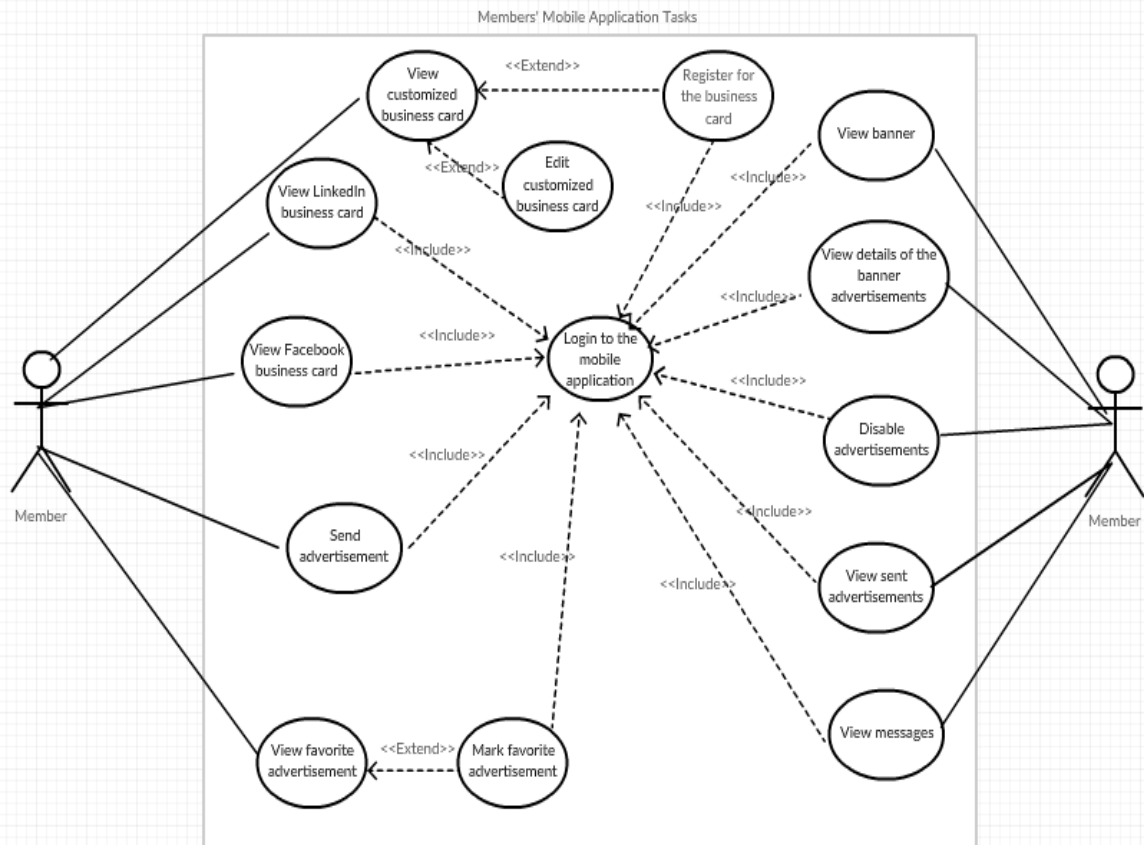


Figure 9

Use case diagram for Admins' mobile application functionalities

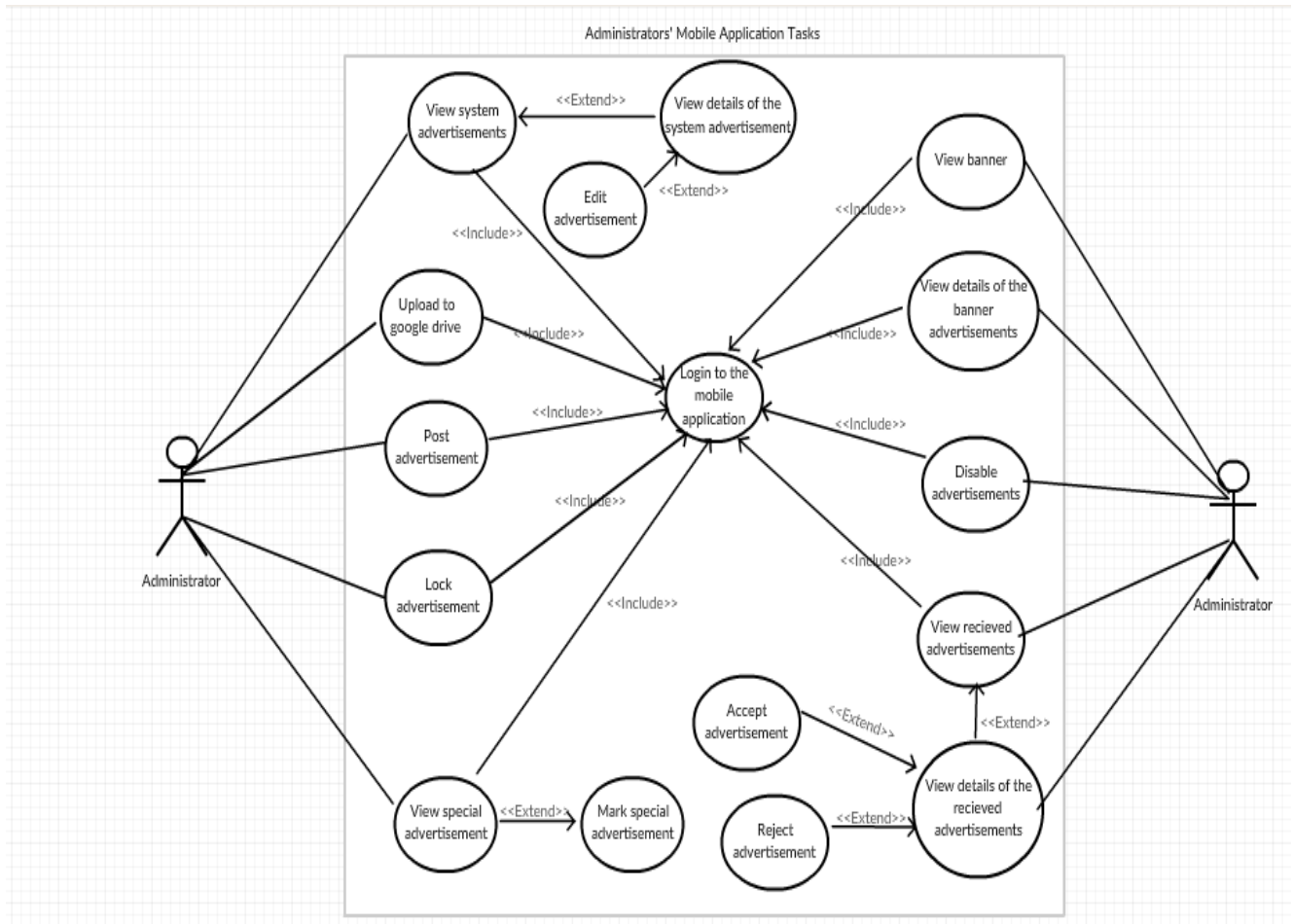


Figure 10

Use case diagram for Admins' web application functionalities

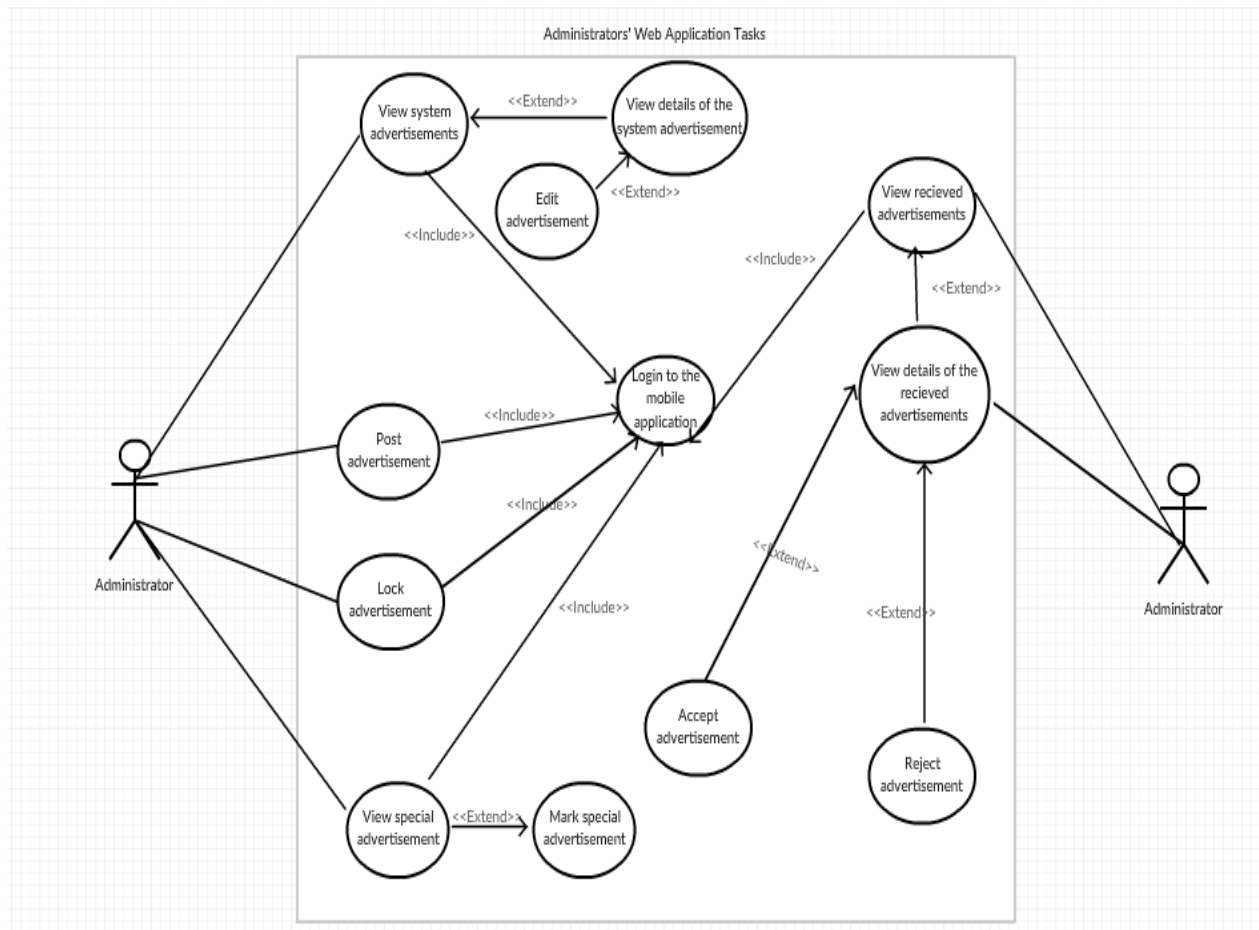


Figure 11

Use case diagram for class representatives' web application functionalities

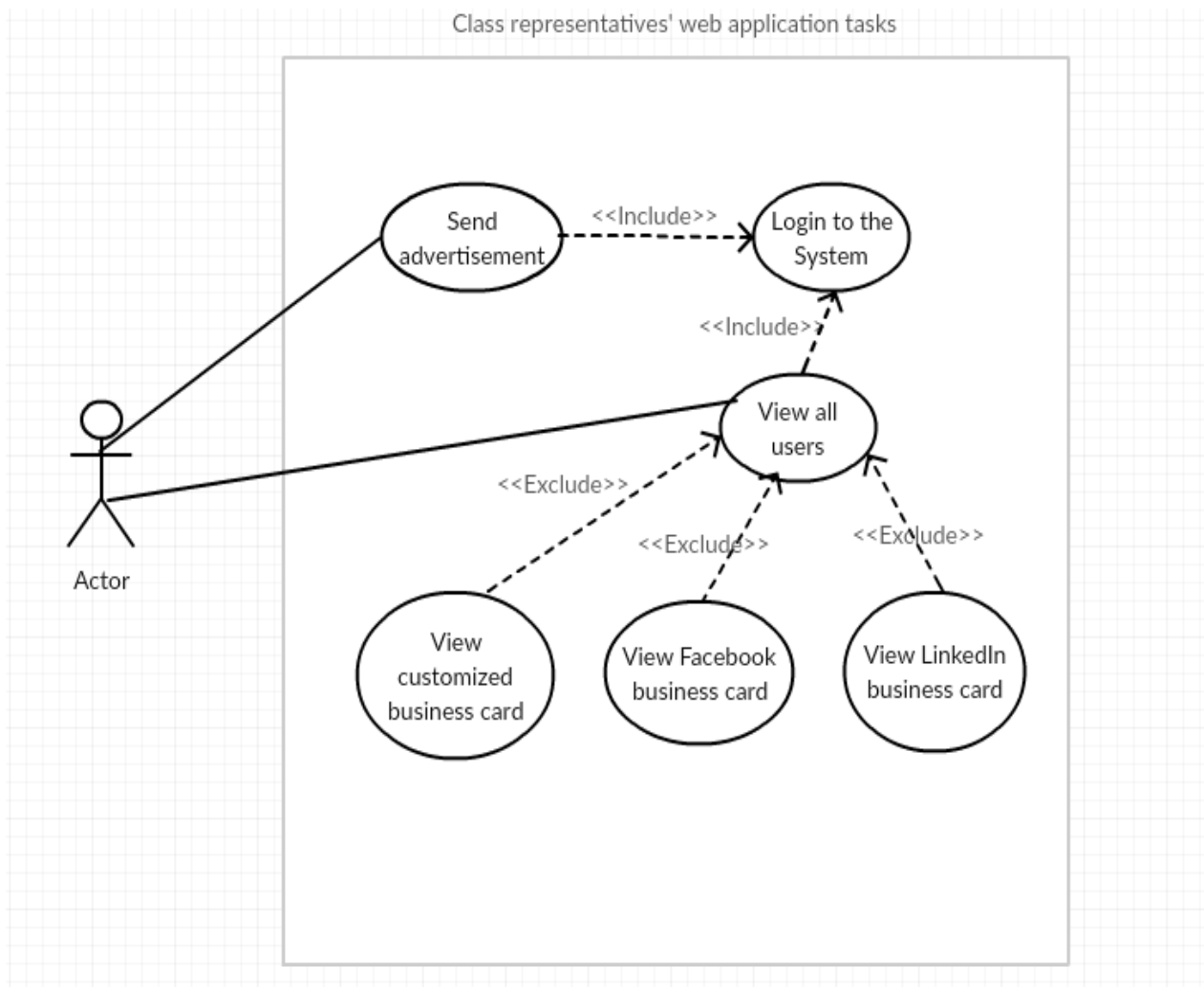


Figure 12

Gantt Chart for Implementation Progress

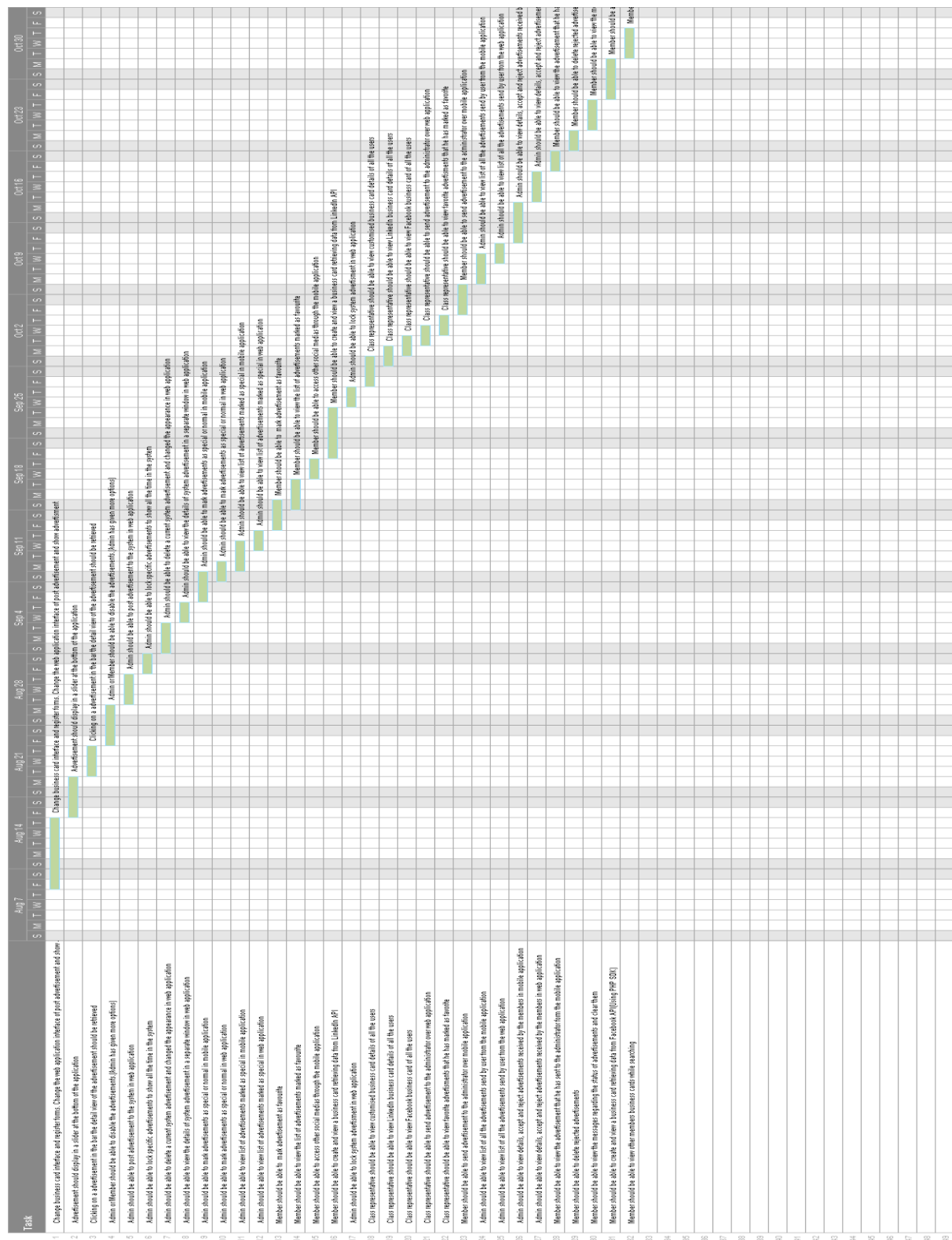


Figure 13 (Image can be zoomed to get clear details)

Gantt Chart for Learning Curve

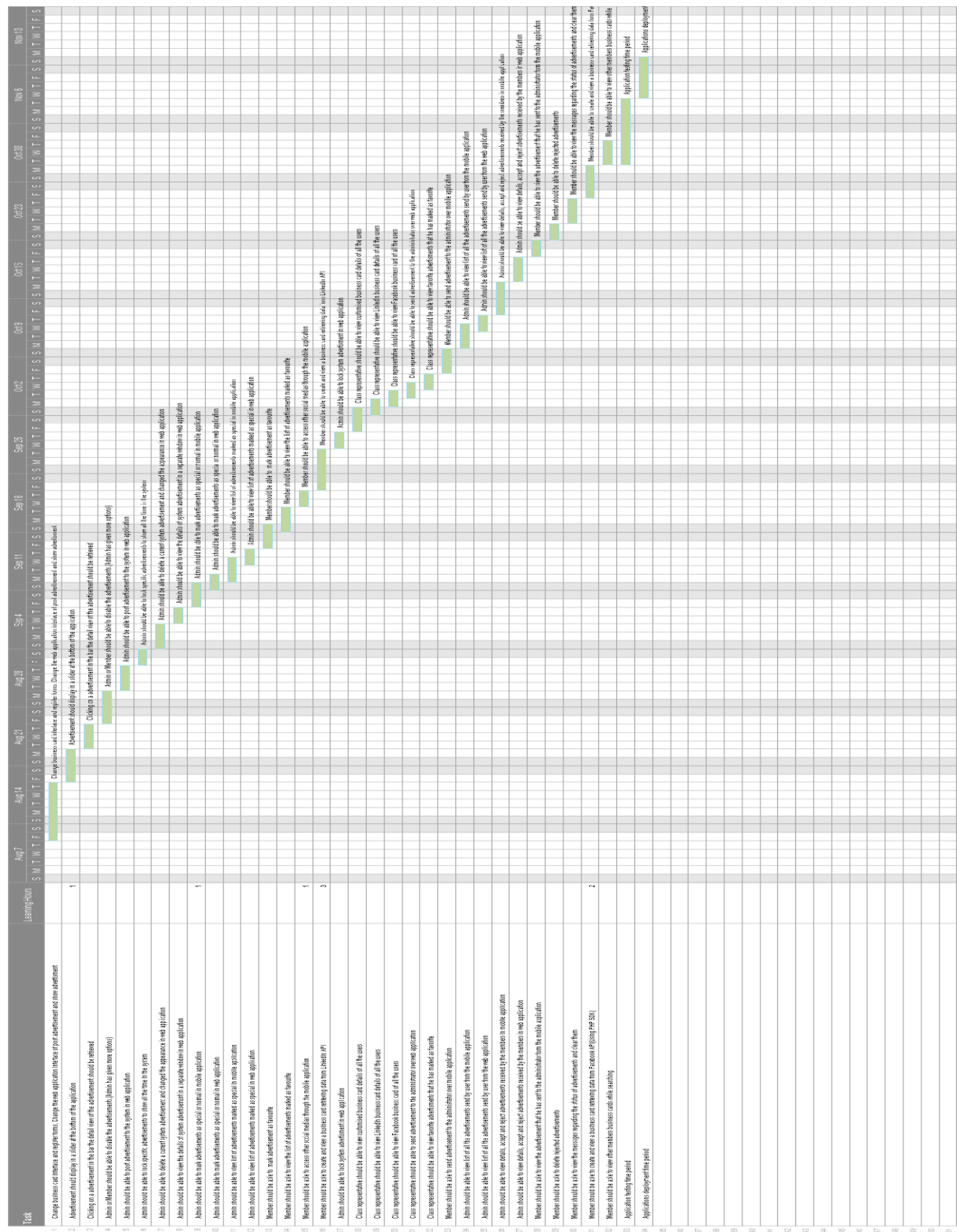


Figure 14 (Image can be zoomed to get clear details)

Interface Design

LinkedIn business card

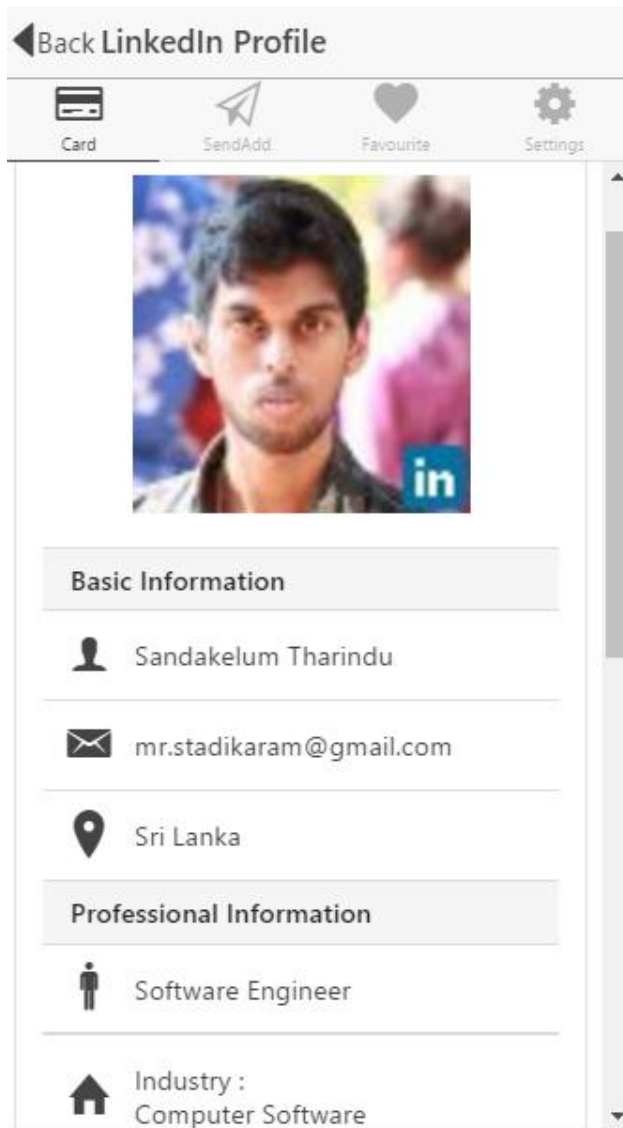


Figure 15

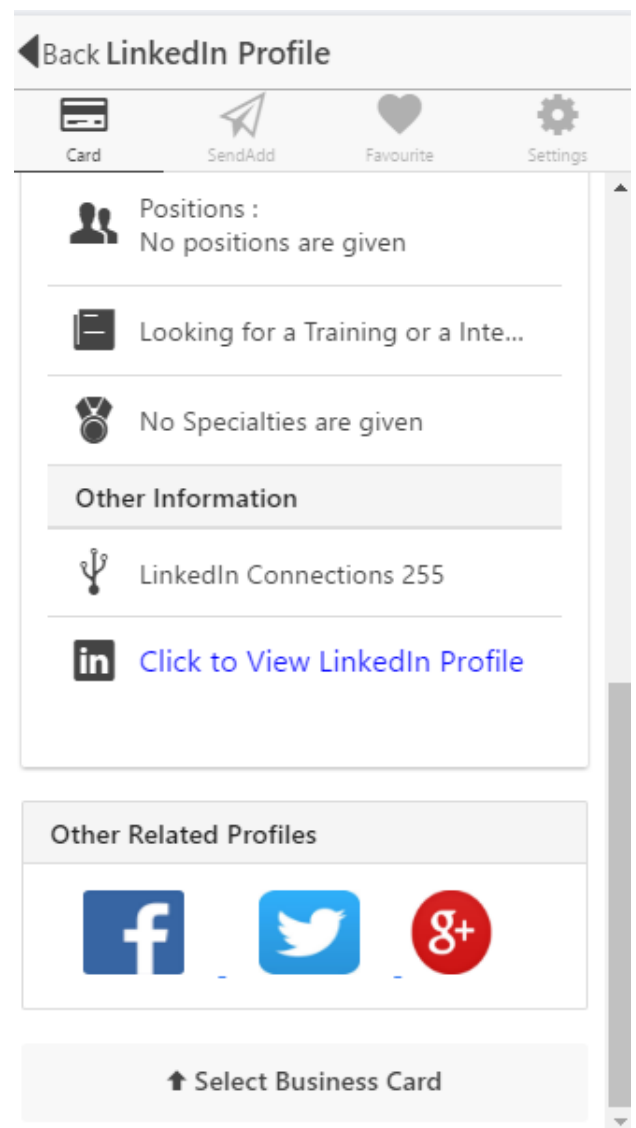


Figure 16

Facebook business card

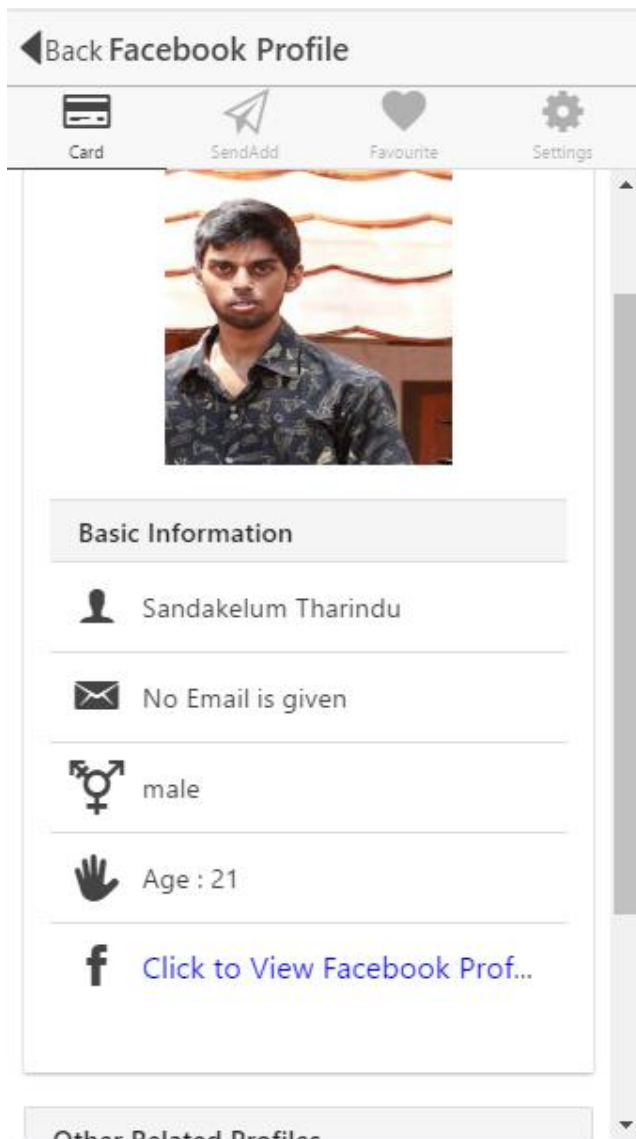


Figure 17

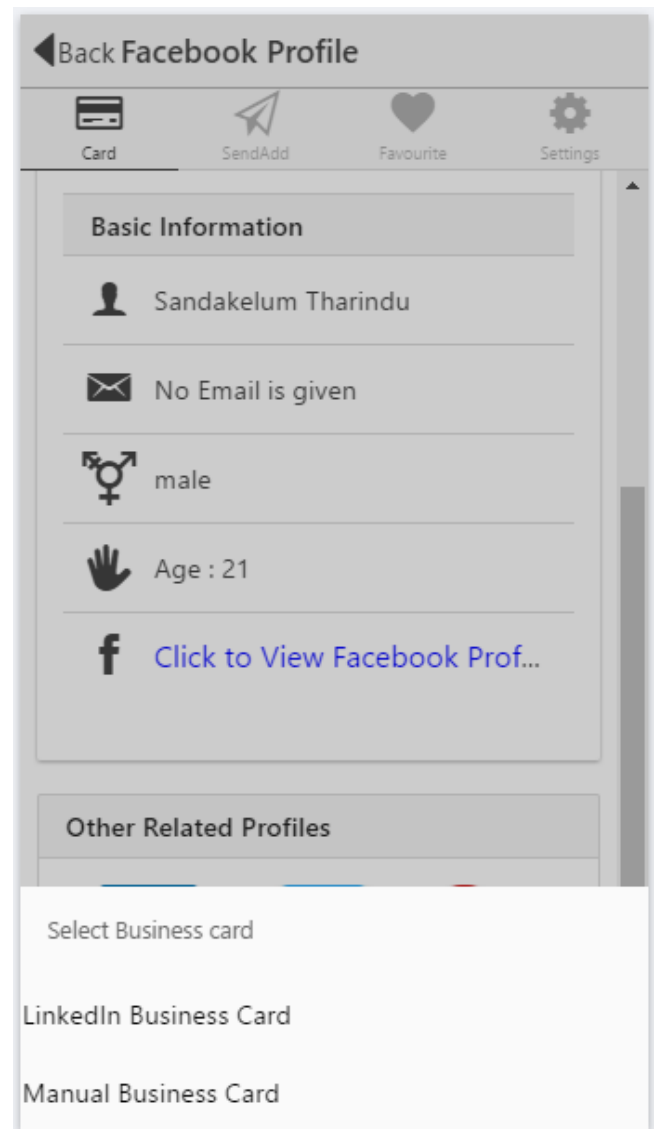


Figure 18

Note:

Figure 18 shows a situation when the action sheet is on.

LinkedIn Authentication Page



Note:

Because I have already authenticated the Authenticate button is not displayed in the **Figure19**

Figure 19

LinkedIn Authentication Page



Note:

Because I have already authenticated the notification is displayed in the **Figure 20**.

Figure 20

Members Settings Page

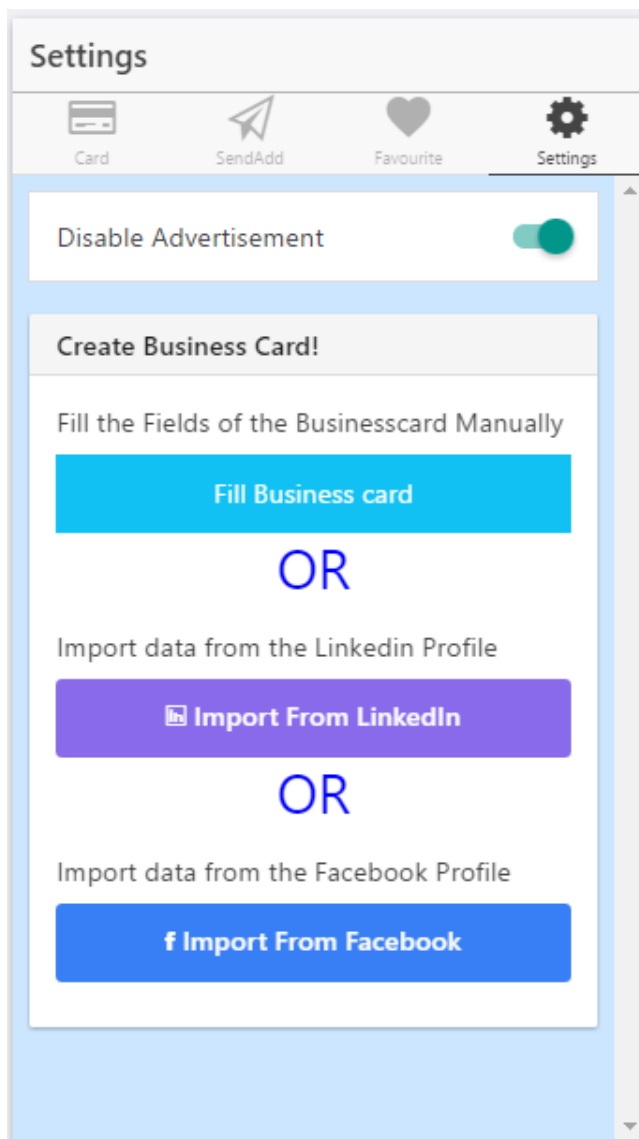


Figure 21

Administrators Settings Page

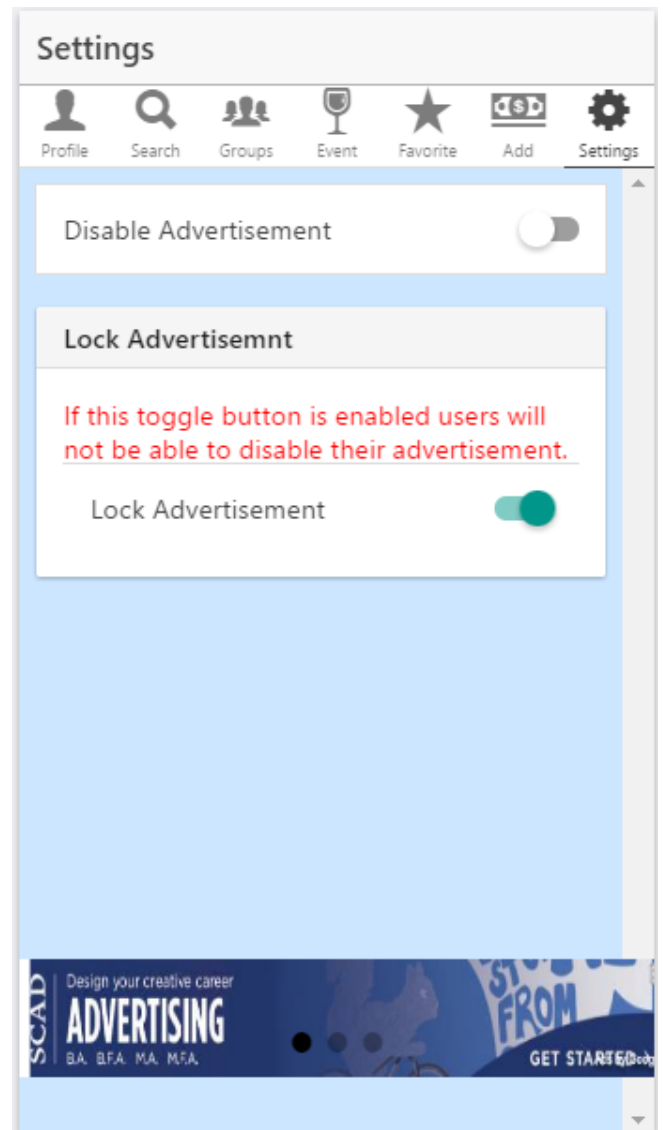


Figure 22

Note:

Because I have disabled the advertisement the advertisement bar is not appear in **Figure 21**

Members Advertisement Post

Send Advertisement

Card SendAdd Favourite Settings

Select Type

Choose File No file chosen

Description

Contact No

Email
sandakelum@gmail.com

dd/mm/yyyy

dd/mm/yyyy

Send

Figure 23

Members Notification Page

Back Advertisement Notification

Card SendAdd Favourite Settings

Clear Notifications

Padura

Your Advertisement is Rejected by the Admin

2016-07-24 20:03:07

Figure 24

Members Sent Advertisement

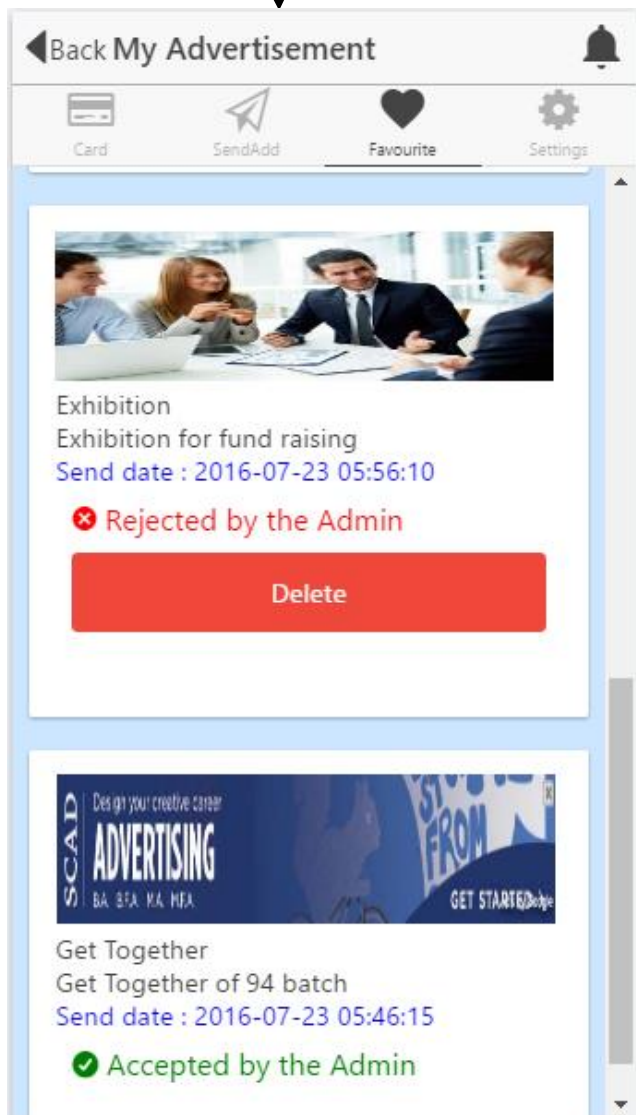


Figure 25

Members Favorite Advertisement

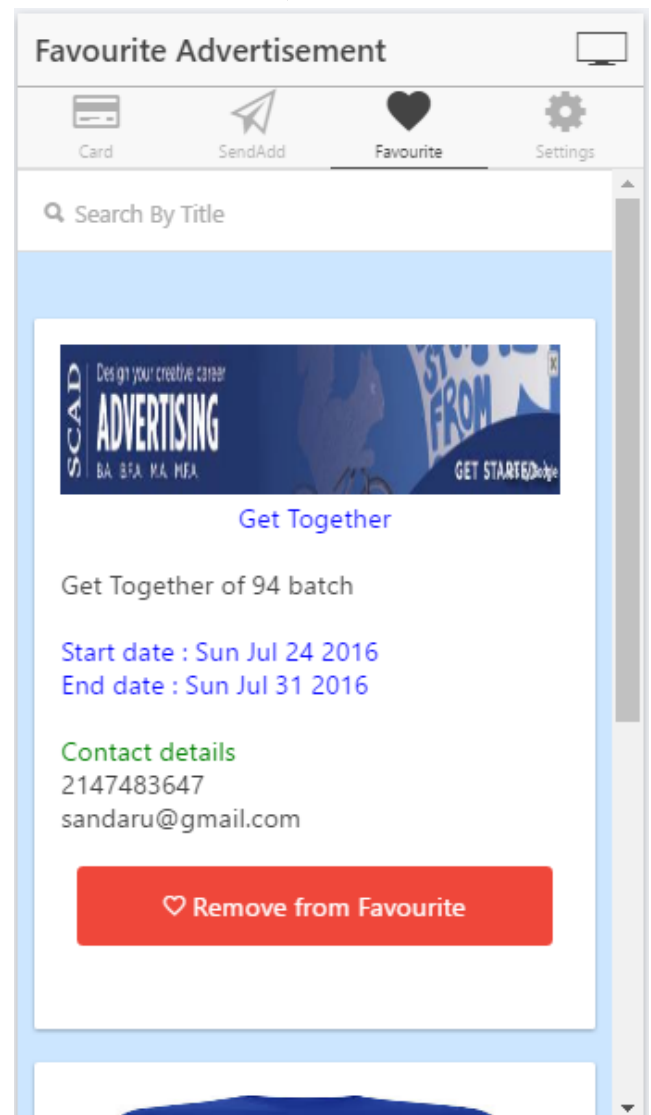


Figure 26

Admin Pending Advertisement

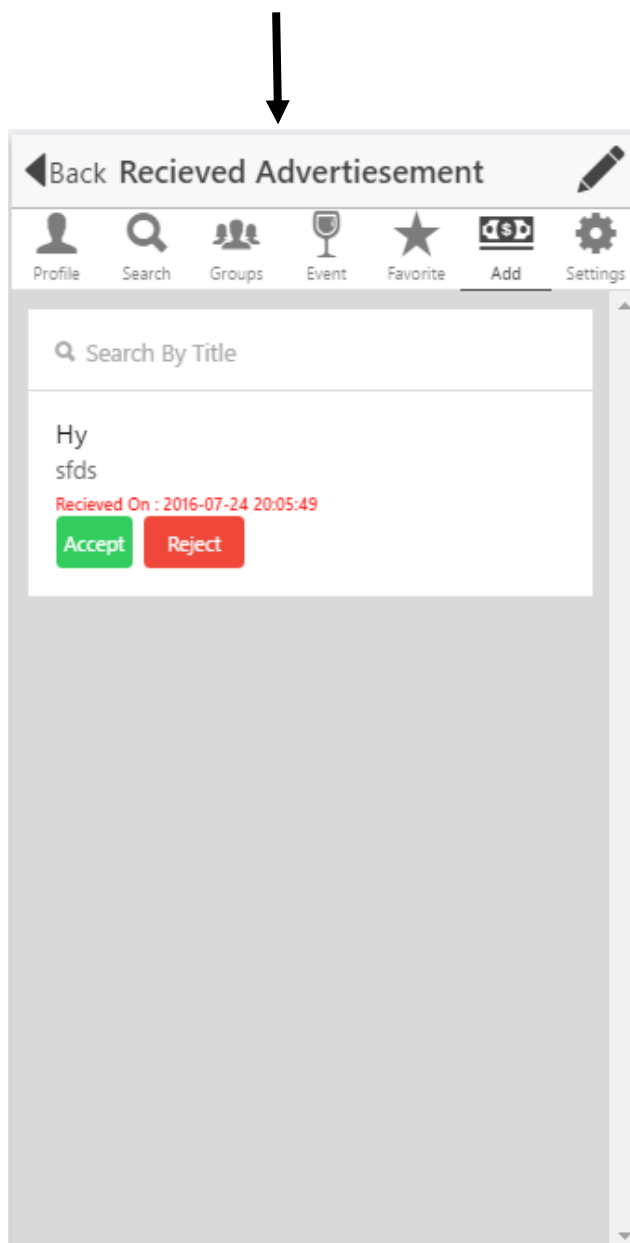


Figure 27

Admin Pending Add Details

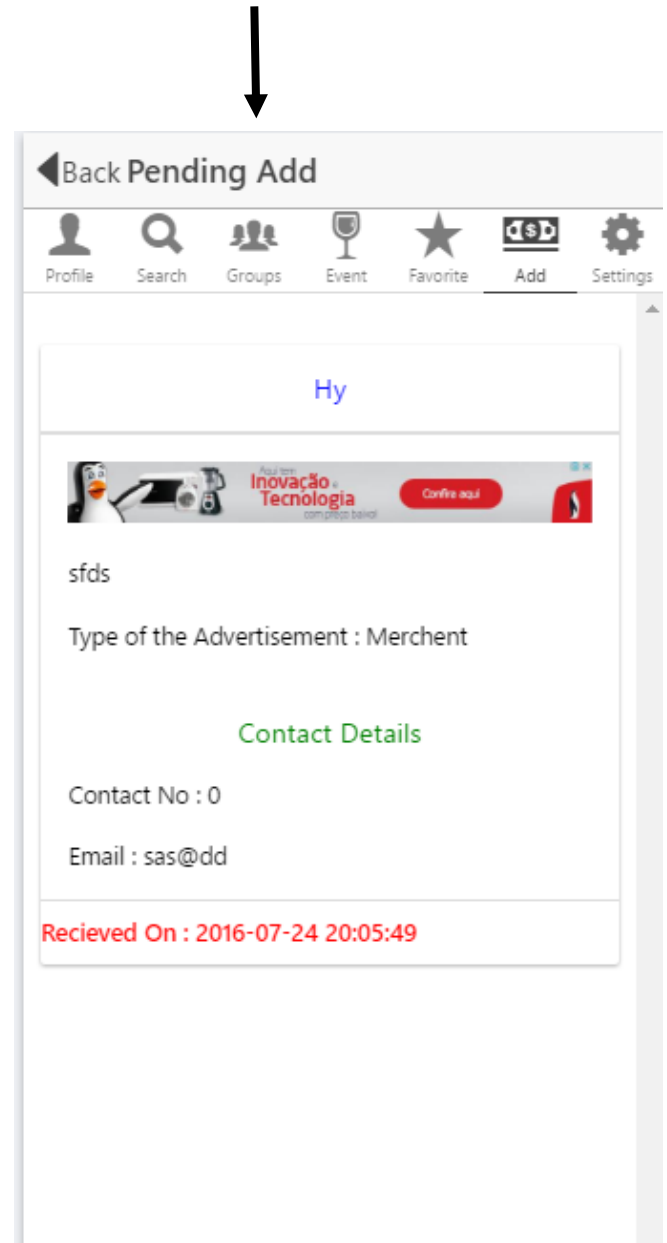


Figure 28

Admin special Advertisement

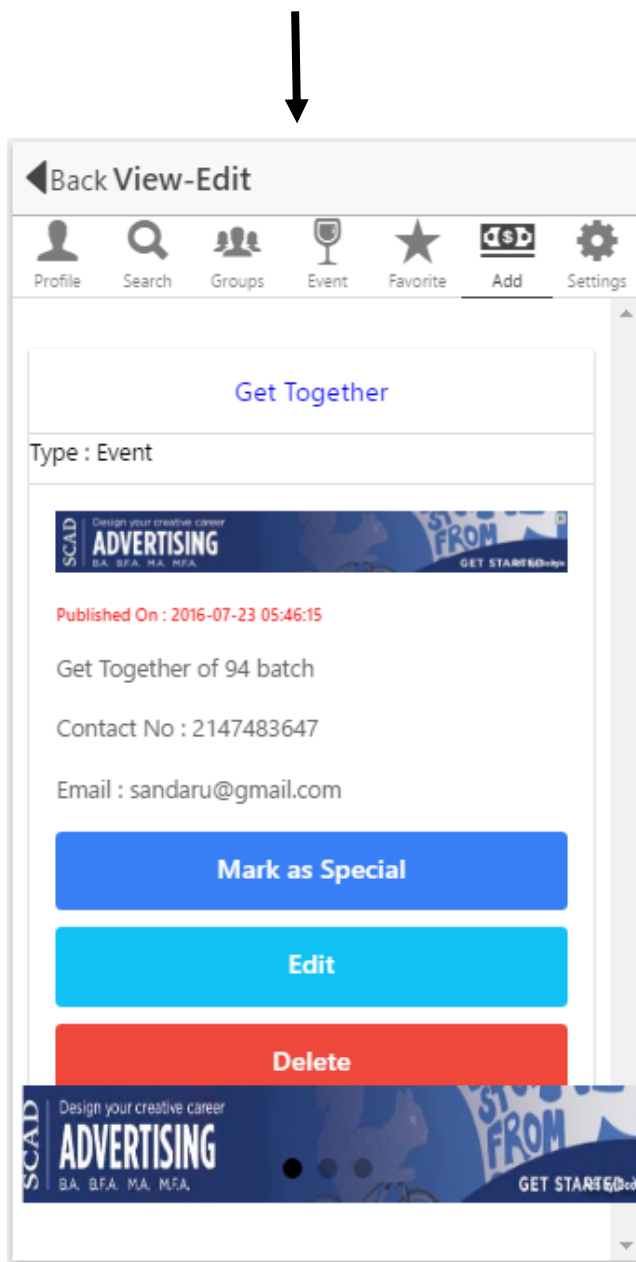


Figure 29

Slider Add Details

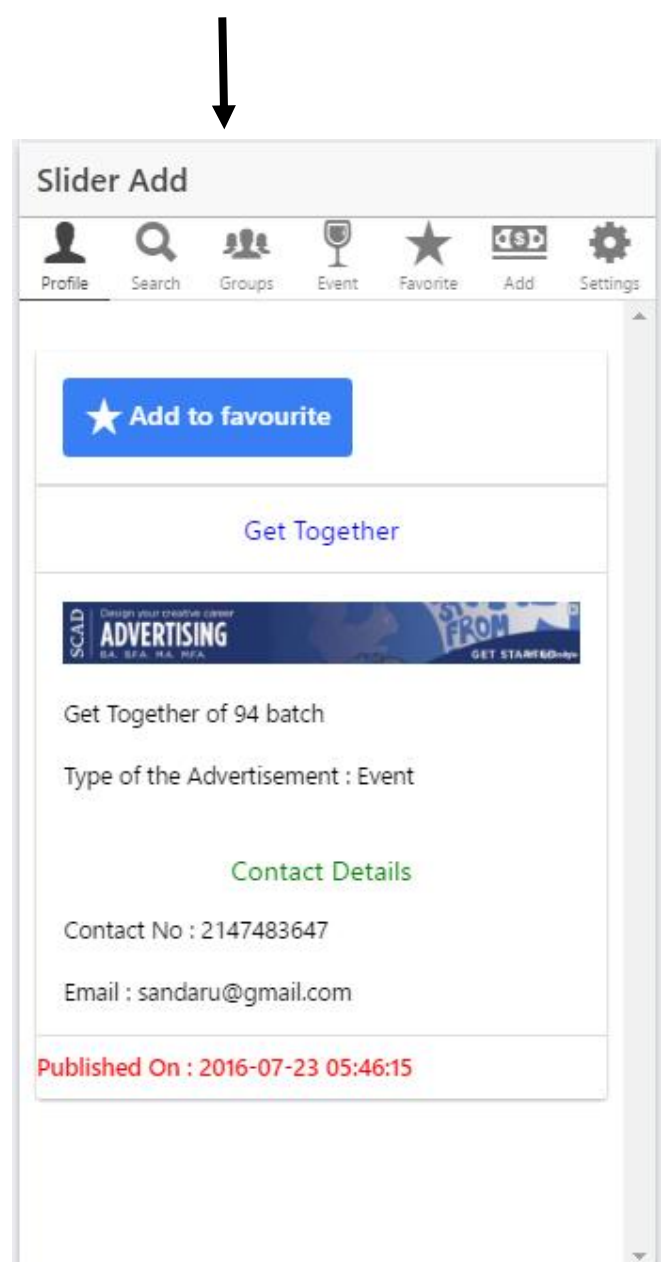


Figure 30

Admin Pending Advertisement in web view

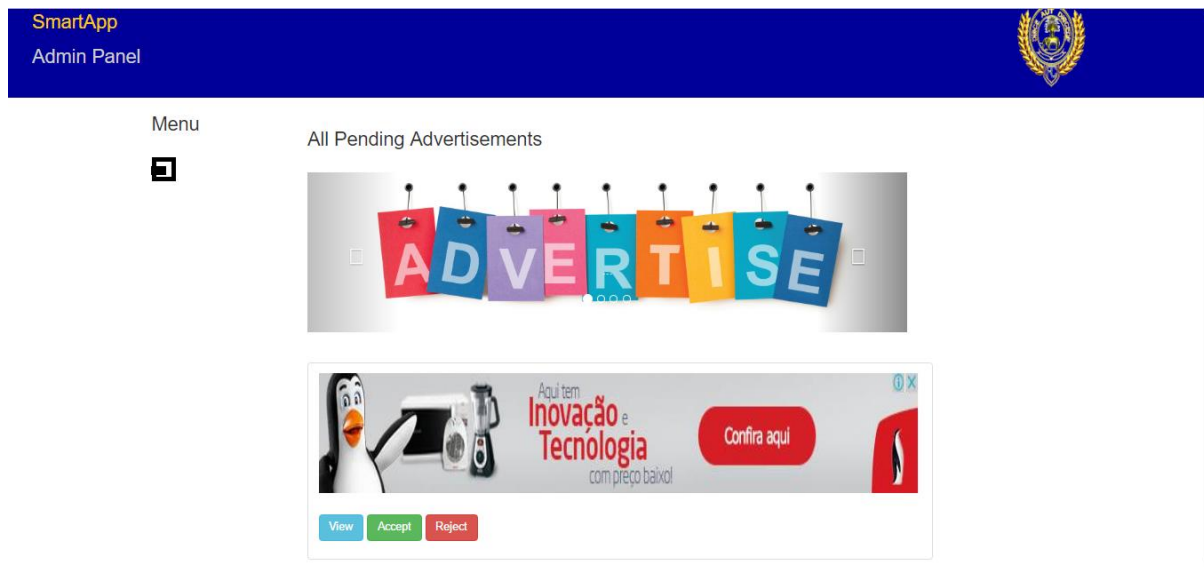


Figure 31

Special advertisement list with navigation bar in web view

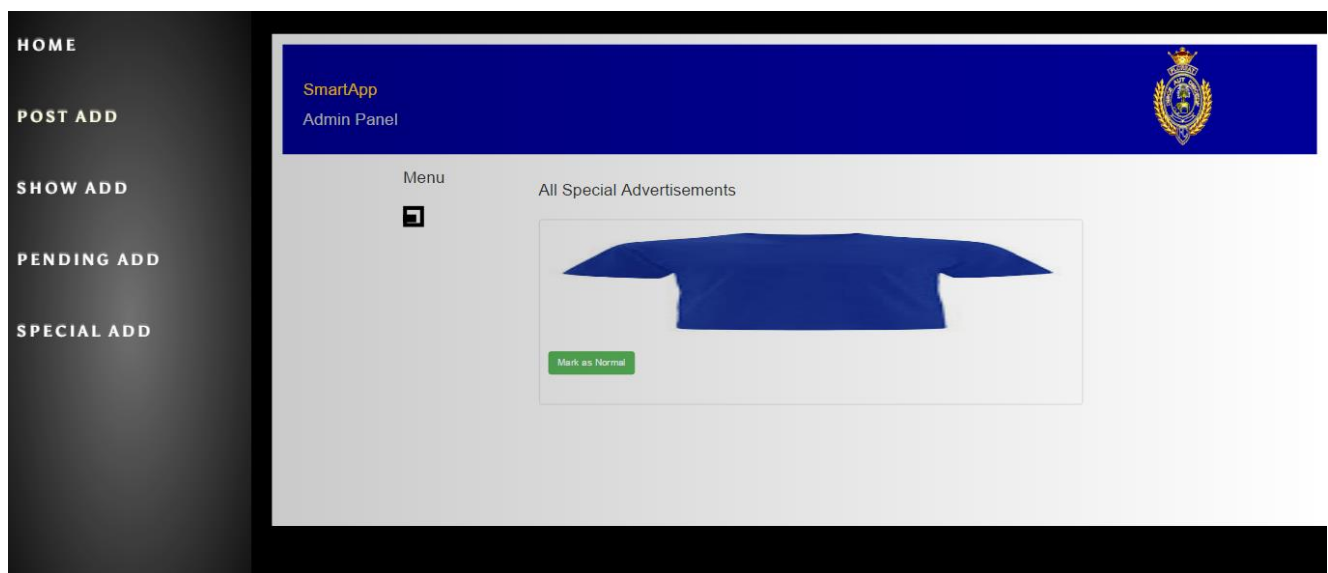


Figure 32

Note:

In the **Figure 32** it shows a situation which the navigation bar is on.

Detail view of current advertisement

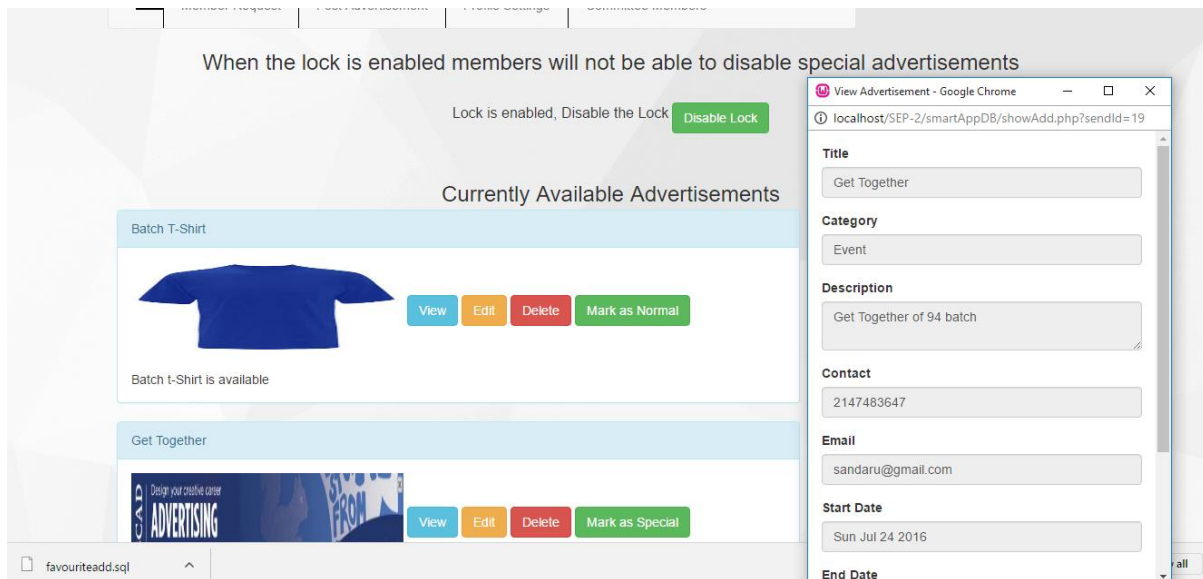


Figure 33

Note:

A situation when the view button is clicked in **Figure 33**

Class representative send advertisement

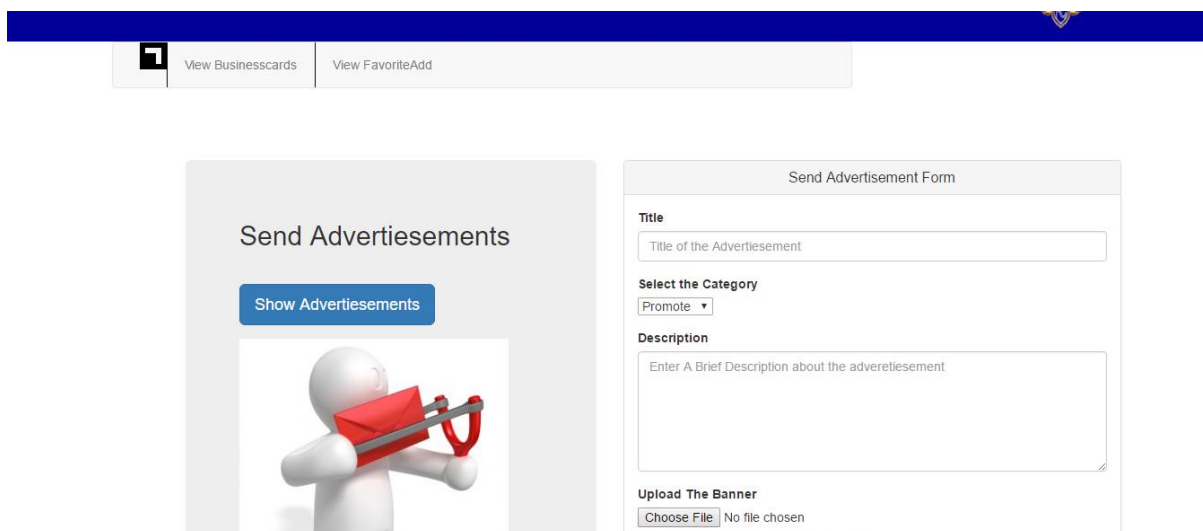


Figure 34

Class representative favorite advertisement list

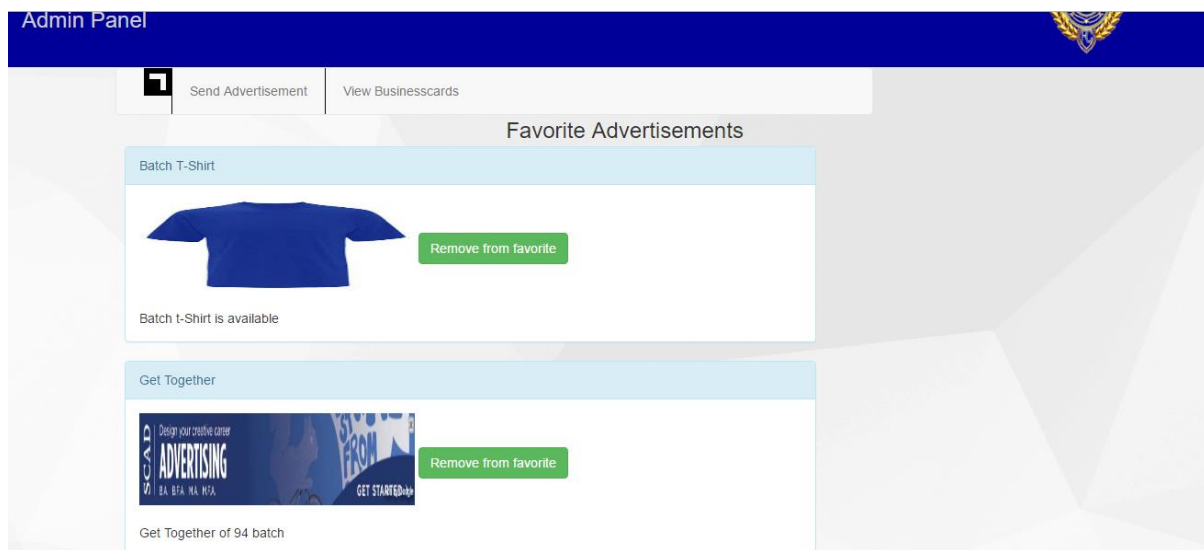


Figure 35

Class representative view business cards of users

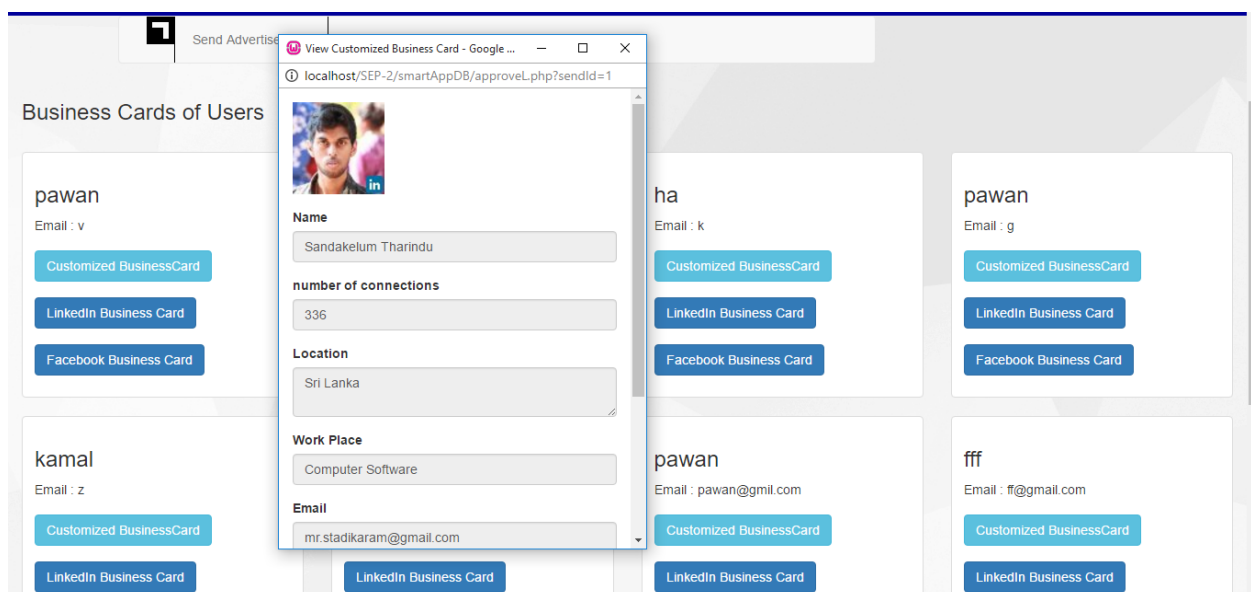


Figure 36

Note:

A situation when the LinkedIn business card button is clicked in **Figure 36**