



Asia Pacific College

School of Computing and Information Technologies

Intelligent Requisition of Integrated Solutions (IRIS):

An Email Marketing System (EMS)

In Partial Fulfillment of the Requirements for the Subject

Applied Project for IT-MI

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Executive Summary

Email Marketing or Direct Email Marketing is the targeting of customers that organizations make use of in managing and analyzing customer data and interactions through electronic mail (email). Deemed as a more evolved, digital form of traditional direct mail marketing, it aims to improve business relationships with customers, assist in retention of customers, and drive sales growth. Often associated with data mining, the marketing strategy aforementioned can be used to impact consumers in a variety of ways. In a typical email marketing scenario, an organization builds an email list to reach or inform established and prospective customers.

SM Hotels and Conventions Corporation (SMHCC) was established to address the vast potential of tourism in the country. It is now developing and operating hotels and convention centers all throughout the archipelago, alongside an approximately 14,000 other hotels nationwide. With a relatively increasing competition among service industries, the need for an effective direct marketing strategy is essential in promoting one's products and services directly to the customers who most need them. Hence, the need for an email marketing system that enables direct email marketing to target consumers.

The email marketing solution for marketeers, Intelligent Requisition of Integrated Solutions (IRIS), makes use of Electronic Direct Mail (eDM) that enables delivering of tailored content to target audiences by means of utilizing analytics. Hence, authors are able to track the number of opens, bounced messages, email responses and click-throughs. With the use of analytics, customer preferences will then be known through the pages a customer visits within the organization's website. The system is designed to send emails to target audiences according to their interests with regards to the facilities or products the hotel has to offer. This information is particularly useful in refining target markets and assisting customer retention.

Chapter I

Introduction

1.0 Introduction

1.1 Project Context

SM Hotels and Conventions Corporation (SMHCC) was instituted with the purpose of attending to the vast potential of tourism in the country. Alongside an approximately 14,000 other hotels nationwide, it is now developing and operating hotels and convention centers all throughout the archipelago. With a relatively increasing competition among service industries, the need for an effective direct marketing strategy is essential in promoting one's products and services directly to the customers who most need them. Hence, the need for an email marketing system that enables direct email marketing to target consumers.

With regard to IT marketing strategies, email marketing or direct email marketing is the targeting of customers that organizations make use of in managing and analyzing customer data and interactions through electronic mail. Deemed as a more evolved, digital form of traditional direct mail marketing aiming to improve business relationships with customers, assist in retention of customers and, drive sales growth. Often associated with data mining, the marketing strategy aforementioned can be used to impact consumers in a myriad of ways that may result to a more personal bond between businesses and its target consumers.

Organizations typically create an email list to reach or inform established and prospective customers to promote their products and services. In the event that an email list is complemented by a marketing database, advantages such as customization, data mining, and precise targeting are all enabled. With an iterative process of data collection and analysis, business decisions are made contingent on customer feedback from analysis and consequent decisions refined previously.

The email marketing solution for marketeers, Intelligent Requisition of Integrated Solutions (IRIS), makes use of Electronic Direct Mail (eDM) that enables delivering of tailored content to target audiences by means of utilizing analytics. Hence, authors are able to track the number of opens, bounced messages, email responses and click-throughs. With the use of analytics, customer preferences will then be known through the pages a customer visits within the organization's website. The system is designed to send emails to target audiences according to their interests with regards to

the facilities or products the hotel has to offer. This information is particularly useful in refining target markets and assisting customer retention.

It is of utmost importance that the stakeholders will be supportive and not reluctant in providing the project developers essential information as the organization as an entirety is expected to benefit the most in the implementation of the project.

The benefits of the project are improvement of guest experience, broader audience to send promotional emails to, seamless integration to other information systems used by the client, less workload for marketeers, as well as reliable sending of promotional contents to target audiences.

1.2 Purpose and Description

The overriding purpose of this project is to build an email marketing system for SMHCC that will be of importance to the client by means of becoming a tool that applies direct marketing methodologies that will help assist in customer retention, make its target audience wider, and eventually drive sales growth. As a result, the system aforementioned may serve as a comprehensive strategy used by the organization to acquire, retain, and partner with both existing and prospective customers to create superior value for the organization and its customers.

The system enables sending of tailored emails to prospective and existing customers. The emails are made contingent solely on the customers' preferences. This is made possible through applying analytics to distinguish different preferences derived from the web-visiting patterns of prospective customers, and gathering existing consuming habits of established customers from the client's current database. Moreover, the application enables report generation that provides an analysis on customer's web usage. This information is useful in refining target markets and optimizing future content as a result of an effective marketing strategy.

1.3 General Objectives

The general objectives are to conduct a thorough and in-depth research regarding the current email marketing system of the organization so as to come up with solutions that will be of importance to the client's existing information systems, and to design an EMS, with eDM as its primary feature, that is compatible with the existing systems of SM Hotels and Convention Corporation (SMHCC).

1.3.1 Specific Objectives

- To create a system that determines the number of web visits of prospective and existing customers so as to identify customers' preferences.
- To provide templates that will be used for promotional emails.
- To create a messaging module that enables delivering of tailored contents to target audiences that are contingent on customers' preferences.
- To create a tracking module that tracks number of opens, email responses, bounced messages, and click-throughs.
- To create a report generation module that provides email and web-visit reports.
- To create a system that has database connection to other information systems of the organization.

1.4 Scope and Limitations

The developers formulated the scope and limitations of this project to identify the boundaries of this study. The scope of this project includes the following:

- The system will send emails to target audience that are contingent on their preferences.
- The system will determine preferences of prospective customers through their web-visiting patterns.
- The system will track web visits so as to determine the most-visited pages as well as the least-visited ones.
- The system will keep track of email activities such as opens, bounced messages, forwards, email responses, and click-throughs.
- The system will enable marketeers, who are the target end users of the solution, to manage events that will serve as contents of emails sent to customers.
- The system will generate reports from the data collected from its processes.
- The system will determine whether a web-visitor is an established or prospective customer.
- The system requires internet connection; otherwise, accessing the system does not take place.
- Only those authorized are capable of modifying records.

The study focused on web-based system development. Therefore, one limitation of the system is that it does not include implementation of a mobile application. Another is that it will determine prospective customers' preferences through the prospects' web-visiting habits alone. Also, the system is capable of determining whether a web-visitor is an existing or prospective only when they register or sign up as it will only be possible when a web-visitor provides an email address. Lastly, tracking of web-visiting patterns will begin only when a web-visitor has logged in.

Chapter II

Review of Related Systems

2.0. Review of Related Literatures or Systems

This chapter presents the related systems after the project developers' thorough and in-depth research. This will also present the synthesis of the art for better comprehension of the Email Marketing System (EMS) to be implemented.

2.1 Existing Customer Relationship Management

One system developed that has been deemed an on-demand Customer Relationship Management (CRM) is the Salesforce cloud. It is a Customer Relationship Management (CRM) suite offering solutions for organizations of all sizes, that focuses on sales and support. The Salesforce application has features including partner relationship management, marketing automation, customer service, and sales management. The capabilities of the application aforementioned help organizations track sales leads, conduct and monitor marketing campaigns, manage customer accounts, and provide service post sale. (Dudovskiy, A Brief Literature Review: Customer Relationship Management, 2013)

Salesforce for Outlook enables users to synchronize contacts, calendars, emails and tasks. Salesforce allows users to track sales deals, manage contacts, tasks and events, harvest leads and track performance. The Salesforce enterprise edition layers in call scripts, team-selling functionality, custom applications, business workflow, setup approval and automation, Application Program Interface (API) integrations, and a lot more functionalities considered useful in every organization. (Dudovskiy, Salesforce.com CRM Software, 2013)

Another system is Pipedrive. It is a web-based sales CRM and pipeline management solution that enables businesses to plan sales activities and monitor deals. Built using activity-based selling methodology, Pipedrive streamlines every action involved in converting a potential deal into a successful sale. As a cloud-based application, the solution is accessible from anywhere using any web browser or dedicated mobile application. In addition, Pipedrive provides sales personnel full visibility of different sales pipelines. A robust interface displays the progress stages for each deal with the complete details for next actionable items. Moreover, Pipedrive offers custom sales reporting tools to analyze sales data, generate visual reports, and

monitor individual and team level targets. (Do you find it hard to keep track of all your deals? Pipedrive get your sales organized, n.d.)

Deemed as one of the most reliable mobile CRM is Helpshift. Its primary functions involve enabling customers to self-serve with native in-app FAQs - making a reply from an agent unnecessary, proactively sending a push or in-app message to every customer who has downloaded the client's application, as well as personalized support.(Wieberneit, 2017)

According to iDatalabs, 4,701 companies are using Siebel CRM solutions by Oracle. It is considered the world's most complete CRM solution which helps the organizations achieve maximum top and bottom-line growth and deliver great customer experiences across all channels, touchpoints and devices as exactly defined by Oracle. Its main purpose is to handle sales, relationship with the customers and its business partners to have a sales opportunities in premier enterprise. (Siebel Customer Relationship Management, n.d.)

Less Annoying CRM caters to the needs of small businesses, with various configuration options, cloud-based deployment, as well as a dashboard wherein an overview of projects, files, contact information, and other necessary information are made visible. Offering applications for contact management and Sales Force Automation (SFA), it enables businesses to consolidate customer information that is made accessible to the entire organization. The system's modules are task management, lead tracking, note taking, and calendars. It also has configuration options enabling users to customize sales processes and lead definitions to best align with the user's own business processes and industry needs. (Less Annoying CRM Pricing, Features, Reviews & Comparison of Alternatives, n.d.)

NetSuite is a CRM solution delivering a real-time, 360-degree view of its client's customers. It enables a seamless flow of information across the whole customer lifecycle - from lead all the way through sales order, support, opportunity, fulfillment, renewal, cross-sell, as well as upsell. In addition to offering standard CRM functionalities, marketing automation, and customer service management, NetSuite CRM delivers sales forecasting, order management, and other ecommerce features. (NetSuite is #1 in Cloud ERP, n.d.)

Claritysoft is primarily developed for midsize and large business enterprises. It features customer service and support, sales and marketing automation, as well as social CRM within one application. It also features a contact management module which enables users to import contact lists from various sources. It also has a feature wherein

users are allowed to view contact location in Google Maps, which is helpful in planning sales routes for sales representatives. The email marketing functionality enables users to design email templates and pull contacts from contact lists based on filters and preferences. Moreover, the application allows users to access their stored CRM data in the software's offline mode, then sync changes with the cloud when the software is online again.(ClaritySoft CRM Software, n.d.)

Top Producer is a web-based CRM solution suited for small companies in Software or IT industries as well as in the Real Estate. The system allows users to manage their clients from initial contact to closing. The application enables users to receive lead notifications via text or email. It also features a countdown clock which starts working as soon as an inquiry or request comes in. In addition, it has a follow-up coach feature assisting users to stay on top of current clients through suggesting appropriate touch points. Users can create personalized emails from templates and send monthly branded newsletters whenever necessary. Moreover, Top Producer CRM solution is compatible with various systems used by today's agents. (Top Producer, n.d.)

CallProof is a sophisticated CRM software with myriad of features that efficiently organize every facet of the sales process. Unlike numerous of CRM solutions made available today, this system is fully web-based, and is optimized for companies that utilize a team of sales representatives in the field. It has a feature that enables the application to work seamlessly from any smartphone, as well as almost any device with Internet capabilities. The system is considered unique and essential as it takes an automated approach to sales. When a meeting with a client or prospect is set, the organization's sales representative will check in to that client's location. This check-in will then be logged as an interaction with the client, and is automatically entered into the client's profile. Calls with clients are also recorded as an interaction within the system. Sales managers use a map interface that allows tracking of current location of each member of sales team. This process assures users that all interactions are recorded. Thus, improving data quality and minimizing the work of sales teams. (Mobile App for Field Salespeople, n.d.)

SalesNOW is a cloud-based CRM solution that can be used on any connected mobile device via web browser. The system offers applications designed specifically for devices that are of much prevalence in organizations. The application features lead management, contact management, company tracking, sales forecasting, and analytics dashboards. It also includes features that enable users to take sales notes, log calls, as well as capture emails automatically; keep corporate account histories of clients in order to train new employees; view activities of sales representatives and various sales data, including next steps on leads and deals. Moreover, the system also allows users to

customize reports and data fields, and provide graphical representations of sales forecasts and activity reports. (SalesNOW, n.d.)

LeadMaster is a lead management solution that offers features enabling users to capture, track and follow up with leads. The solution comprises of several modules for CRM, sales force and marketing automation, as well as business analytics. The solution is used across a wide range of large and midsize industries. Other functionalities the solution has are workflow automation, email marketing, marketing analytics, lead nurturing, and a virtual call center. In addition, LeadMaster integrates with a variety of useful tools used by organizations. (LeadMaster, n.d.)

PipelineDeals is another CRM solution enabling users to manage contacts, qualify and track leads. The application provides both CRM and sales engagement while providing real-time deal status updates, daily pipeline snapshots, and 3D charts on a sales dashboard. With this software, users are enabled to access pages containing a wide range of activities, people, documents, as well as events related to a single deal. In addition, the system sends emails that are easy to track, so users know when someone opens a message, downloads an attachment, or clicks a link. It also allows sales associates to import existing data in bulk from other CRMs while PipelineDeals scans for data redundancy. (Pipeline Deals: Smart Selling Made Simple, n.d.)

BNTouch Mortgage is a mortgage-specific CRM solution offering mortgage bankers and brokers alike a robust as well as dependable solution offering advanced marketing automation functionalities. For each step of the mortgage process, the application offers suitable features- beginning from appropriately marketing to prospects, clients, and partners, until the completion of the loan application process. Moreover, the system can deliver an end-to-end solution providing content, features, and functions that are tailored to fit mortgage industry terminologies.(BNTouch Mortgage CRM Software, n.d.)

Marketing 360 is a marketing platform suited for entrepreneurs as well as small and midsize organizations. The system allows organizations to conduct search engine programs, analyze digital marketing performance, as well as run social media advertising campaigns. In addition, the system provides website templates that are customizable with the use of drag-and-drop feature. It also has a feature that aims to improve websites' search results by tracking keyword volume. Moreover, it analyzes competitors' SEO performance with the same keywords in real-time, providing useful conversion

rates. Another feature enables organizations to segment and target clients on the basis of social details. (Marketing 360, n.d.)

As stated in Software Advice, Infusionsoft is a CRM software used to manage customer relationships and generate new leads for small and medium companies. It is recognized as an “all-in-one” CRM software as it is providing different features that a CRM tool should have, including sales and marketing automation tools to track new possibilities. In addition, users of this software can collect and save both online and offline transaction. (Infusionsoft CRM Software, n.d.)

BlueCamroo is a cloud-based CRM software that helps companies build better relationships with the customers and organizations. By the use of this software, users will be kept updated with the growth of the company. Also, it can cater bills and payments online that will make the transaction faster(Matthews, BlueCamroo CRM, 2016).

Maximizer CRM is a cloud-based application which can merge with different business applications such as Microsoft Office, Outlook, and Exchange. It is accessible to users because of its in-house databases that make data secure, and access to the customers' records immediate. (Maximizer CRM Review, n.d.)

Hatchbuck CRM is an inexpensive and easy-to-use software that can be used by small companies. The system makes tracking of deals faster. The system may help small companies be independent on endless records. Thus, generating faster transactions with the customers. (Bohn, 2014)

According to Lansdale Group, Pivotal CRM allows the user to integrate all customer related transactions that will lead to better sales, marketing and customer services. It can be merged with different Microsoft tools such as Microsoft’s Outlook, SharePoint, and Office.(Pivotal CRM Solutions, n.d.)

According to Smallbizcrm.com, Cynergy Help Desk is the most preferred software of support-center organizations. Its features enable holding different needs of the customers and linking to different databases and system management tools including scanning and asset management. (Cynergy Help Desk , n.d.)

eWay-CRM is a software integrated in Microsoft Outlook that is specifically built to aid companies on how to handle businesses. The software solution can manage email communications, arrange contacts, and projects. (Matthews, e-Way CRM , 2016)

1CRM is a software that allows arrangement of business the way users intend to. It can be mixed with different tools like Google Apps, Facebook, and Wordpress. Also, it allows users in the business to access the same information within a single platform for a faster response to customer service. (Louis, 2016)

The KNOVA KM CRM is supporting the customer's telecommunications, financial services and IT help desk to find a solution for customer issues immediately. The service offers ease of use for the managers and users to have a detailed context and intent about customer problems. It not only focuses on satisfying the customer needs, but on different functionalities as well, such as on resolutions where you can search anything and find a resolution. The value and customer satisfaction function brings resolution immediately and accurately.(KNOVA KM, n.d.)

The nutshell CRM is a mobile CRM that has a few features like instant access to a mobile device, multi-tasking for faster transaction, simple interface for the users, and a mobile business card scanner that allows creating new contacts with a single button. This application can be managed on a mobile device anywhere and on the go.(Nutshell CRM - Mobile CRM, n.d.)

Infoflo CRM is one of the simplest CRM solutions where a manager can access all the data in just one click and monitor all the business relationship with the customers. All the information is automatically shared and synchronized to a specific contact or company. Infoflo allows users to track leads, reviews and sales growth for a good business solution.(InfoFlo CRM, 2017)

Relenta is an automated CRM for email, contact manager, email marketing and calendar for a company. All the data from email accounts and user inboxes with all the customer information in a browser and application. Emails that shared with any company or person are saved permanently on a CRM record and the contact timelines, it shows the completed tasks and email marketing history in a team and creates a chronological order for each customer relationship. (Relenta CRM, n.d.)

Bitrix24 CRM provides an interaction with new and existing clients, to connect smoothly and integrate the contacts. The reports are generated by carrying out analysis and import/export contacts to the customers as requirements. A dashboard is a picture of report for sales activities and to view the deals, leads and invoices. (Bitrix24 CRM, 2012)

GoldMine CRM has different features like email linking for sending consistent emails to the customer and web and mobile access for the convenience of the

customers in accessible platform. Sales forecasting and opportunity management to monitor the sales activities and business leads. GoldMine is a cloud based solutions for the seamless storage that will process the data privately and to secure the user information. (Ivanti, 2017)

Prophet CRM is a set of different systems that is installed in MS Outlook for the data and activities that the business conducted. Sales automation is designed to allow the managers to keep track of sales and reduce the repetitive tasks in notifying sales. It has a mobile CRM integration for synchronization of emails that is accessible on any device. Reports and analytics feature has capabilities of tracking, analyzing and generating sales and performance reports.(Prophet CRM, n.d.)

Soffront is one of the pioneer CRM solutions in the market with key features of sales automation to track the leads and products, email marketing for faster advertising of the events and sales, customer service management for the problems that customer encounter and for coming up with a solution, and employee help desk for technical support of the employees. Soffront CRM is one of the most user-friendly and customizable platforms and has the best practices for utilizing the features of customer relationship management.(Soffront CRM, 2017)

InStream focuses on interaction tracking, lead management, contact management and social media integration. With these features, the InStream CRM is capable of monitoring, synchronizing and helping the customers set appointment effortlessly. The software allows the users to have a more reliable medium of communication to set a meeting and events efficiently. (Instream CRM, n.d.)

Contactually is the best CRM that suites the requirement of a project. It has features where email templates are customizable enabling emails to be sent faster. It can also send bulk emails all at once. In addition, the CRM has an intelligent technology for making new templates for the client the user is conversing with. (Contactually, Inc., 2017)

Nimble CRM is a CRM that works easily in merging, searching, sorting and pulling off contacts to create a more personalized and unique profile for each client. It also has a feature wherein in just a one tap, users can make calls, send emails and text messages, use maps, social networks and websites. The system also efficiently handles communications documentation.(Nimble CRM Review, n.d.)

Hubspot is a CRM that caters the inbound marketing of the company. It has features that help improve the analytical processing of marketing investments. Hubspot

has a feature that can track emails and manage multiple accounts from the same application. (Robb, 2016) Hubspot can also be used to visit websites, do blogs, and monitor tags of the company name in social media.(Hubspot, Inc., 2017)

Insightly CRM is one of the top CRM solutions in the market. It is a powerful CRM that is integrated with Google features. Insightly establishes customer relationship and project management in just one application. It automatically finds contacts in the user's social network accounts. In addition, the system can also be a collaboration tool to see the team's email, notes, and tasks. In doing some task management, advance reports and other work needs can be easily handled by this software solution.(Guay M. , Insightly, 2014)

Podio CRM claims in having all the functionalities users want to run in business. It has its own social network and chat feature improving communication with the whole company. Also, it has a web and mobile application for ease of use.(Guay M. , Podio, 2014)

Track Via is a mobile-based CRM that is easy to use. It uses a mobile workflow management platform that quickly transforms enterprise operations, processes and business data into the application. This CRM makes the office work easier. Tasks such as adding relationships to link data, filtering and sorting data, and calculating the values in forms to add data automatically is performed easily using this application. Creating reports and dashboards are also one of its features. Track Via uses roles to know who is authorized to see specific confidential data. It has its own database where it can store all the data imported by the user.(Guay M. , TrackVia, 2016)

Odoo CRM is an open-source multi-functional CRM. This CRM has a high rating in terms of the comparison of lead management, lead acquisition, sales pipeline, relationships, sales, marketing, reporting, productivity and usability, and user interface. It claims that users can run everything in business with the use of Odoo CRM alone (Guay, 2014). Also, it can generate accurate forecasts. (Odoo CRM, n.d.)

According to Conrad, A. and Wood, C. in Captiva Website, one good open-source CRM is Zurmo. It is one of the famous open-source CRM solutions in the market. According to a review in financeonline.com, this CRM can be customized according to the preference of the user. Also, it makes the import and export of CSV and other formats easy. In addition, it improves the interaction and communication with its clients. Moreover, it can fully automate the cycles and processes of the sales department. Zurmo CRM has a lot of features that a CRM must contain so it is

considered one of the best open-source CRM systems. (The 10 Best Free and Open Source CRM Software Solutions, n.d.)

Agile CRM has capabilities of providing contacts, task and opportunity management, and tracking emails. Agile CRM also has helpdesk options and can create basic reports. In addition, it can organize online engagements with customers. The application has a smooth user interface that enables users to easily create reports and automations, as well as filter data fast. Agile has collaborated with Google, making use of its google calendar. Such feature is necessary for upgraded updates of the schedule of the user. The system's functionalities can address small businesses needs, despite the fact that it is free. (Wen, 2016)

Zoho is an online CRM System that helps sales and customer relationship improve. The following are some benefits of Zoho CRM: First, it automates daily sales activities reports which are customizable to meet the specific needs of the business. Second, it gives access to important data in real time because tracking tool, allows you to see where the customer is in the sales cycle and access data in its easy, accurate, and dynamic reports and dashboards feature. Third, it allows users to go mobile because it helps customers stay in control even while on the go because it has the capability of searching the customers nearby. Lastly, it integrates with Google Apps. Thus, connecting the application to Gmail, Calendar, Docs, Contacts, and Activities. (Angeles, 2017)

SkyCRM is a cloud-based software solution that boosts relationship between the suppliers and its customers, and provides information of the customers to the staff along with the past transactions details. SkyCRM allows the employers to handle schedules through the tasks list, calendars, and alerts. Also, it permits management to forecast the needs of future resources and sales. The users of SkyCRM can schedule meetings online and can open the leaderboards showing sales leaders. The members of the team are updated about sales performance through the automated email function of the application.(SkyCRM Software, n.d.)

The cloud-based CRM tool, ProsperWorks, saves user's customer data automatically. The document that is sent using email is stored in a contact's portfolio instantly. All past transactions, schedules, events, calls and meetings are recorded in the program. Activities can be seen in Gmail. The system's management feature uses the drag and drop functionality to control the users sales pipeline. (ProsperWorks CRM Software, n.d.)

AmoCRM sales management service can only be accessed using a network. The users can expand the capacity of amoCRM with the use of integrations and open API.

The functionalities of amoCRM includes allowing users to create unique tags to arrange contacts and deals; giving users an update on meetings, calls, and emails; and connecting directly to platforms like Dropbox, Facebook, Zendesk, and MailChimp. AmoCRM also has mobile application that can be downloaded in Playstore and App Store. The system also has a friendly interface that allows users to reduce time for contact handling, and control the sales process easily.(amoCRM Software, n.d.)

Capsule is an online CRM application that tracks all of the people the users have business with. It also resolves the customer's request using the ticket management module and provides personalized options to meet the requirements of different organizations, companies or businesses including the specified label and brands.(Capsule Software, n.d.)

Apptivo CRM has features of tracking activities, monitoring sales pipeline, and helping the desk ticketing. The application is customizable and user-friendly. It enables users to manage and track customers, contacts, orders, and projects. The Apptivo solution is mixed with the human resource, finance, and project management. In addition to its standard CRM capabilities, the application also has an accounting system and a reporting tool. (Apptivo, n.d.)

Salesbox is an intelligent, agile and mobile sales tool. It works in mobile, Outlook or Gmail, and in any computer. It helps users reach its target gap, so the user does not have to fret about what it takes to reach the target. Also, it inspects all the new items and records then compare it with other files to avoid redundancy. In addition to that, the application tracks the sales team performance, goals, accounts, revenue, and contacts. Moreover, the system has a feature allowing for report generation to take less than a minute. Users can also compare the performance of contacts with each other as it has records of every detail of the delivery and meetings, making the system record a complete communications history. (Salesbox, n.d.)

SalesJunction CRM is a web-based CRM and SFA Software. It is a dependable online CRM service that meets the requirements of the customers. This sales automation software keeps contacts and opportunities organized, and offers workflows to automate the sales process. SalesJunction states that data is safe and private using the SalesJunction CRM. It can handle the accounts, build pipeline, generate forecast, as well as share calendar and documents. Also, it is customizable for all types of industries. This software sends reports daily, weekly or monthly automatically, which ensures that the team members are always updated. The application can be accessed using a mobile phone or a computer, but the mobile application of this CRM is only limited to Apple

phones having iOS 4.3 and above. Thus, making it unavailable for Android devices.(SalesJunction, n.d.)

PeopleVine is available on mobile phones, tablets, and computers. It has over 2,500 features. It offers features that enables users to reach customers anywhere using email, SMS messaging, and through social media. Also, the application integrates with the API and can be used in appointments and reservations. (PeopleVine features, n.d.)

According to Software Advice, Constant Contact is a solution that includes email marketing, event marketing, social campaigns and reporting, survey management and offer management which are part of an integrated suite, Constant Contact Toolkit. It is beneficial to the small businesses in increasing sales growth and developing strong relationships with the customers. It allow businesses to import customer data from email clients such as Gmail and Microsoft Outlook.

SendinBlue is a software that automates marketing and provides transactional email services. It allows you to create engaging emails and select mobile-friendly templates to be sent to the customers. It has a simple pricing structure based on the number of emails sent. Also, it offers SMS campaigns to easily engage with the customers. (McLaughlin, 2017)

GetResponse is an email marketing application that allows you to import and host mailing list. Also, it allows you to create newsletters which can be sent to the subscribers of the mailing list, automate emails and analyze data that are related to email marketing campaigns such as open rates, forwards, bounce messages, etc. (Singleton, 2017)

MailChimp is an email marketing service that can handle vast number of emails for big businesses and organizations. It offers business-enhancing analytical features and strong technology tools that allow users to use email effectively to get in touch to both existing and prospective customers and market products and services of the businesses easily to gain actual sales. (Shivar, 2016)

iContact is a web-based email marketing solution that offers email design, list management, campaign management and social media publishing. It includes customizable email templates that can be used in sending emails as well as spam checking to reduce the chances of spam emails to be able to improve email deliverability. Also, it offers social media integration with Facebook, Twitter and LinkedIn which let the users publish contents in these websites. (Barron, 2015)

2.3 Automated Electronic Direct Mail

Streamsend is an Electronic Direct Mail (eDM) that has an advanced behavioral automation, trigger-based messaging and list segmentation. Also, Streamsend can share email to social networking sites. From one dashboard it can track email, social and video campaigns. Moreover, it has an email analyzer wherein it can run the email in 9 spam filter before sending it to the client. (Jones, 2017)

The existing Customer Relationship Management (CRM) solutions have features such as handling sales, lead tracks, and integration of information systems in a seamless flow to help the client determine customer's feedback. CRM solutions with Electronic Direct Mail (eDM) offer features such as sending and generating newsletter, handling mailing lists and triggered-based messaging, to mention a few. These functionalities keep customers updated on the campaign or promotions the organization has to offer.

The related literature and systems and their corresponding functions aforementioned may all be considered necessary in the development of IRIS. Streamsend CRM is an application that resembles the system to be implemented. It has much similarity with the project, including its functionalities and features that a typical CRM has. However, the project to be developed has more functions of relevance with Electronic Direct Mail (eDM) that makes it unique and important in the organization. These features include responses and click-throughs that makes it easy for marketeers to promote products and services in real-time.

Chapter III

Technical Background

3.0 Technical Background

This chapter presents the hardware and software requirements of the system to be implemented.

3.1 Servers

The EMS application supports Apache web server which runs on most Linux environments as well as Windows environment. It also uses MySQL database server that is required in order for the application to be able to utilize a database. Moreover, the application requires SMTP (Simple Mail Transfer Protocol) email server for sending of emails.

3.2 Database

The application supports MySQL database that enables storage, retrieval, and modification of huge amount of records. This will be useful in storing even the historical data collected from the system.

3.3 Operating System

The website is accessible on all operating systems. However, the mailer has to be accessed on a Linux environment.

3.4 Tools the application is integrated with

Tools that are integrated with the system for identifying inactive users, keeping track of opened emails, bounced messages, click-throughs, and email responses, and other digital marketing activities are the following:

- **Google Analytics**
 - allows developers to track how many visitors are coming to the client's site, for example, enabling users to know which channels are sending the most traffic and what content is performing best.

- **Mailwizz**
 - allows tracking of opens, bounced messages, email responses, and click-throughs.
- **Sumo**
 - arms developers with a suite of tools that enable users to perform digital marketing activities that are useful in coming up with effective marketing strategies. This is mainly used for displaying opt-ins each time a non-subscriber visits the website.

3.5 Programming Languages

- **PHP**
 - widely-used open source general-purpose scripting language that is especially suited for web development. This is the main programming language used in developing the system.
- **JavaScript**
 - It is used to make webpages interactive and provide online programs.

Chapter IV

Methodology, Results and Discussion

4.1 Requirements Analysis

4.1.1 Conceptual Framework

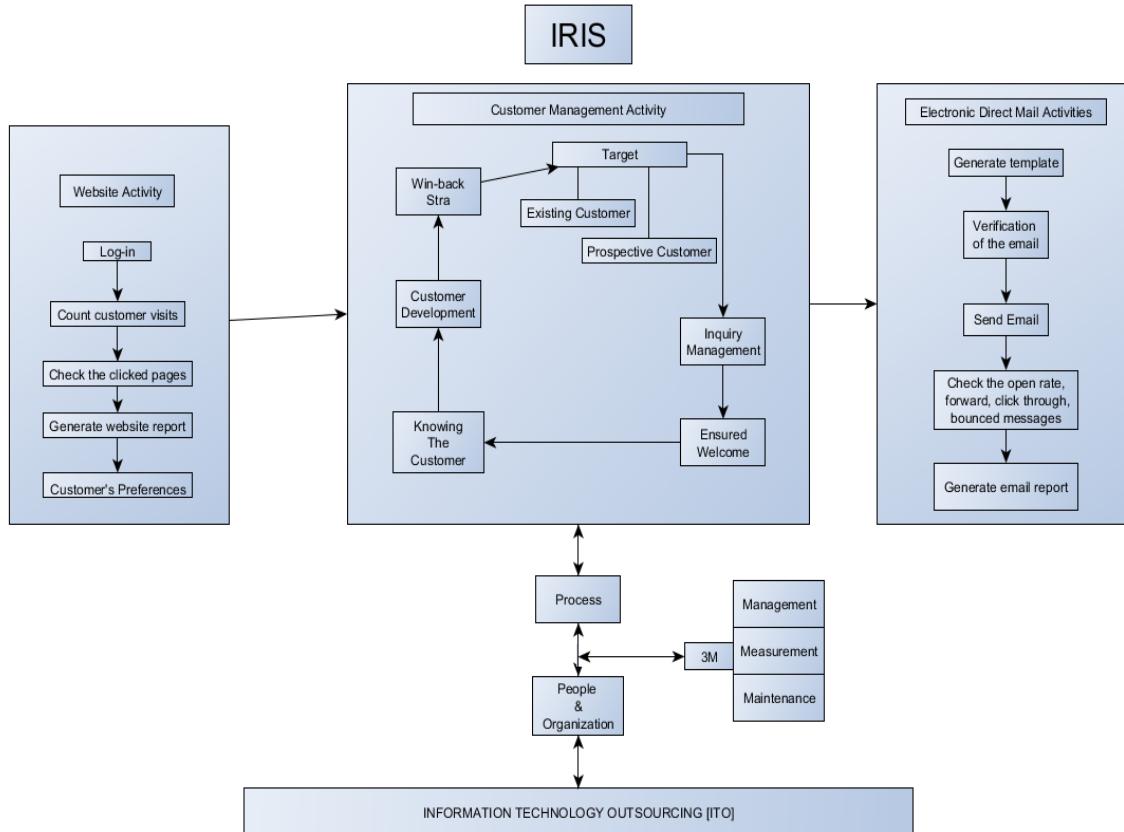


Figure 4.1. 1 Conceptual Framework of Proposed System

Figure 4.1.1 shows that ITO sends people and organization in order the process to operate the system properly, which include pre-constraints such as the 3M: Management, Measurement, and Maintenance. In the system, the main targets are the existing and the prospective customers wherein the customers undergo the Inquiry management, which answers all the questions asked by the customers. Next is to ensure that the customer is welcomed and well-accommodated in the website to be able to know the customer preferences. With all of the customer's information, the hotel uses the customer's preferences to come up with a good strategy to let the customer to come back again. The system sends a report to the marketeer and the customer preferences are sent to the system as well.

The Customer Module is connected to the EDM module that generates a template for the specific customer preferences. After filling up all the information, the system will verify the email if it is all answered with the correct data types and constraints. The system checks the open rate, forward emails, click-throughs and bounced messages and eventually, the system will generate all the email reports.

The Tracking Module is connected to the Customer module to track the customer preferences. As the customer login to the website, the system counts the visited webpages of the customer. The system also generates the reports from the results of the number of clicked webpages of the customer to identify the customer preferences.

4.1.2 Context Diagram

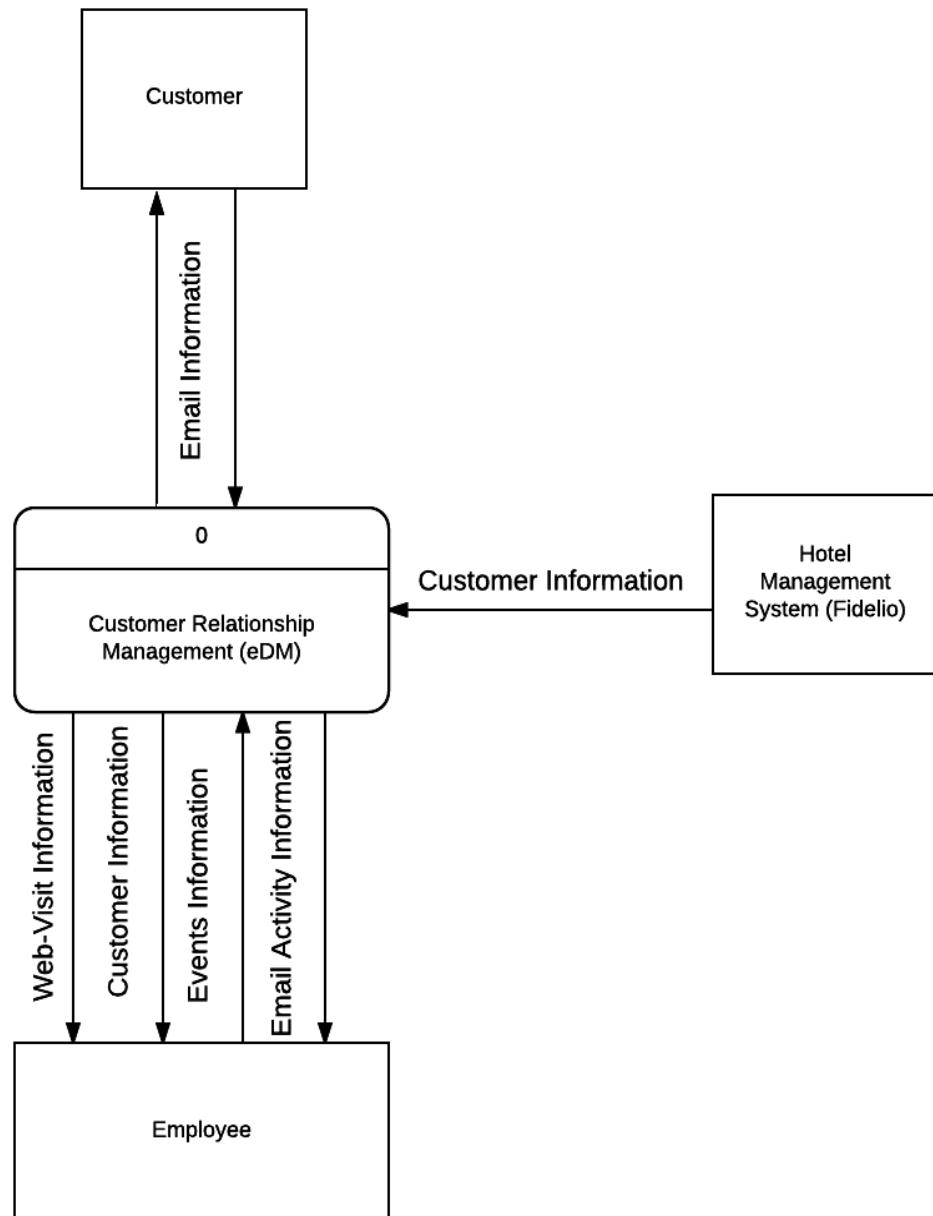


Figure 4.1 2 Context Diagram (Level 0 DFD) of Proposed System

Figure 4.1.2 shows a high-level view of the system which displays inputs and outputs of the system to and from external factors. The system contains three external entities. One of which is Hotel Management System (Fidelio) wherein the proposed system will collect existing customers' information from. Another is the Customer which pertains to the recipients of promotional emails that may also reply to the promotional emails sent. Lastly, the external entity named Employee pertains to the target end users of the system which are the employees, particularly the marketeers, who may add events or email contents for the system to choose contents from. Also, the system provides information of the web-visitors that subscribed, as well as the web-visit and email activity information.

4.1.3 Data Flow Diagram

4.1.3.1 Diagram 1.0

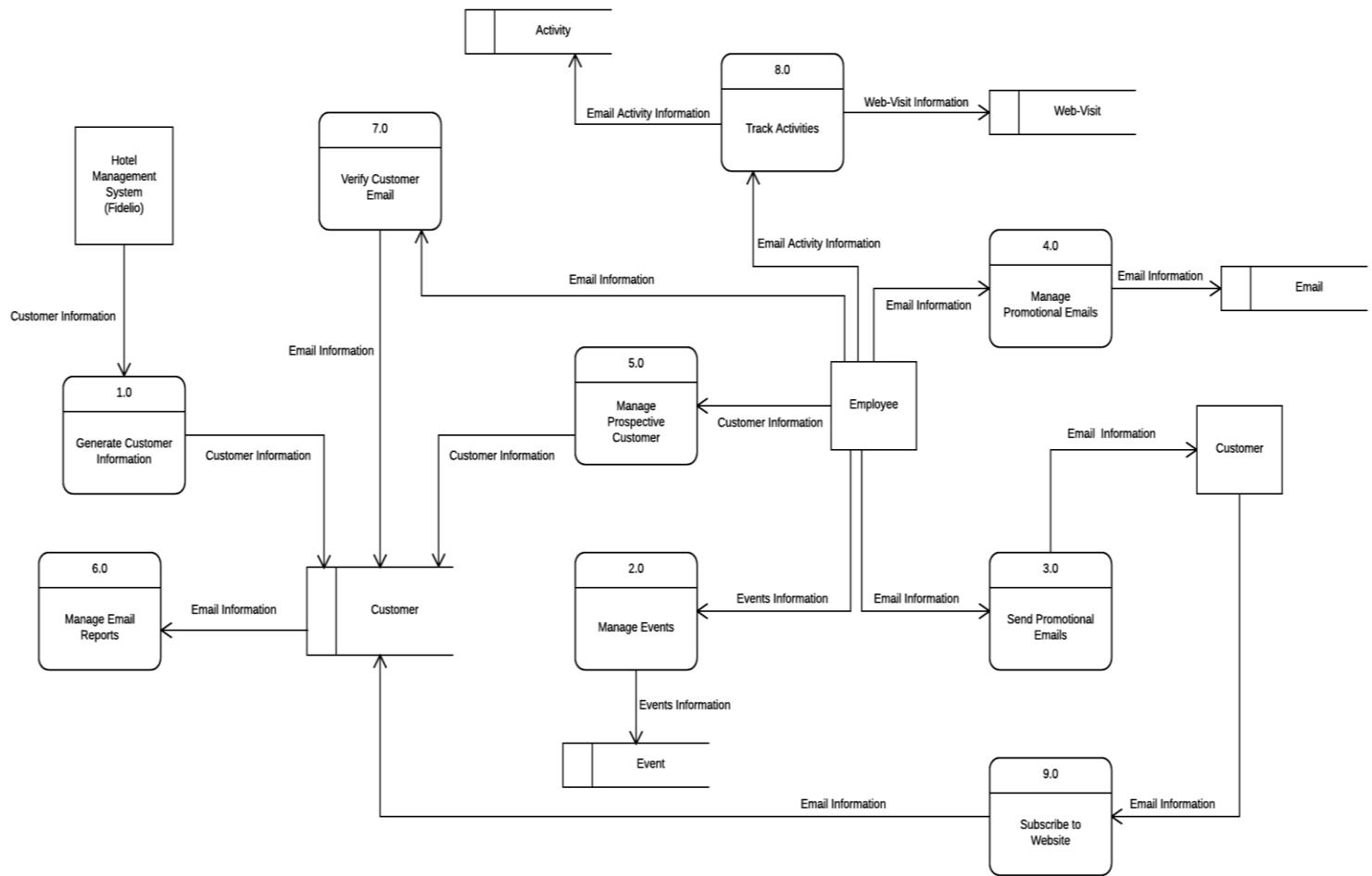


Figure 4.1.3 1 Data Flow Diagram Level 1 of Proposed System

Based from Figure 4.1.3.1, the system contains three sources, nine processes, and five data stores wherein Hotel Management System (Fidelio) will generate customer information to be stored in the proposed system. An employee can manage customer and events that will be consolidated in the CRM (eDM) system as well as managing and sending promotional emails that will be sent to the customer. On the other hand, CRM (eDM) system can generate email reports and check if an email provided by a customer is active or inactive.

4.1.3.2 Diagram 2.0

4.1.3.2.1 Diagram 2.1

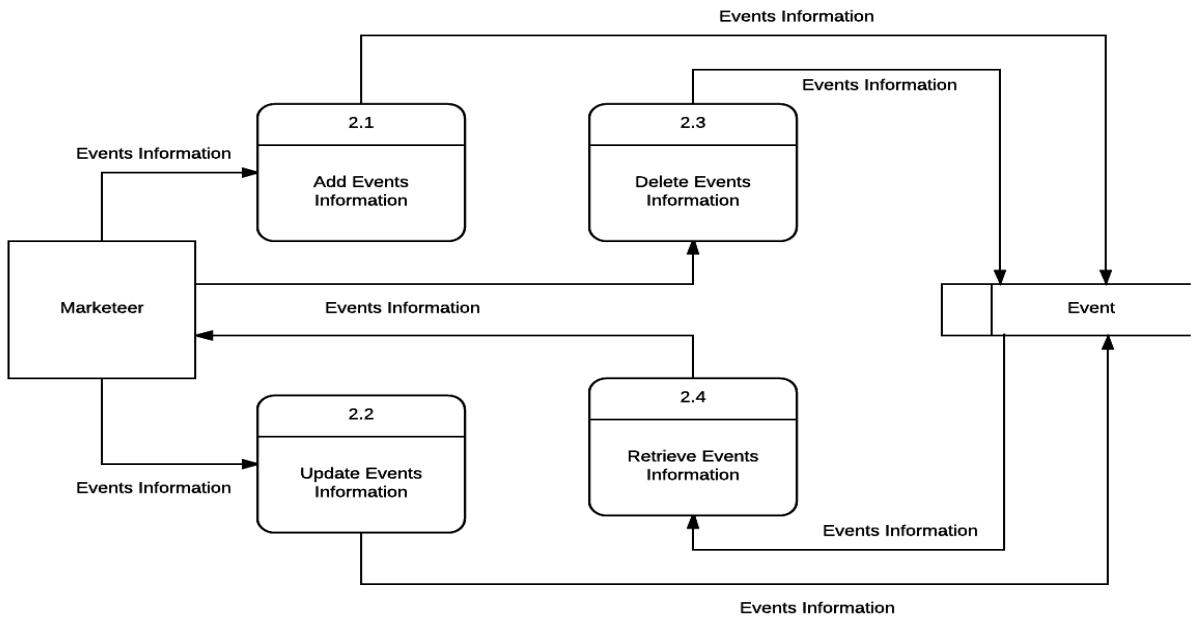


Figure 4.1.3.2.1 Data Flow Diagram Level 2 of Manage Events

Figure 4.1.3.2.1 pertains to data flow diagram level 2 of the use case, Manage Events. It shows a more detailed flow of data across the marketeer and event data stores.

4.1.3.2.2 Diagram 3.1

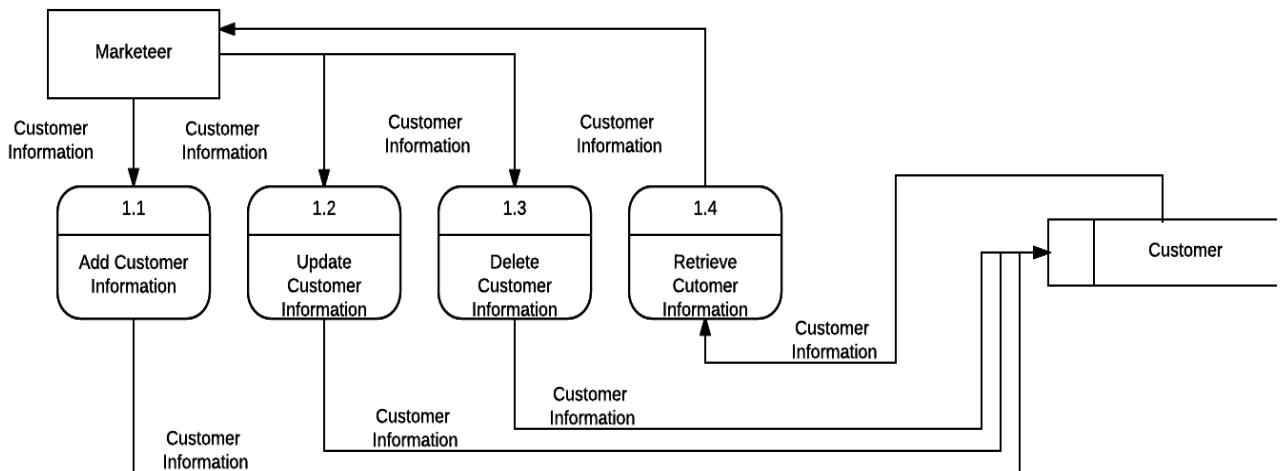


Figure 4.1.3.2 1 Data Flow Diagram Level 2 of Manage Customer

Figure 4.1.3.2.2 pertains to data flow diagram level 2 of the use case, Manage Customer. It shows a more detailed flow of data across the marketeer entity to the customer data store.

4.1.3.2.3 Diagram 4.1

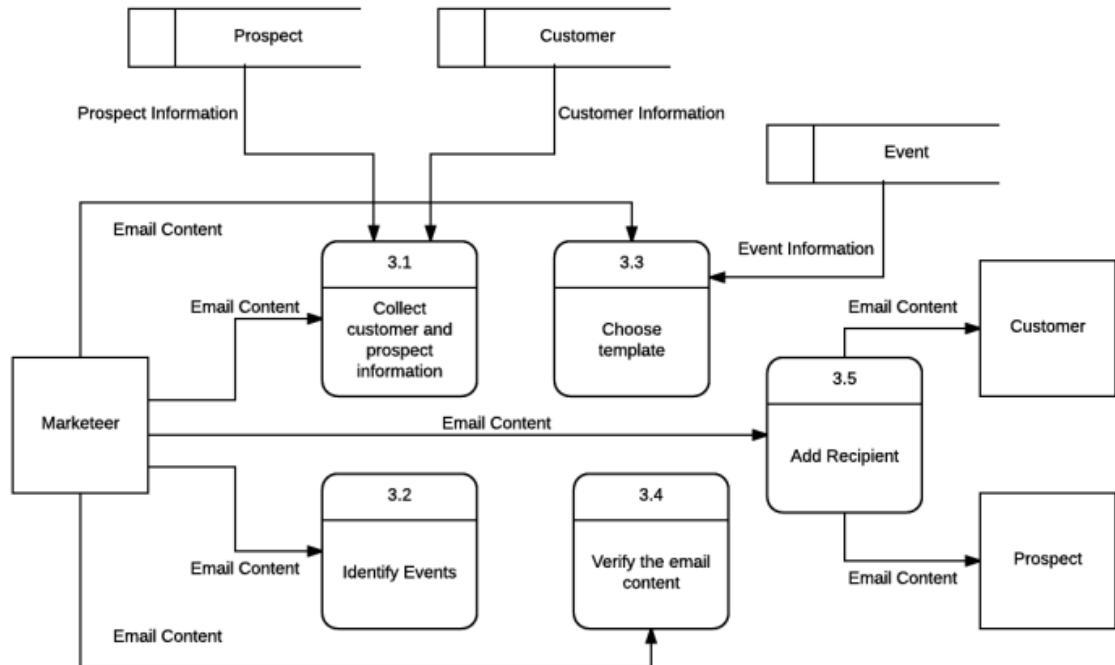


Figure 4.1.3.2 2 Data Flow Diagram Level 2 of Send Promotional Emails

Figure 4.1.3.2.3 pertains to data flow diagram level 2 of the use case, Send Promotional Emails. It shows a more detailed flow of data across the data stores and entities involved in the process.

4.1.3.2.4 Diagram 5.1

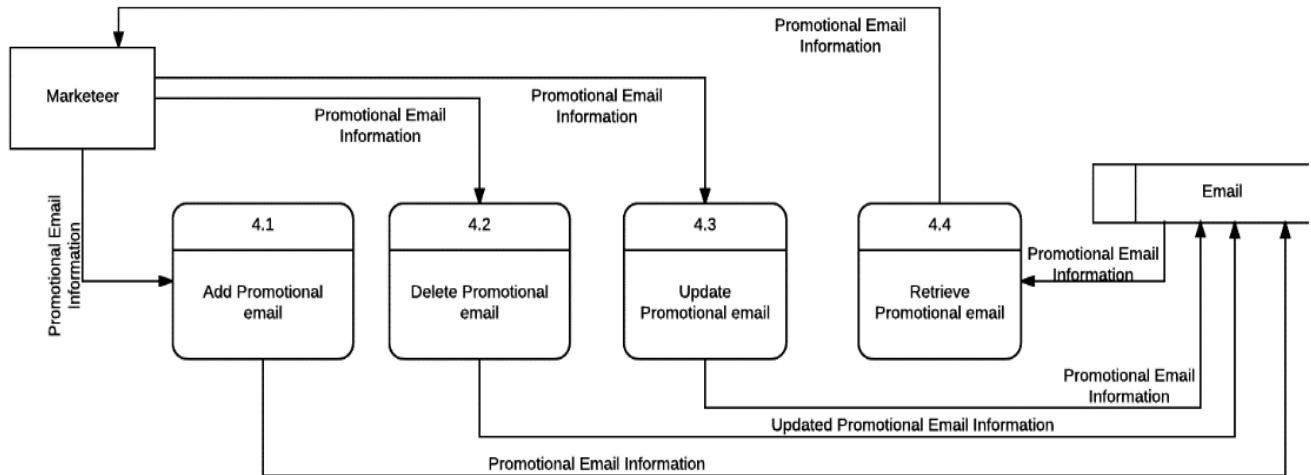


Figure 4.1.3.2.3 Data Flow Diagram Level 2 of Manage Promotional Email

Figure 4.1.3.2.4 pertains to data flow diagram level 2 of the use case, Manage Promotional Emails. It shows a more detailed flow of data across the marketeer entity and email data store.

4.1.3.2.5 Diagram 6.1

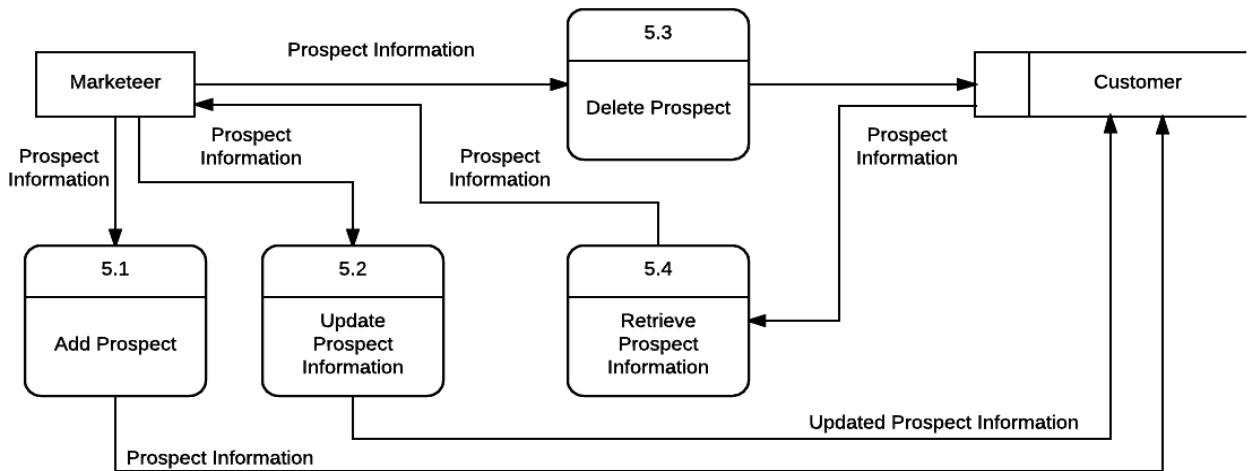


Figure 4.1.3.2.4 Data Flow Diagram Level 2 of Manage Prospect

Figure 4.1.3.2.2 pertains to data flow diagram level 2 of the use case, Manage Prospect. It shows a more detailed flow of data across the marketeer entity and prospect data store.

4.1.3.2.6 Diagram 7.1

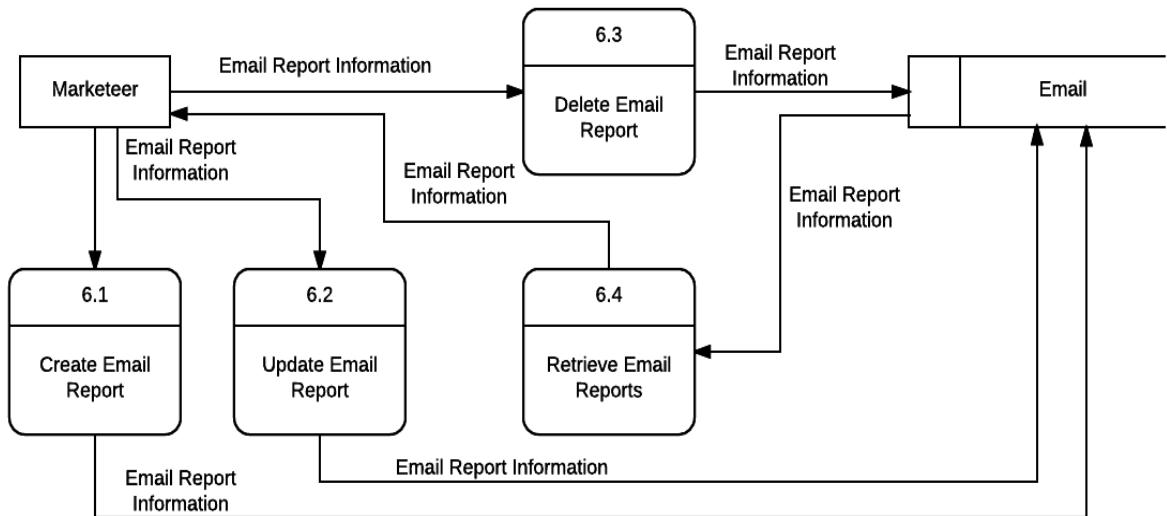


Figure 4.1.3.2 5 Data Flow Diagram Level 2 of Manage Email Reports

Figure 4.1.3.2.2 pertains to data flow diagram level 2 of the use case, Manage Email Report. It shows a more detailed flow of data across the marketeer entity and report data store.

4.1.4 Entity Relationship Diagram

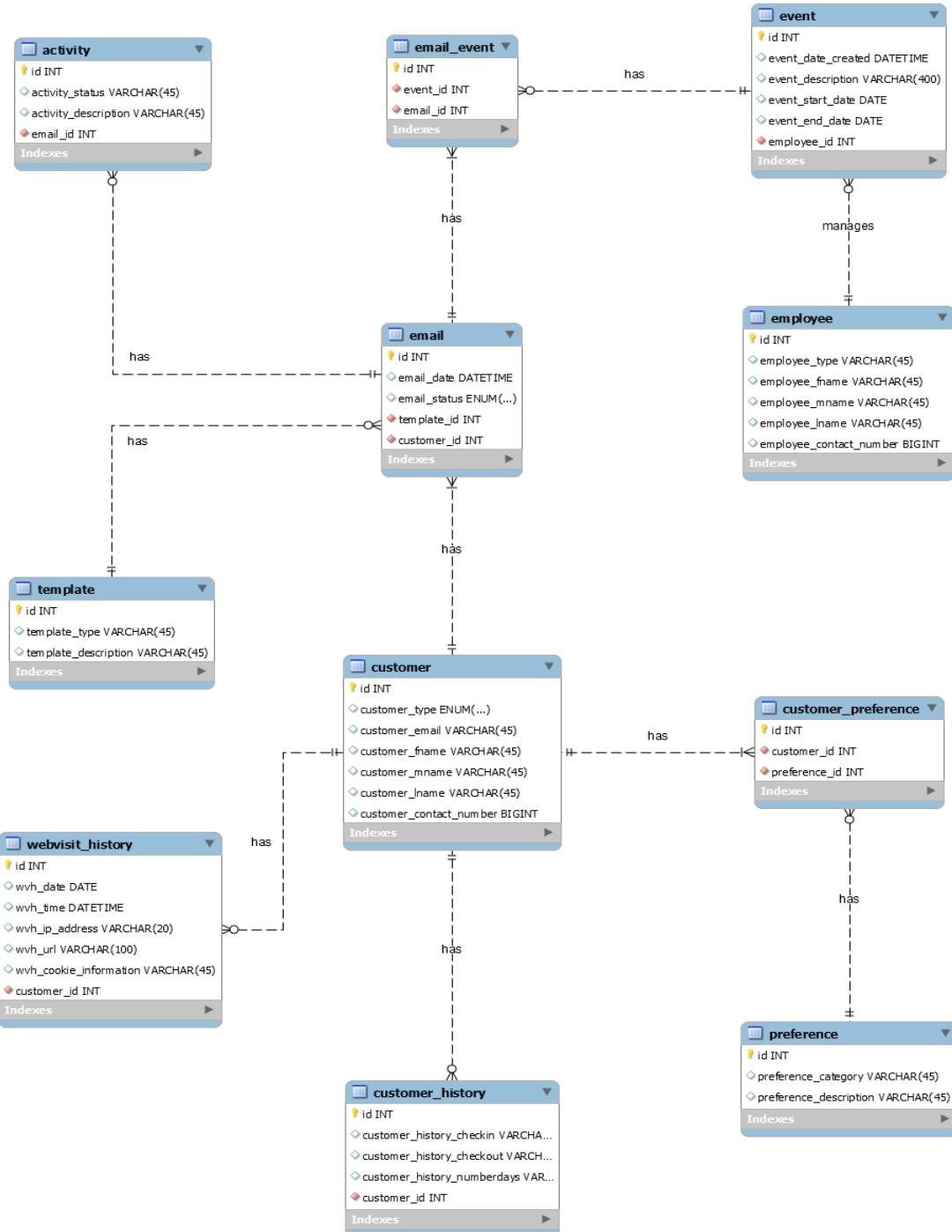


Figure 4.1.4 2 Entity Relationship Diagram of Proposed System

Figure 4.1.4.1 shows the entities alongside their relationships with one another. Employee is one parent entity that has a relationship with event entity, which is dependent and optional on the parent entity; thus, it is not mandatory for the parent entity to have a matching value in event table. In between email and event tables is an associative entity referred to as email_event, this is necessary as a many-to-many relationship exists between email and event, which means an email may contain a lot of events, and an event serves as a content on more than one email. Template and activity tables are both connected to the email entity as both of these entities contain further information for each email sent to customers. Customer table is connected to both web-visit history and customer_preference, both of the tables contain information regarding the customers' activities together with information relevant to customers' habits involving the client. Lastly, there exists an entity named preference, which refers to the preferences of both existing and prospective customers.

4.1.4.2 Data Dictionary

The following tables provide detailed information for entities found in the project's Entity Relationship Diagram shown beforehand. The field names, alongside the attribute's corresponding data type, field length, constraint, and description are also described.

4.1.4.2.1 Customer Table

Field Name	Data Type	Field Length	Constraint	Description
id	INT		Primary Key	Auto-generated
customer_type	ENUM (‘Guest’, ‘Prospect’)			Type of Customer (Guest or Prospect)
customer_fname	VARCHAR	45	Not null	First Name
customer_mname	VARCHAR	45		Middle Name
customer_lname	VARCHAR	45	Not null	Last Name
customer_email	VARCHAR	45	Not null	Customer Email

customer_contact_number	BIGINT		Not null	Contact Number
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Table 4.1.4.2.1 Data Dictionary for Customer Table

4.1.4.2.2 Email Table

Field Name	Data Type	Field Length	Constraint	Description
id	INT		Primary Key	Auto-generated
email_date	DATETIME		Not null	Date when email was created
email_status	ENUM (‘Active’, ‘Inactive’)		Not null	Status of Email
template_id	INT		Foreign Key	Derived from Template table
employee_id	INT		Foreign Key	Derived from

				Employee table
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Table 4.1.4.2.2 Data Dictionary for Email Table

4.1.4.2.3 Email_Event Table

Field Name	Data Type	Field Length	Constraint	Description
id	INT		Primary Key	Auto-generated
email_id	INT		Foreign Key	Derived from Email table
event_id	INT		Foreign Key	Derived from Event table

Table 4.1.4.2.3 Data Dictionary for Email_Event Table

4.1.4.2.4 Web_Visit History Table

Field Name	Data Type	Field Length	Constraint	Description
id	INT		Primary Key	Auto-generated
customer_id	INT		Foreign Key	Derived from Customer table
wvh_date	DATETIME		Not null	History Date and Time
wvh_ip_address	VARCHAR	45	Not null	History IP Address
wvh_url	VARCHAR	100	Not null	History URL
wvh_cookie_information	VARCHAR	45	Not null	History cookie information

Table 4.1.4.2.4 Data Dictionary for Web- Visit History Table

4.1.4.2.5 Customer_History Table

Field Name	Data Type	Field Length	Constraint	Description
id	INT		Primary Key	Auto-generated
customer_history_checkin	DATETIME		Not null	Check in date and time
customer_history_checkout	DATETIME		Not null	Check out date and time
customer_hstory_numberdays	INT		Not null	Number of days a customer stayed
customer_id	INT		Foreign Key	Derived from Customer table

Table 4.1.4.2.5 Data Dictionary for Customer_History Table

4.1.4.2.6 Employee Table

Field Name	Data Type	Field Length	Constraint	Description
id	INT		Primary Key	Auto-generated
employee_type	VARCHAR	45	Not null	Type of employee
employee_fname	VARCHAR	45	Not null	First Name
employee_mname	VARCHAR	45		Middle Name
employee_lname	VARCHAR	45	Not null	Last Name
employee_contact_number	Integer		Not null	Contact Number

Table 4.1.4.2.6 Data Dictionary for Employee Table

4.1.4.2.7 Preference Table

Field Name	Data Type	Field Length	Constraint	Description
id	INT		Primary Key	Auto-generated
preference_category	VARCHAR	45	Not Null	Category of preference
preference_description	VARCHAR	45	Not null	Preference description
customer_id	INT		Not null	Derived from Customer table

Table 4.1.4.2.7 Data Dictionary for Preference Table

4.1.4.2.8 Event Table

Field Name	Data Type	Field Length	Constraint	Description
id	Integer		Primary Key	Auto-generated
event_date_created	VARCHAR	45	Not null	Date of event's creation
event_description	VARCHAR	400	Not null	Description of event
event_start_date	DATETIME		Not null	Start of event's effectivity
event_end_date	DATETIME		Not null	End of event's effectivity
employee_id	Integer		Not null	Derived from Employee table

Table 4.1.4.2.8 Data Dictionary for Event Table

4.1.4.2.9 Customer_Preference Table

Field Name	Data Type	Field Length	Constraint	Description
id	INT		Primary Key	Auto-generated
customer_id	INT		Foreign Key	Derived from Customer table
preference_id	INT		Foreign Key	Derived from Preference table

Table 4.1.4.2.9 Data Dictionary for Customer_Preference Table

4.1.4.2.10 Activity Table

Field Name	Data Type	Field Length	Constraint	Description
id	INT		Primary Key	Auto-generated
activity_status	VARCHAR	45	Not null	Status of email

activity_description	DATETIME		Not null	Description of Activity
email_id	INT		Foreign Key	Derived from Email Table

Table 4.1.4.2 10 Data Dictionary for Activity Table

4.1.4.2.11 Template Table

Field Name	Data Type	Field Length	Constraint	Description
id	INT		Primary Key	Auto-generated
template_type	VARCHAR	45	Not null	Type of template
template_description	VARCHAR	45	Not null	Description of template

Table 4.1.4.2 11 Data Dictionary for Template Table

4.1.5 Activity Diagram

The following are the activity diagrams that represent the flow of one activity or operation.

4.1.5.1 General Activity for Prospect

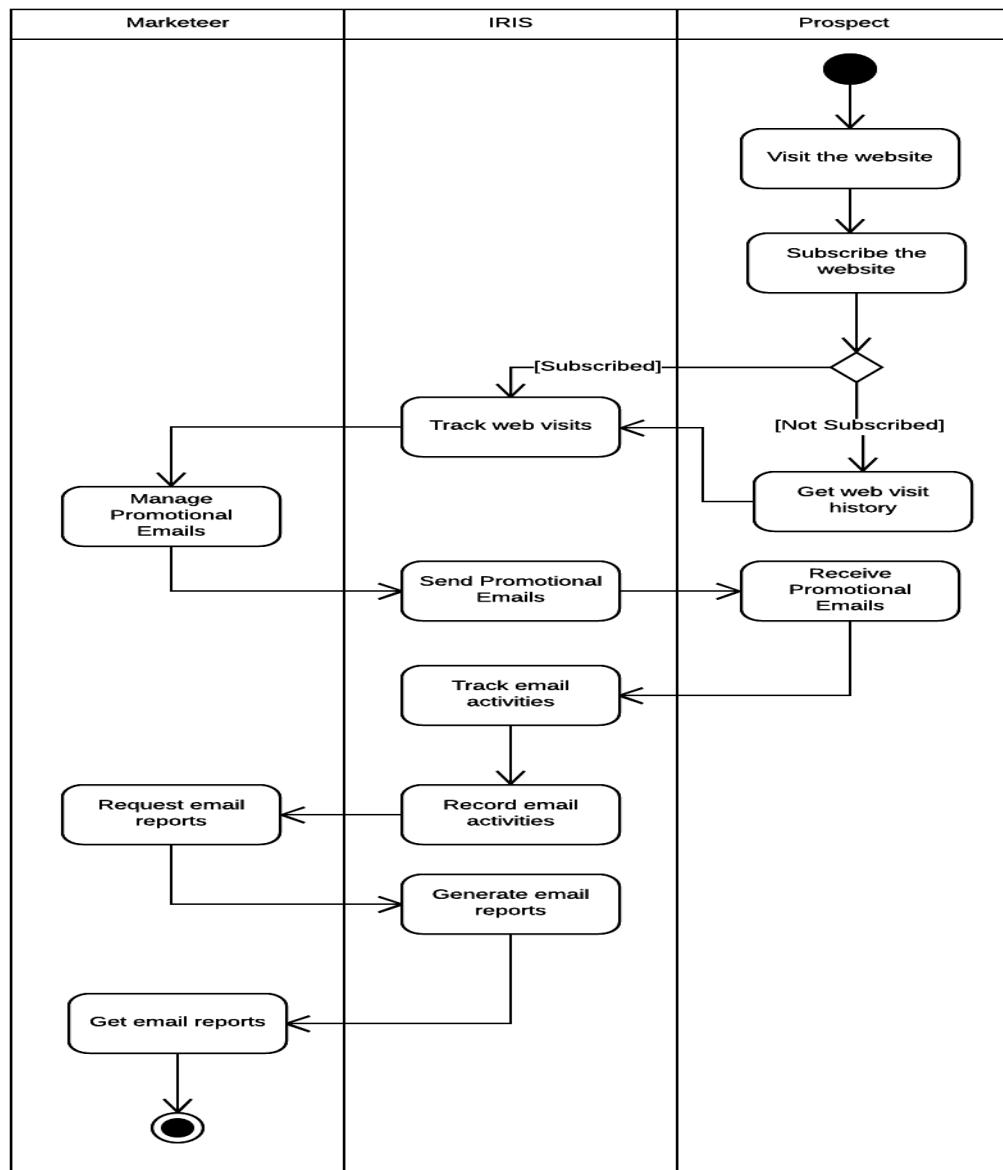


Figure 4.1.5 1 General Activity Diagram for Prospect

Figure 4.1.5.1 shows the flow of the prospect's activity in the website and how the system handles and responds to the activity of the prospect who is visiting the website.

4.1.5.2 General Activity Diagram for Customer

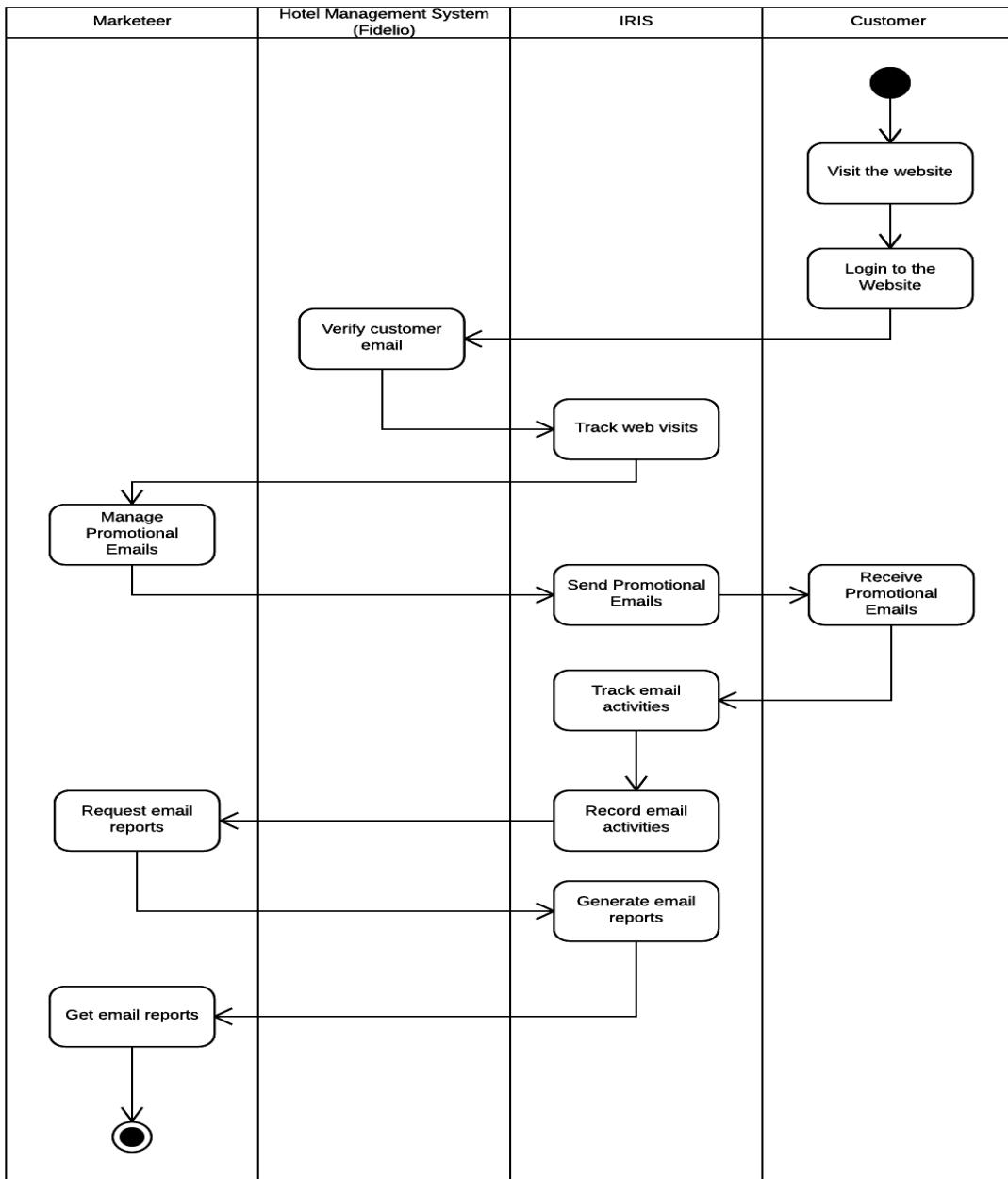


Figure 4.1.5. 1 General Activity Diagram for Customer

Figure 4.1.5.2 shows the flow of the customer's activity in the website and how the system handles and responds to the activity of the customer who is visiting the website.

4.1.5.3 Activity Diagram 1.0 – Manage Events

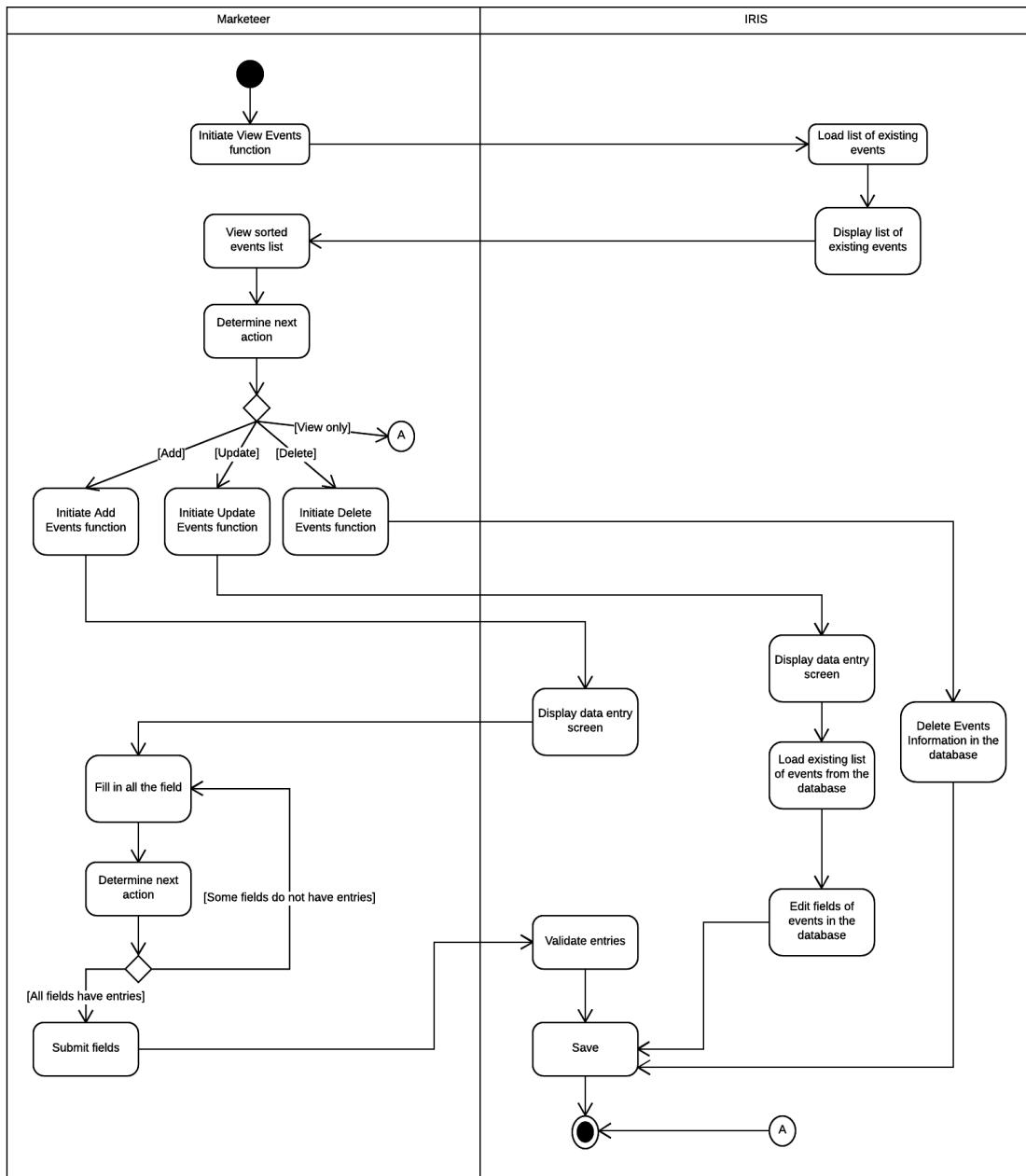


Figure 4.1.5. 2 General Activity Diagram for Manage Events

Figure 4.1.5.3 pertains to the flow when a marketeer manages events.

4.1.5.4 Activity Diagram 2.0 – Manage Promotional Emails

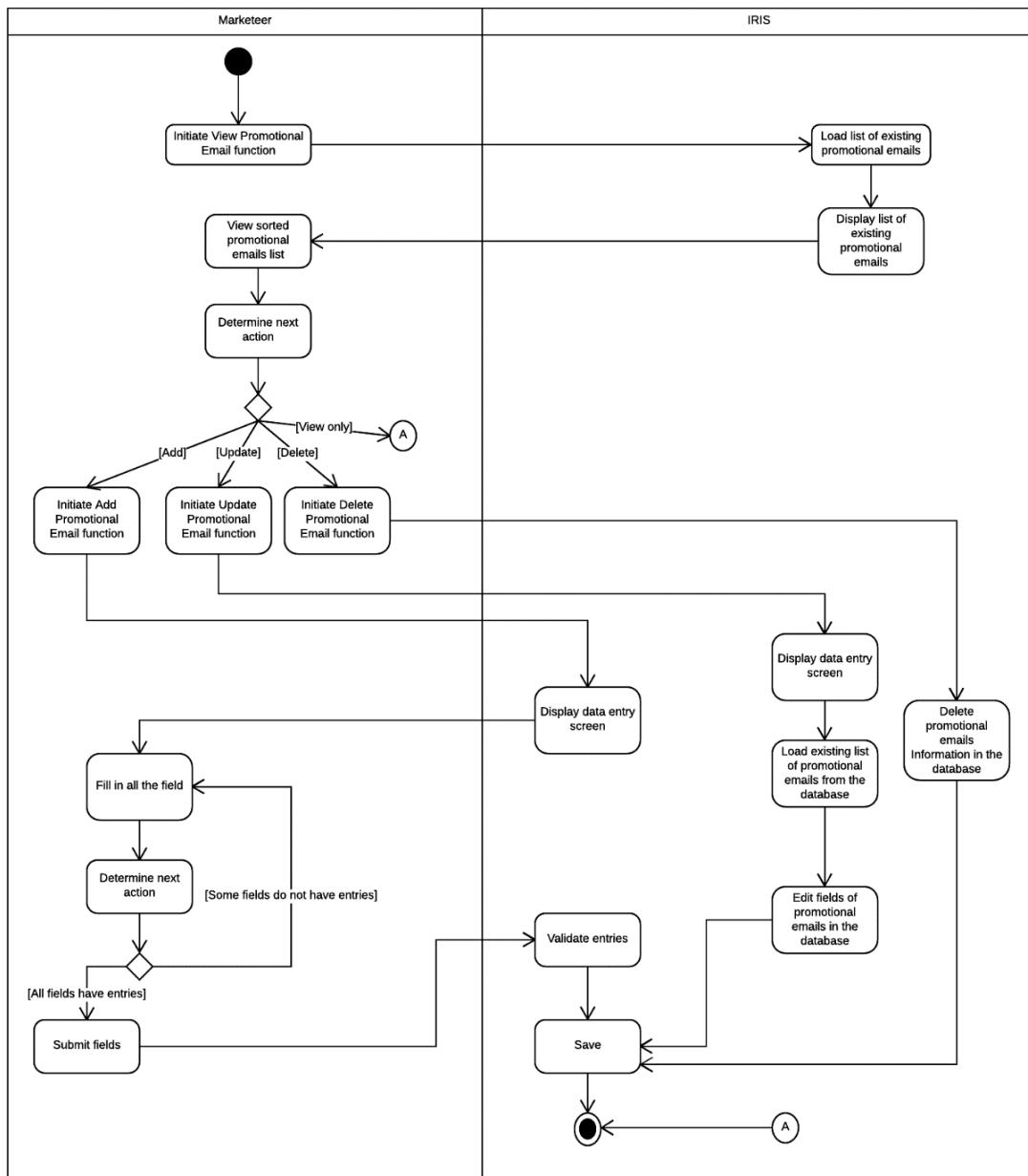


Figure 4.1.5. 3 General Activity Diagram of Manage Promotional Emails

Figure 4.1.5.4 pertains to the flow on how the marketeer manages promotional emails and how the system handles and responds to the activity of the marketeer who is managing promotional emails.

4.1.5.5 Activity Diagram 3.0 – Send Promotional Email

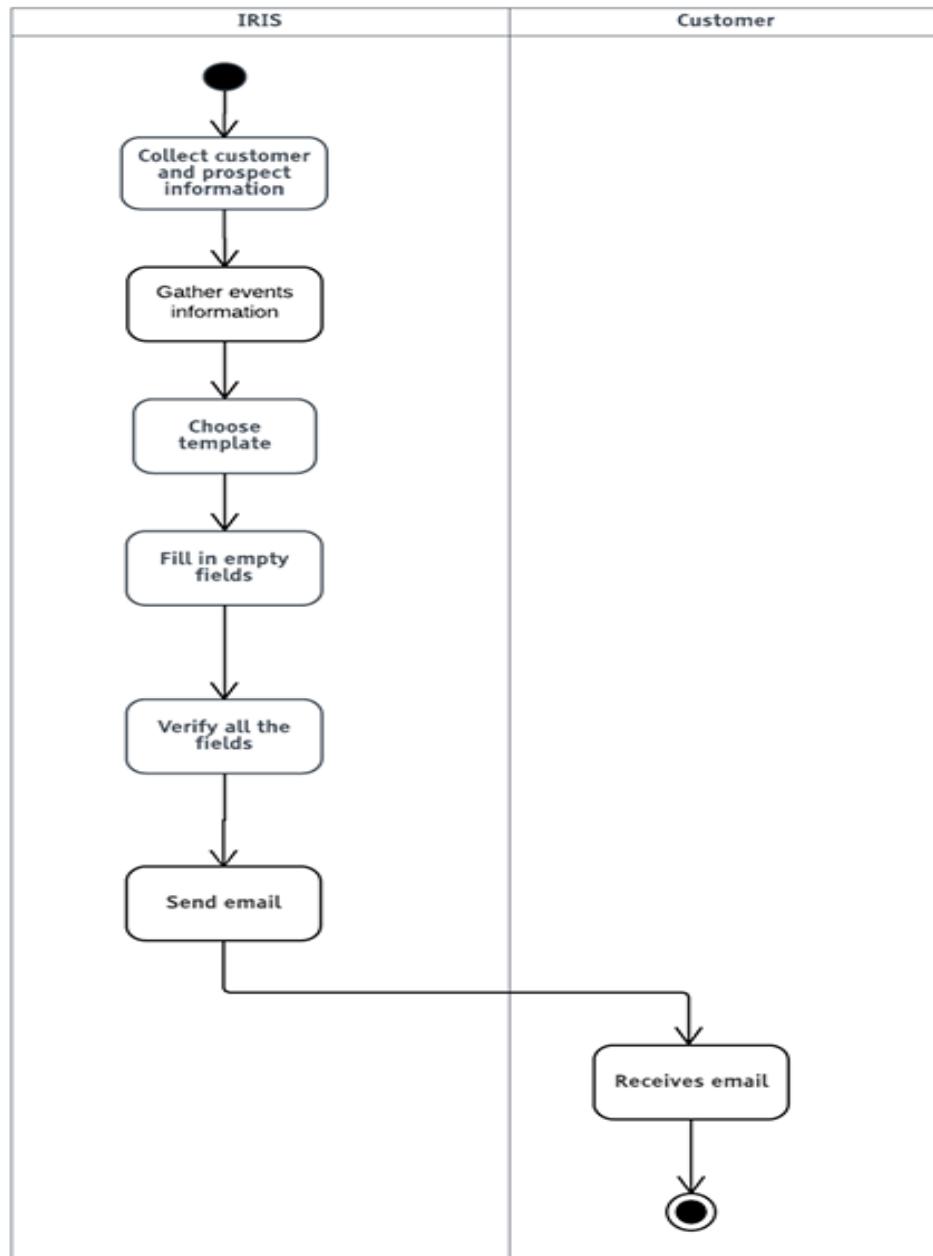


Figure 4.1.5. 4 Activity Diagram of Send Promotional Emails

Figure 4.1.5.5 shows the flow of the activity of the system in sending promotional emails to the customer.

4.1.5.6 Activity Diagram 4.0 – Manage Customer Information

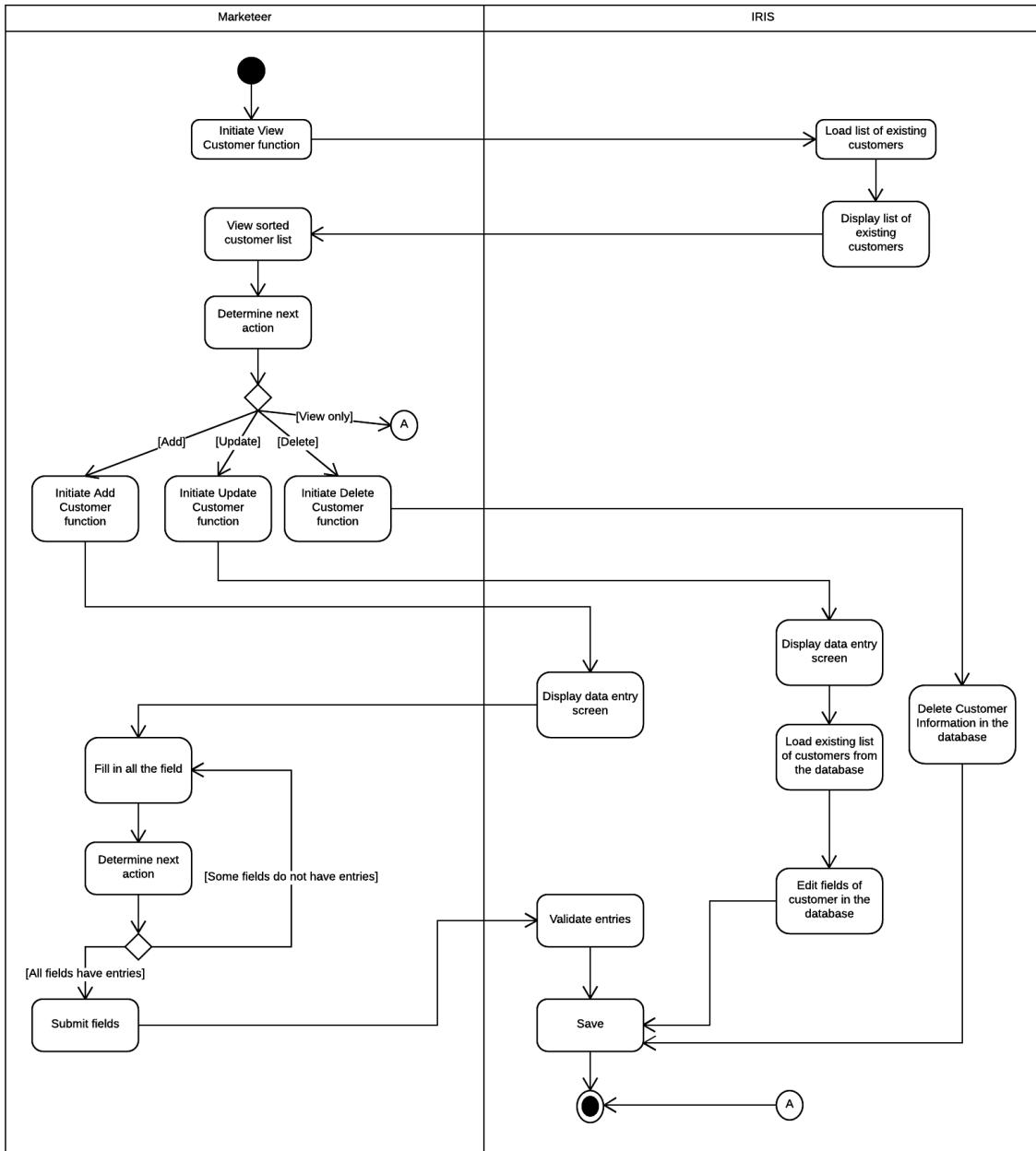


Figure 4.1.5. 5 Activity Diagram of Manage Customers

Figure 4.1.5.6 pertains to the flow on how the marketeer manages the customers and how the system handles and responds to the activity of the marketeer who is managing the customers

4.1.5.7 Activity Diagram 5.0 – Manage Prospective Customers

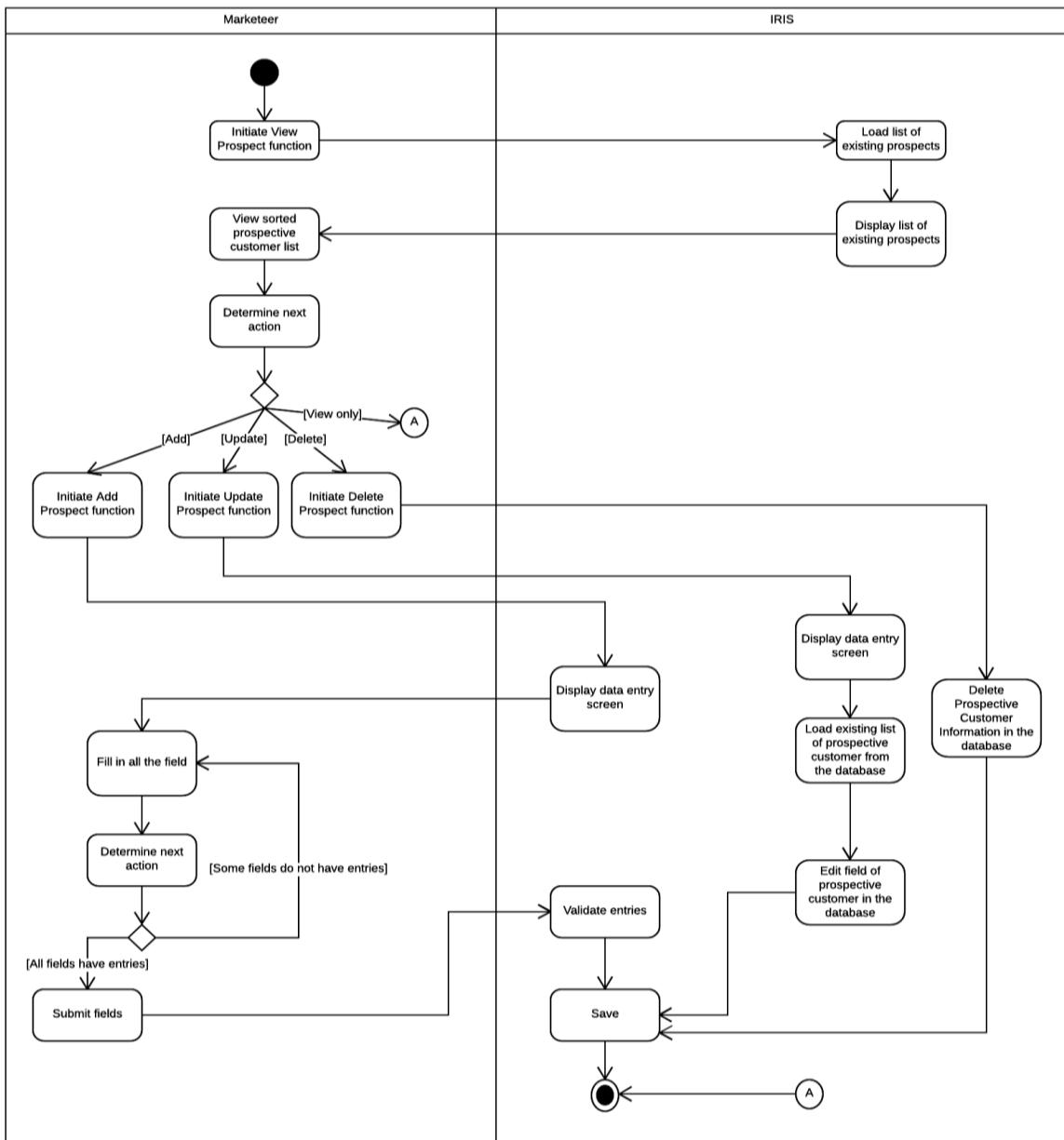


Figure 4.1.5. 6 Activity Diagram of Manage Prospects

Figure 4.1.5.7 pertains to the flow on how the marketeer manages the prospective customers and how the system handles and responds to the activity of the marketeer who is managing the prospective customers.

4.1.5.8 Activity Diagram 6.0 – Manage Email Reports

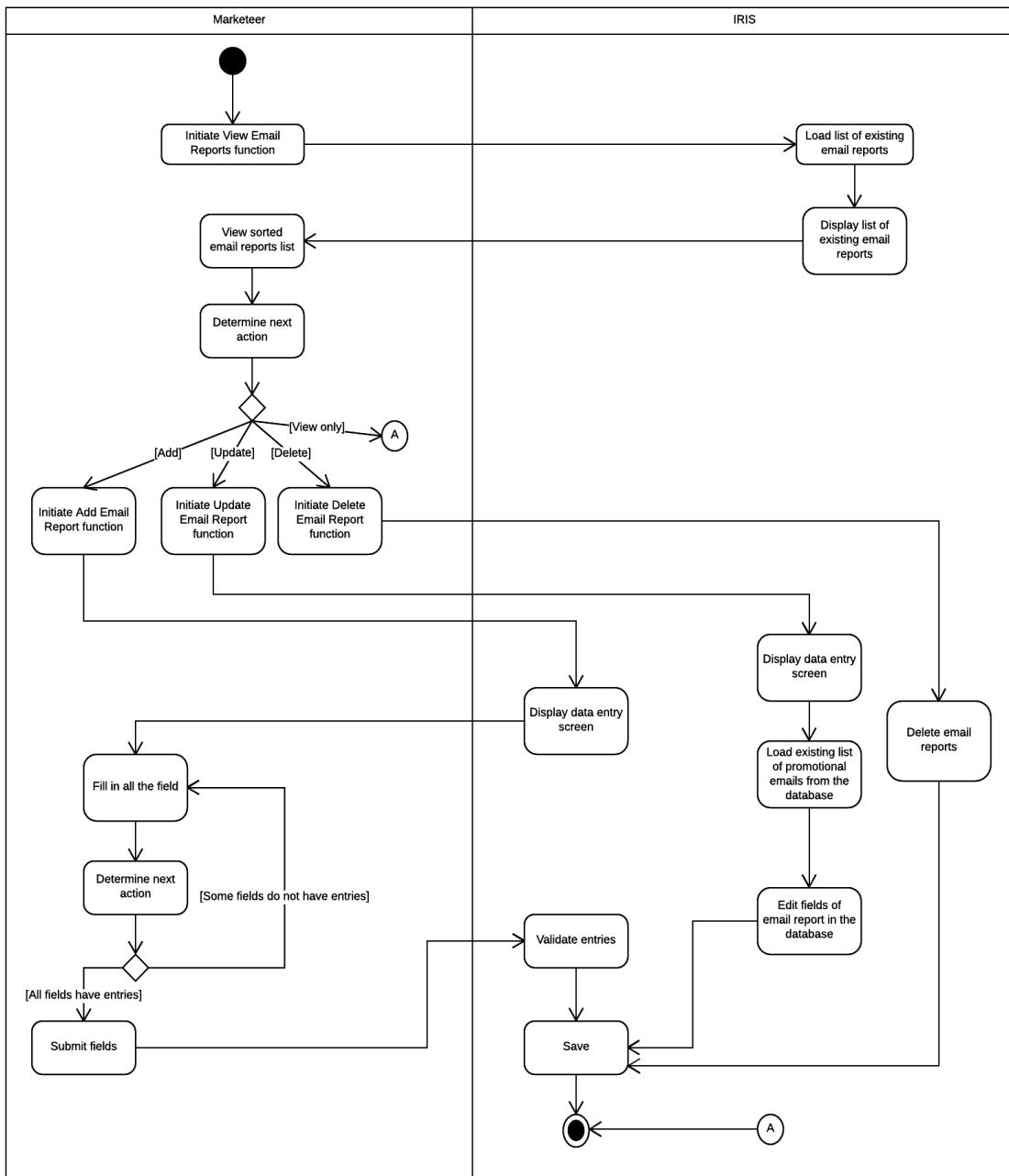


Figure 4.1.5. 7 Activity Diagram of Manage Email Reports

Figure 4.1.5.8 pertains to the flow on how the marketer manage the email reports and how the system handles and responds to the activity of the marketer who is managing the email reports.

4.1.5.9 Activity Diagram 7.0 – Verify Customer Email

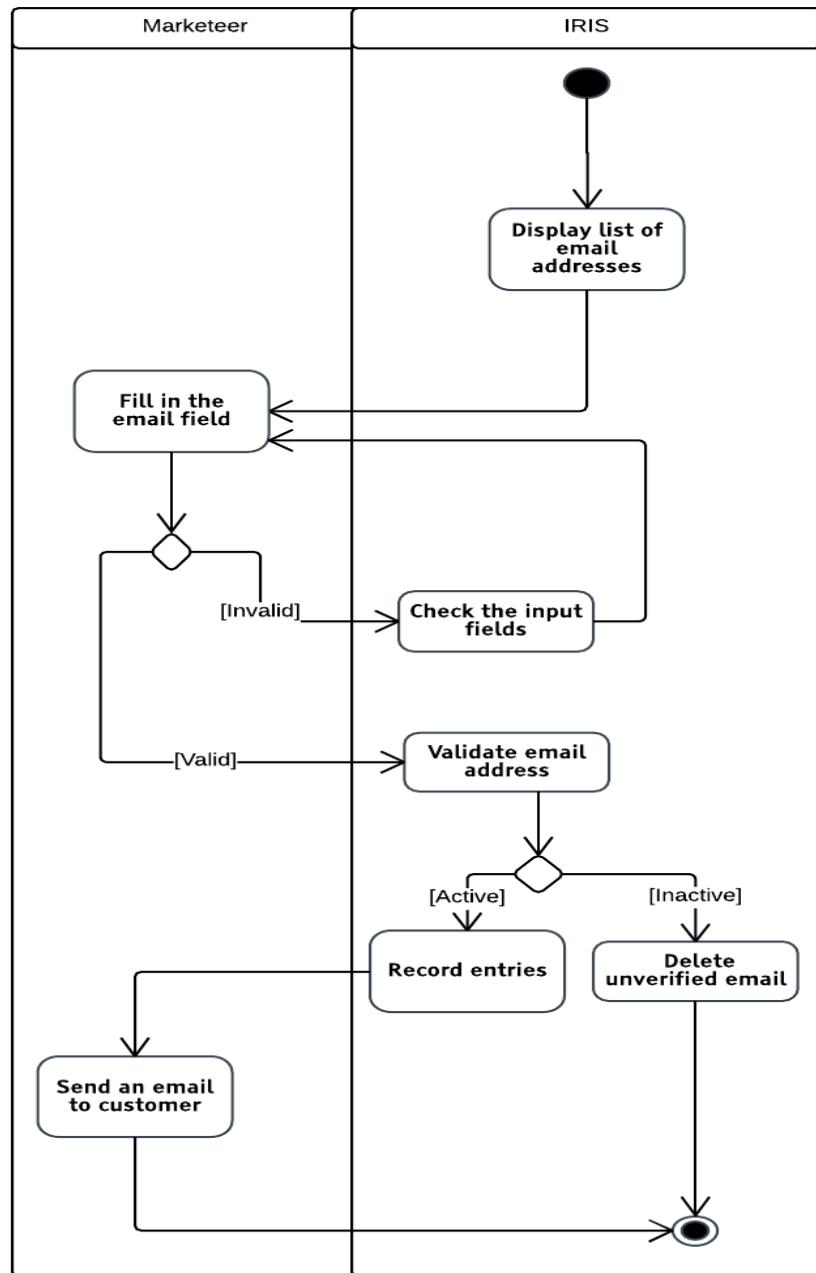


Figure 4.1.5. 8 Activity Diagram of Verify Customer Email

Figure 4.1.5.9 pertains to the flow on how the system verifies the customer email.

4.1.5.10 Activity Diagram 8.0 – Track Web and Email Activities

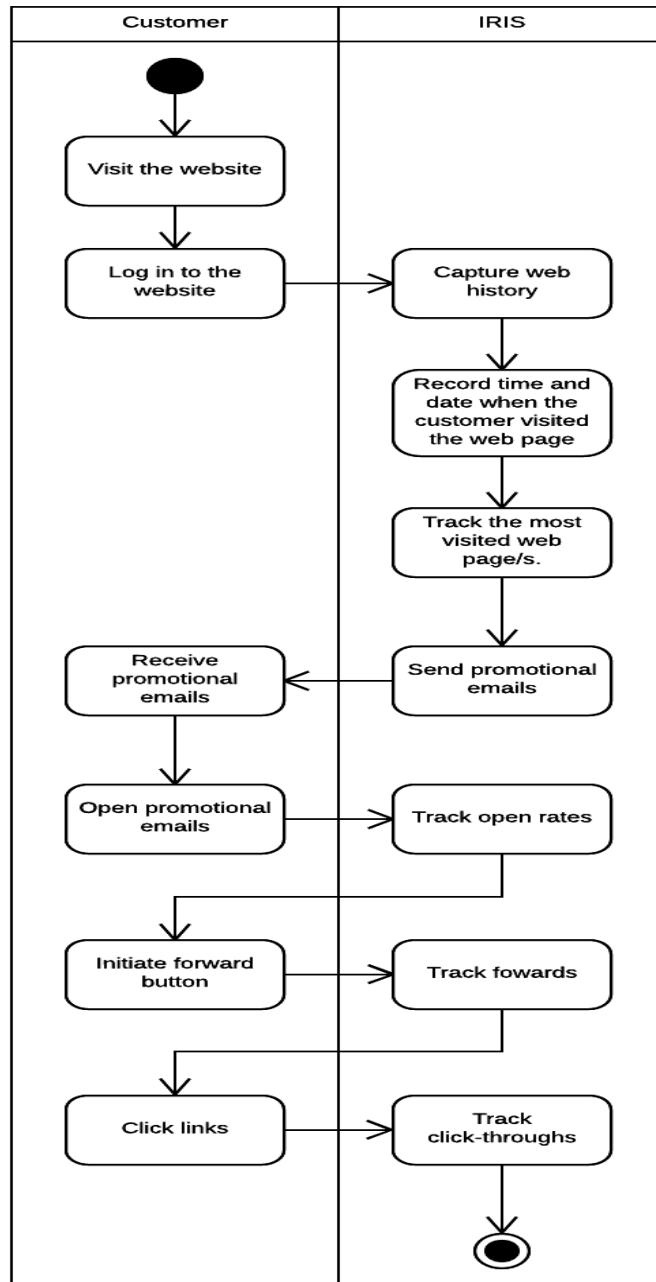


Figure 4.1.5. 9 Activity Diagram of Track Web and Email Activities

Figure 4.1.5.10 pertains to the flow on how the system tracks the web and email activities of the customer.

4.1.5.11 Activity Diagram 9.0 – Subscribe to Website

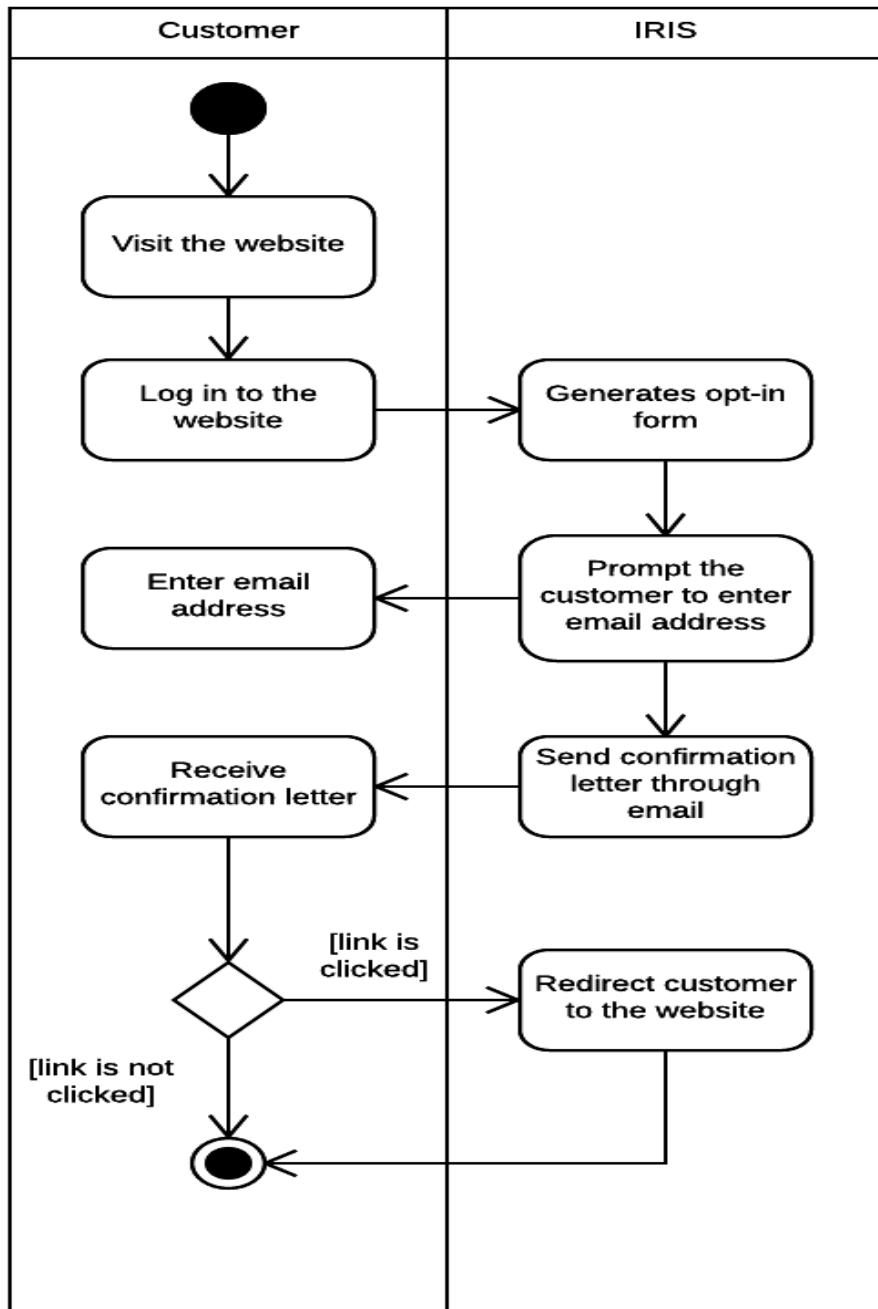


Figure 4.1.5. 10 Activity Diagram of Subscribe to Website

Figure 4.1.5.11 shows the flow of the activity of customer who subscribes to the website and how the system responds in every customer activity.

4.1.6 Class Diagram

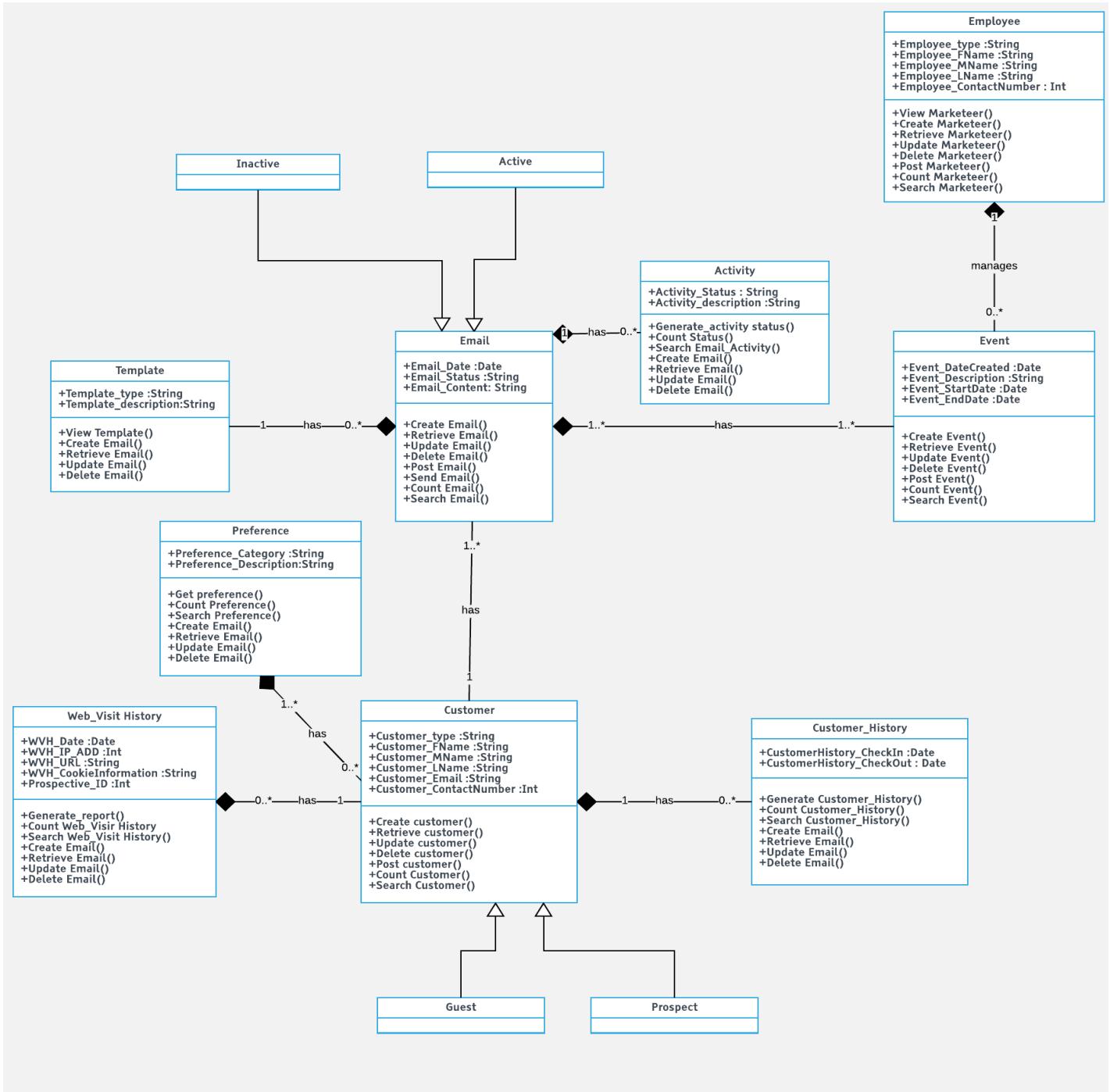


Figure 4.1.6.1 Class Diagram of Proposed System

A class diagram provides an overview of a system describing the relationships between classes, objects, attributes, and operations. Figure 4.1.6.1 shows that the employee manages the event and email classes that have relationships with activity, template and customer class. The customer has a relationship with customer_history and web-visit history.

4.1.7 Sequence Diagram

The following are the sequence diagrams or event diagrams for each use case. It shows how the objects interact in sequential manner.

4.1.7.1 Sequence Diagram for Manage Events

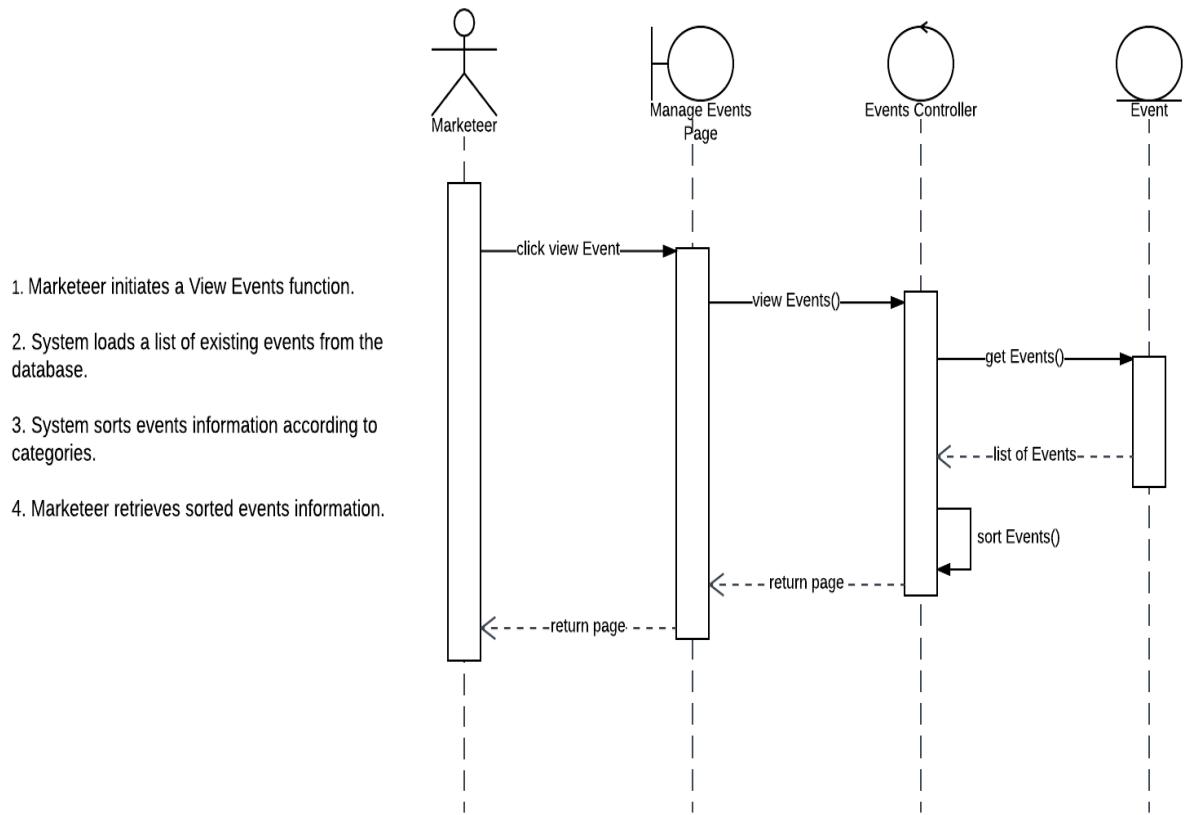


Figure 4.1.7.1 Sequence Diagram for Manage Events

Figure 4.1.7.1 pertains to the sequence on how the marketeer manage the customers and how the system handles and responds to the activity of the marketeer who is managing the customers.

4.1.7.2 Sequence Diagram for Manage Promotional Emails

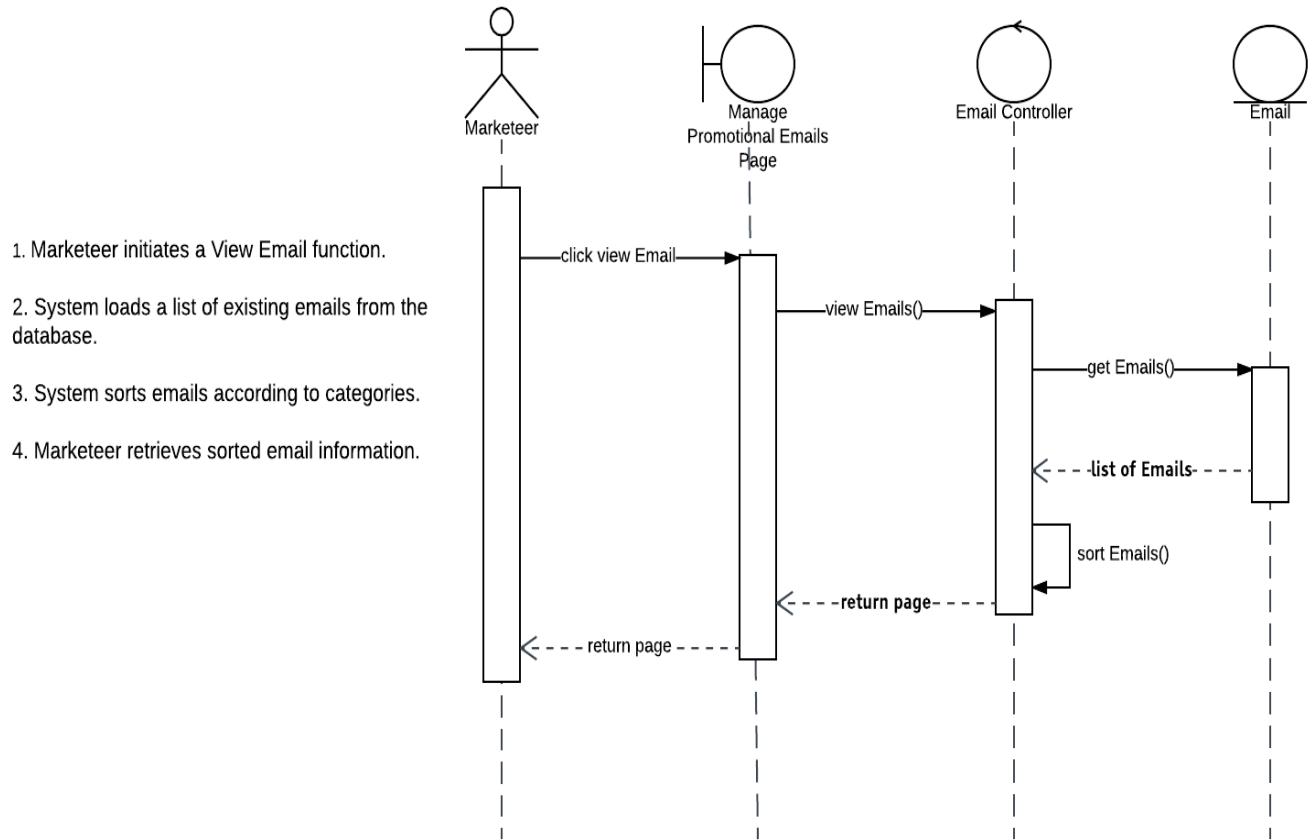


Figure 4.1.7.2 Sequence Diagram for Manage Promotional Emails

Figure 4.1.7.2 pertains to the sequence on how the marketer manage promotional emails and how the system handles and responds to the activity of the marketer who is managing promotional emails.

4.1.7.3 Sequence Diagram for Send Promotional Emails

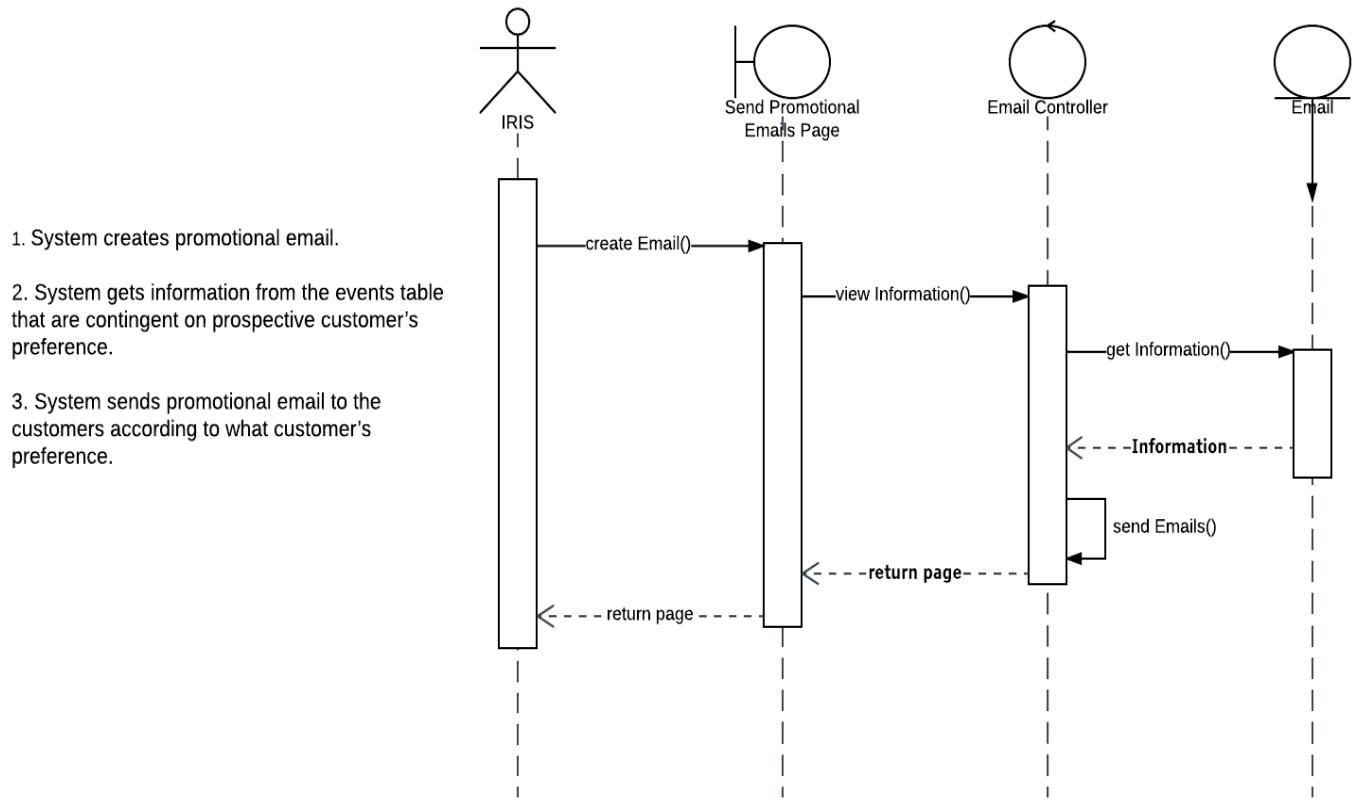


Figure 4.1.7.3 Sequence Diagram for Send Promotional Emails

Figure 4.1.7.3 shows the sequence of the activity of the system in sending promotional emails to the customer.

4.1.7.4 Sequence Diagram for Manage Customer Information

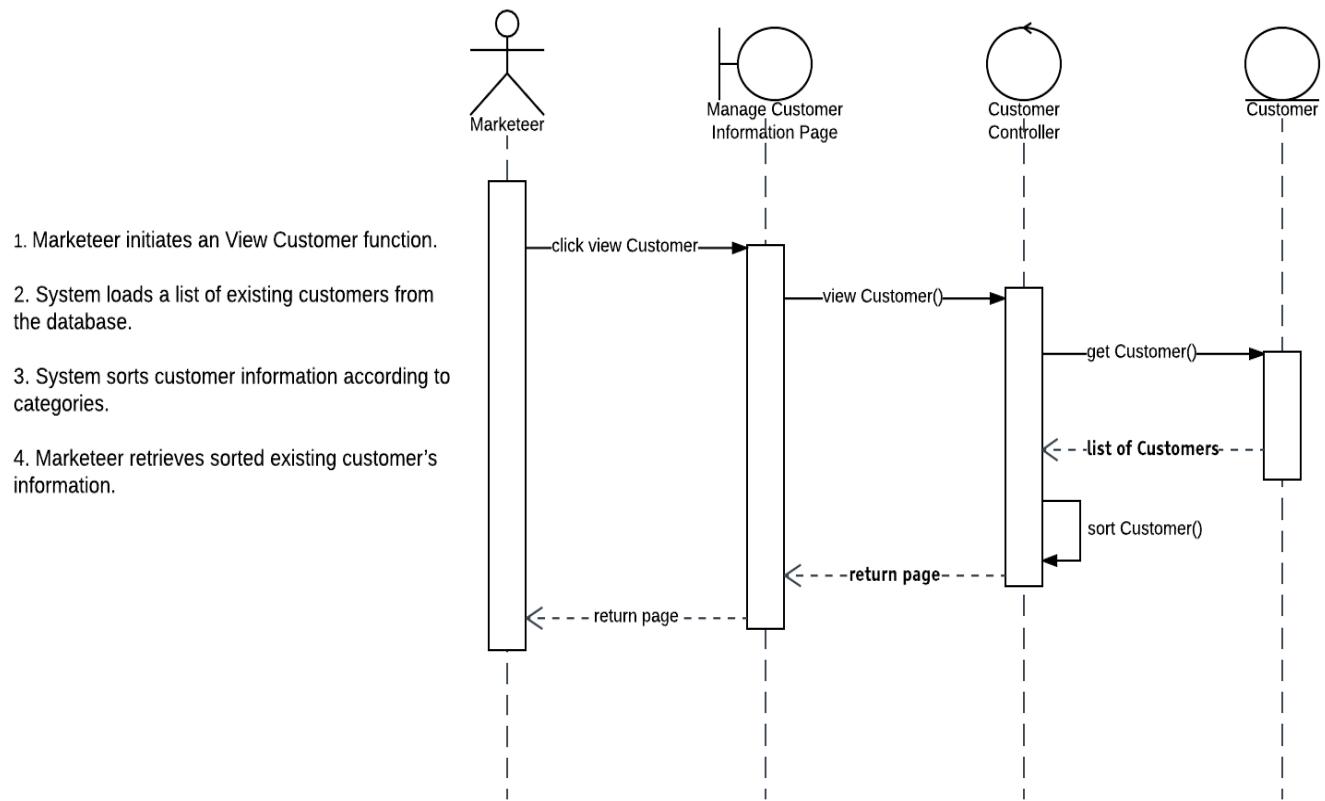


Figure 4.1.7.4 Sequence Diagram for Manage Customer Information

Figure 4.1.7.4 pertains to the sequence on how the marketeer manage the customer information and how the system handles and responds to the activity of the marketeer who is managing the customer information.

4.1.7.5 Sequence Diagram for Manage Prospective Customer

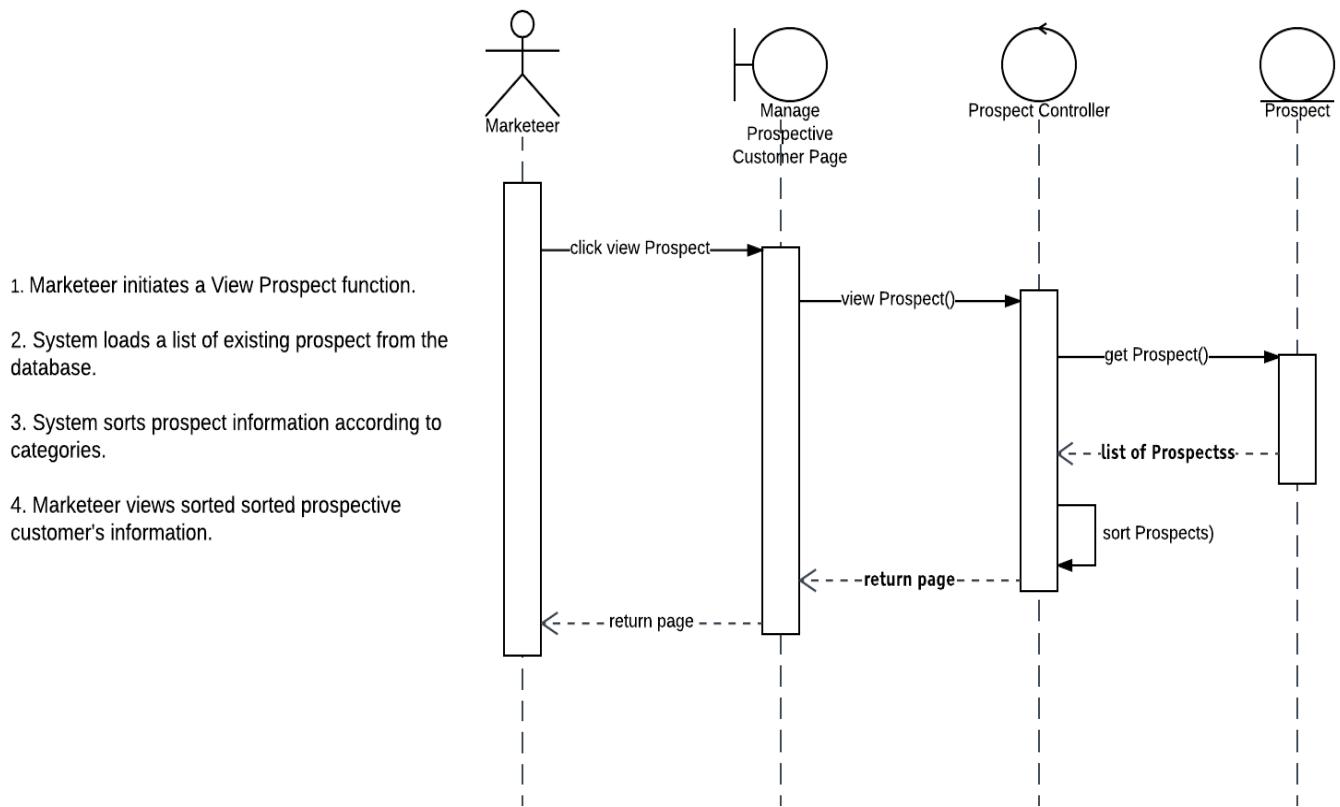


Figure 4.1.7.5 Sequence Diagram for Manage Prospective Customer

Figure 4.1.7.5 pertains to the sequence on how the marketer manage the prospective customers and how the system handles and responds to the activity of the marketer who is managing the prospective customers.

4.1.7.6 Sequence Diagram for Manage Email Reports

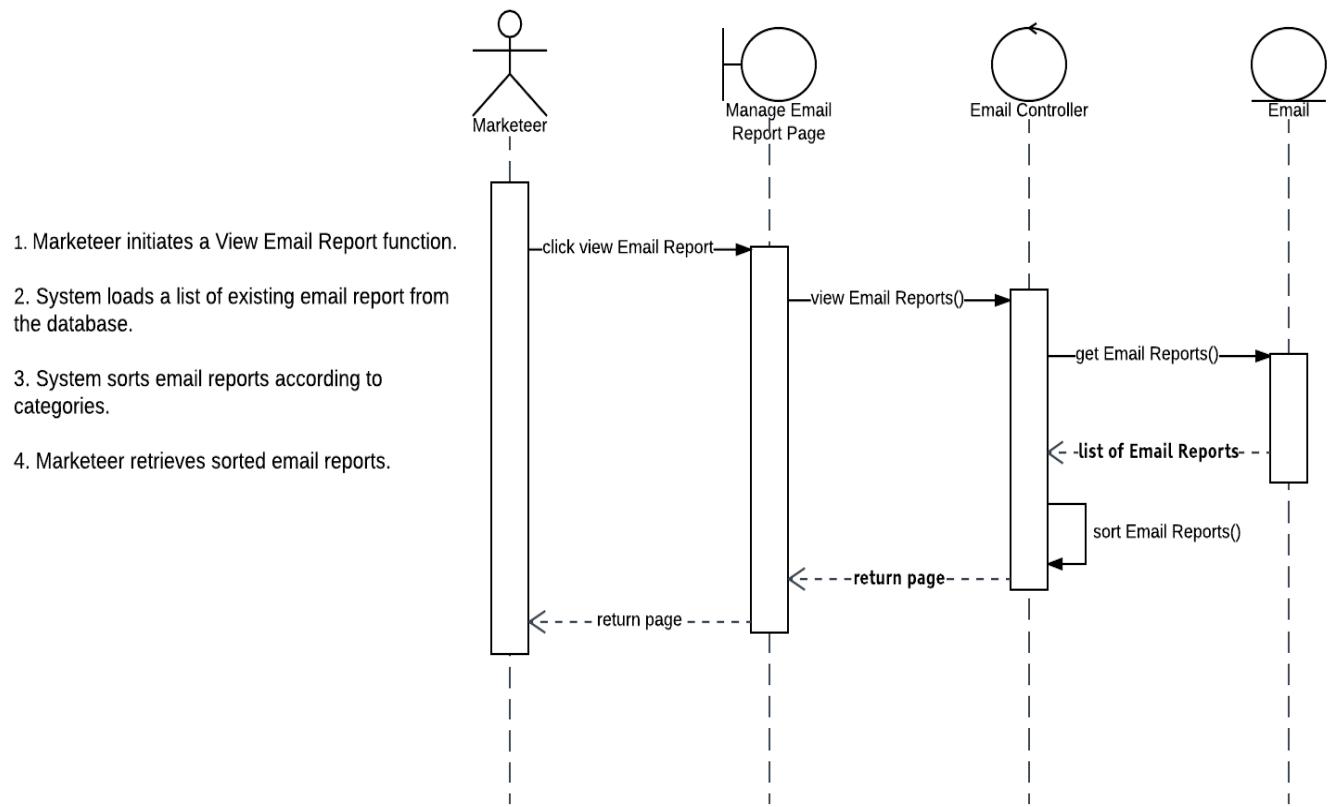


Figure 4.1.7 6 Sequence Diagram for Manage Email Reports

Figure 4.1.7.6 pertains to the sequence on how the marketeer manage the email reports and how the system handles and responds to the activity of the marketeer who is managing the email reports.

4.1.7.7 Sequence Diagram for Verify Customer Email

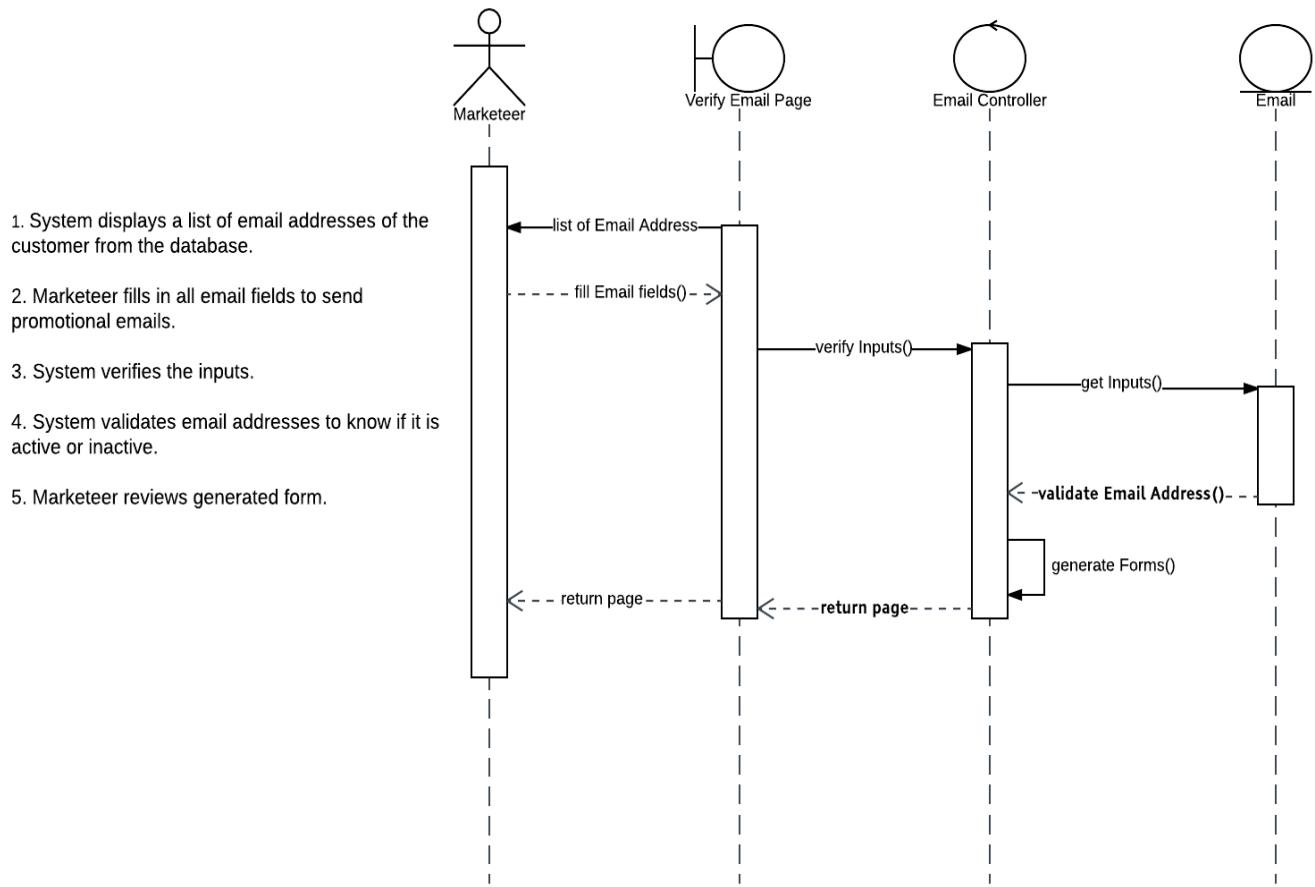


Figure 4.1.7 7 Sequence Diagram for Verify Customer Email

Figure 4.1.7.7 pertains to the sequence on how the system verifies the customer emails.

4.1.7.8 Sequence Diagram for Track Activities

4.1.7.8.1 Sequence Diagram for Track Activities of Customer

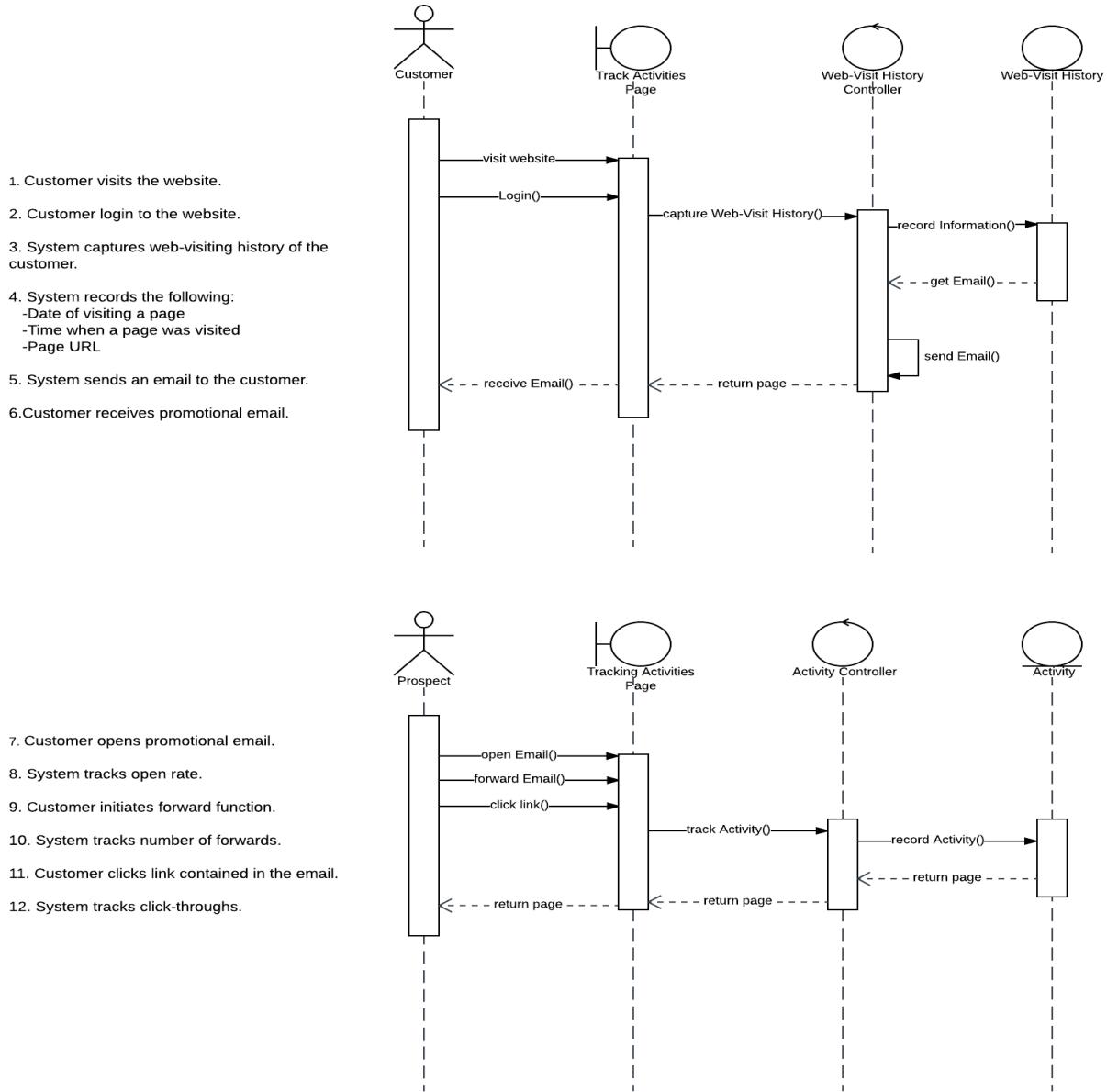


Figure 4.1.7.8.1 Sequence Diagram for Track Activities of Customer

Figure 4.1.7.8.1 pertains to the sequence on how the system tracks web and email activities.

4.1.7.8.2 Sequence Diagram for Track Activities of Prospect

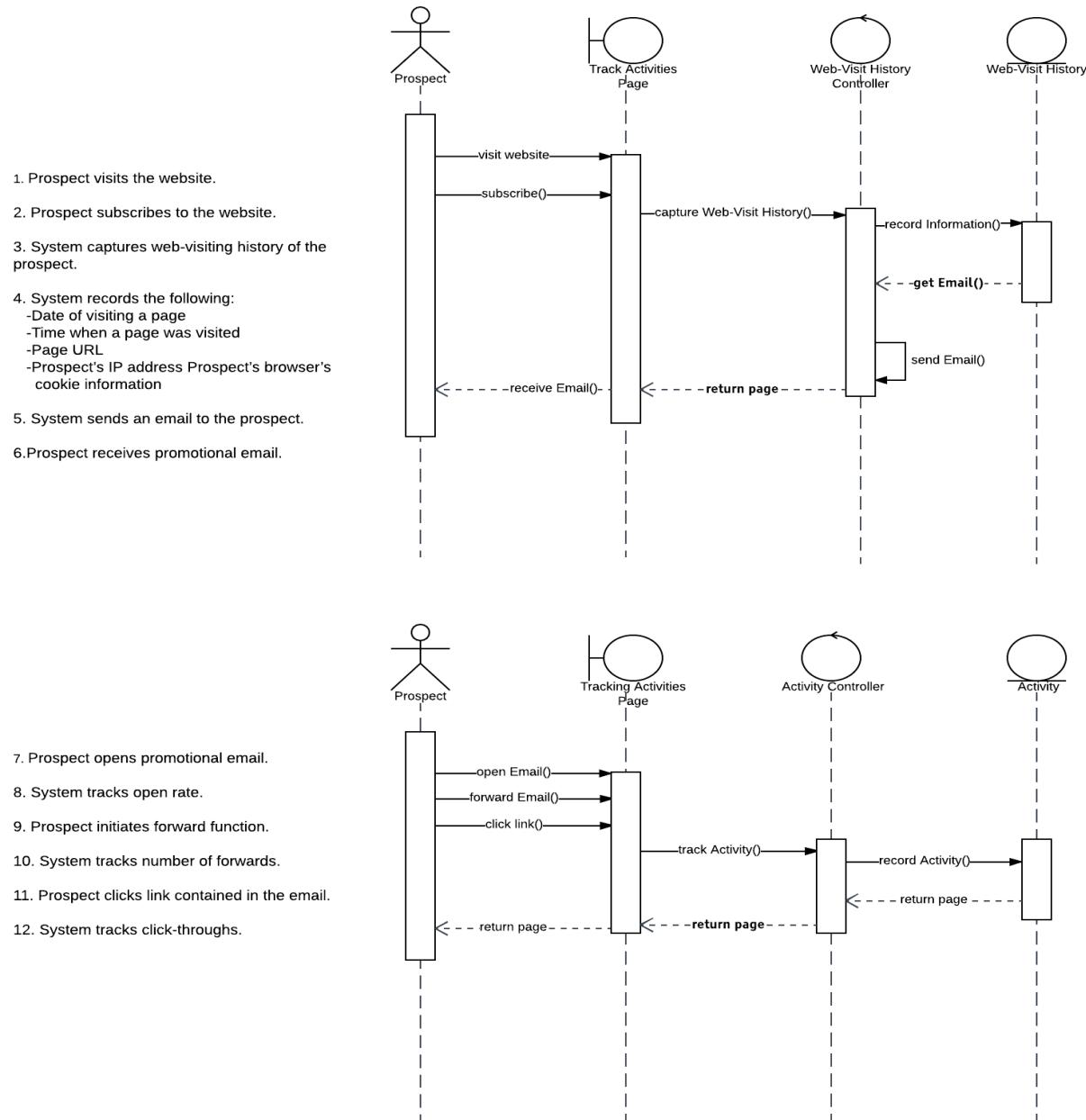


Figure 4.1.7.8 2 Sequence Diagram for Track Activities of Prospect

Figure 4.1.7.8 pertains to the sequence on how the system tracks the web and email activities of the prospective customer.

4.1.7.9 Sequence Diagram for Subscribe to Website

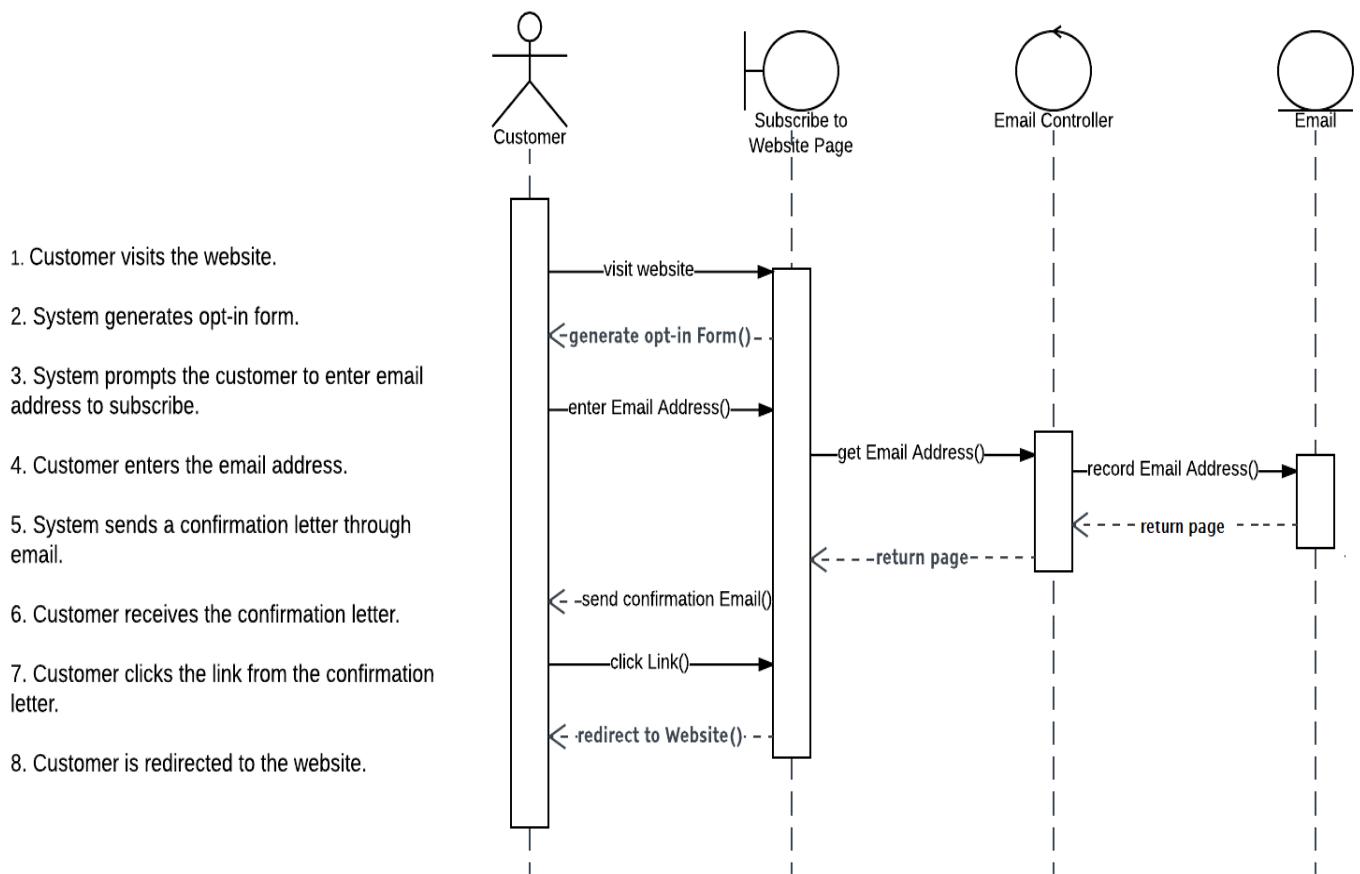


Figure 4.1.7.9 1 Sequence Diagram for Subscribe to Website

Figure 4.1.7.9 shows the sequence of the activity of customer who subscribes to the website and how the system responds in every customer activity.

4.1.8 Communication Diagram

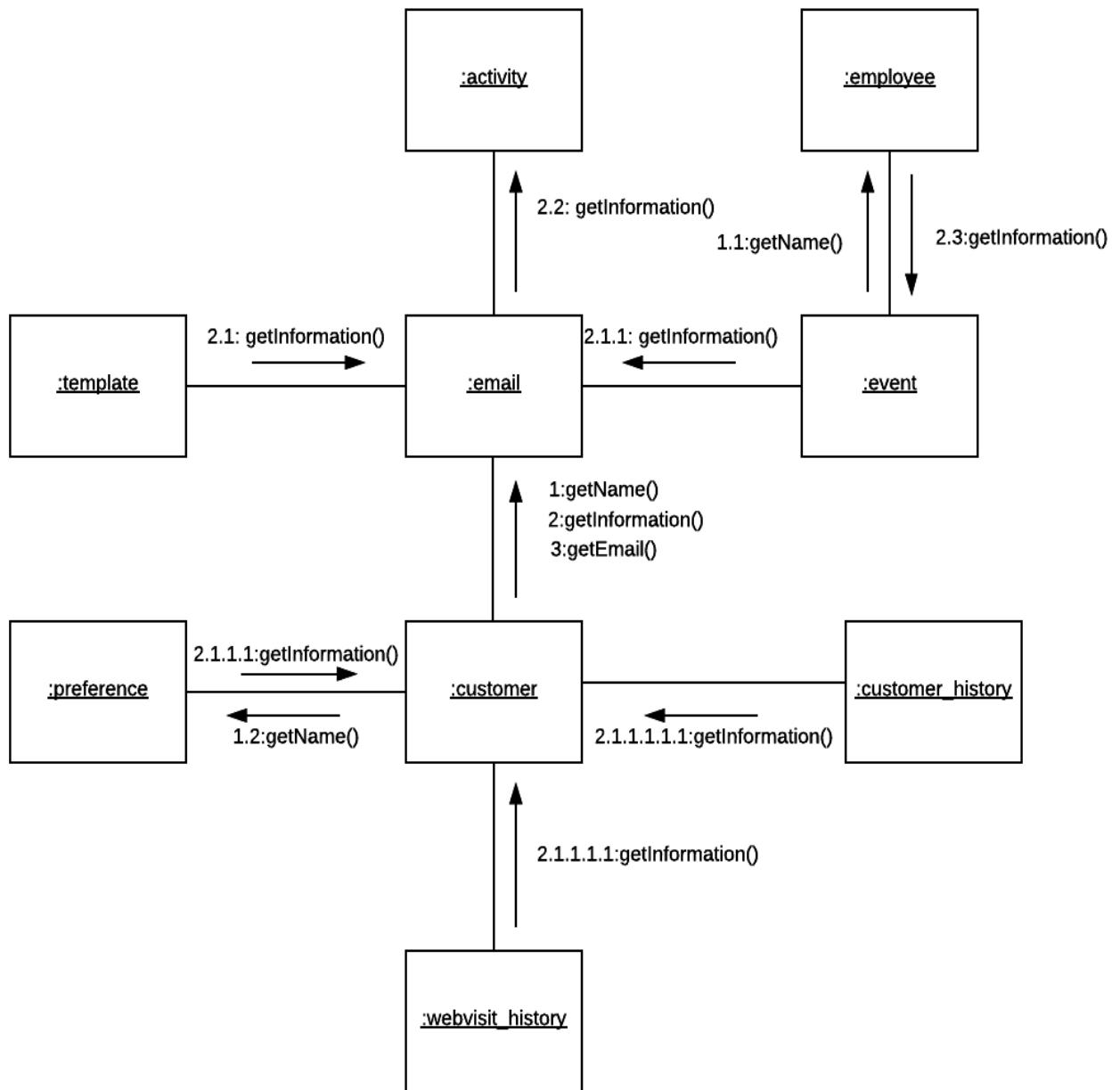


Figure 4.1.8 1 Communication Diagram

4.1.8.2 Component Diagram

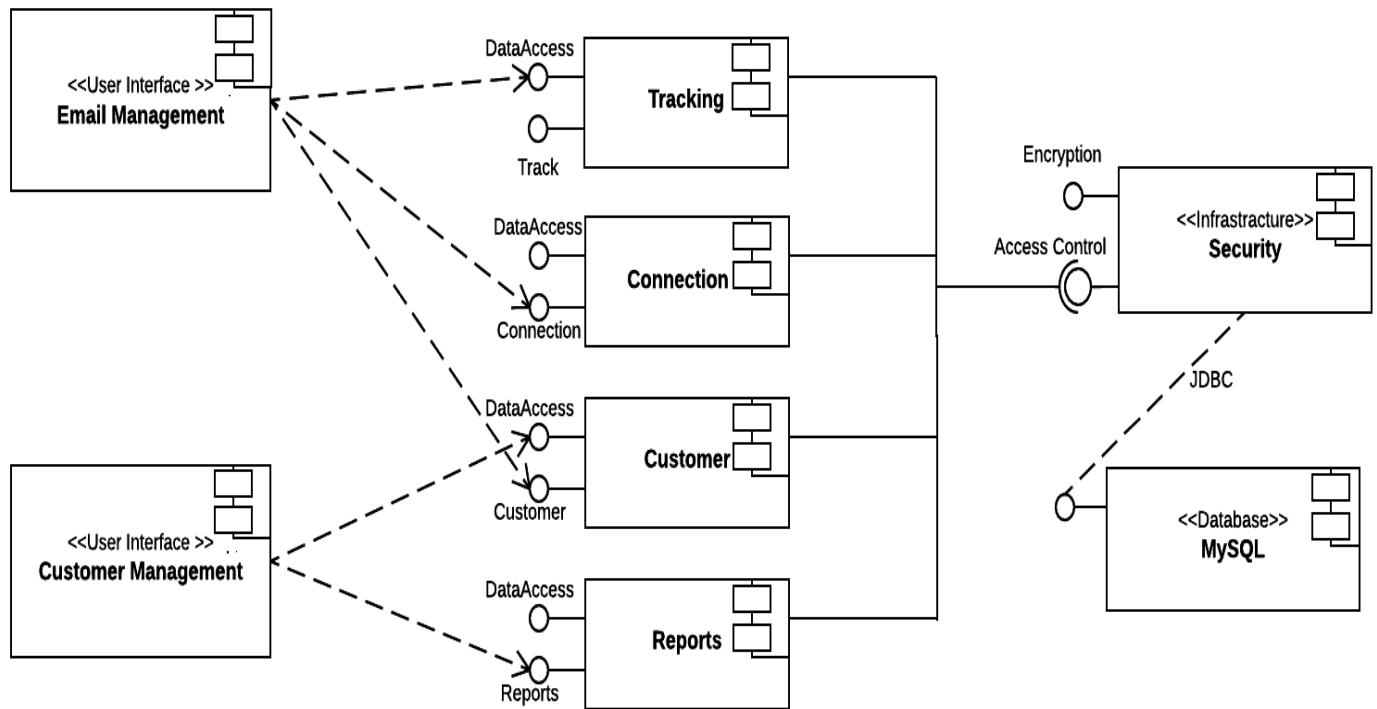


Figure 4.1.8 2 Component Diagram

The diagram shows the interaction of software and its components. It represents the use of the services of components through each interface.

4.1.8.3 Composite Structure Diagram

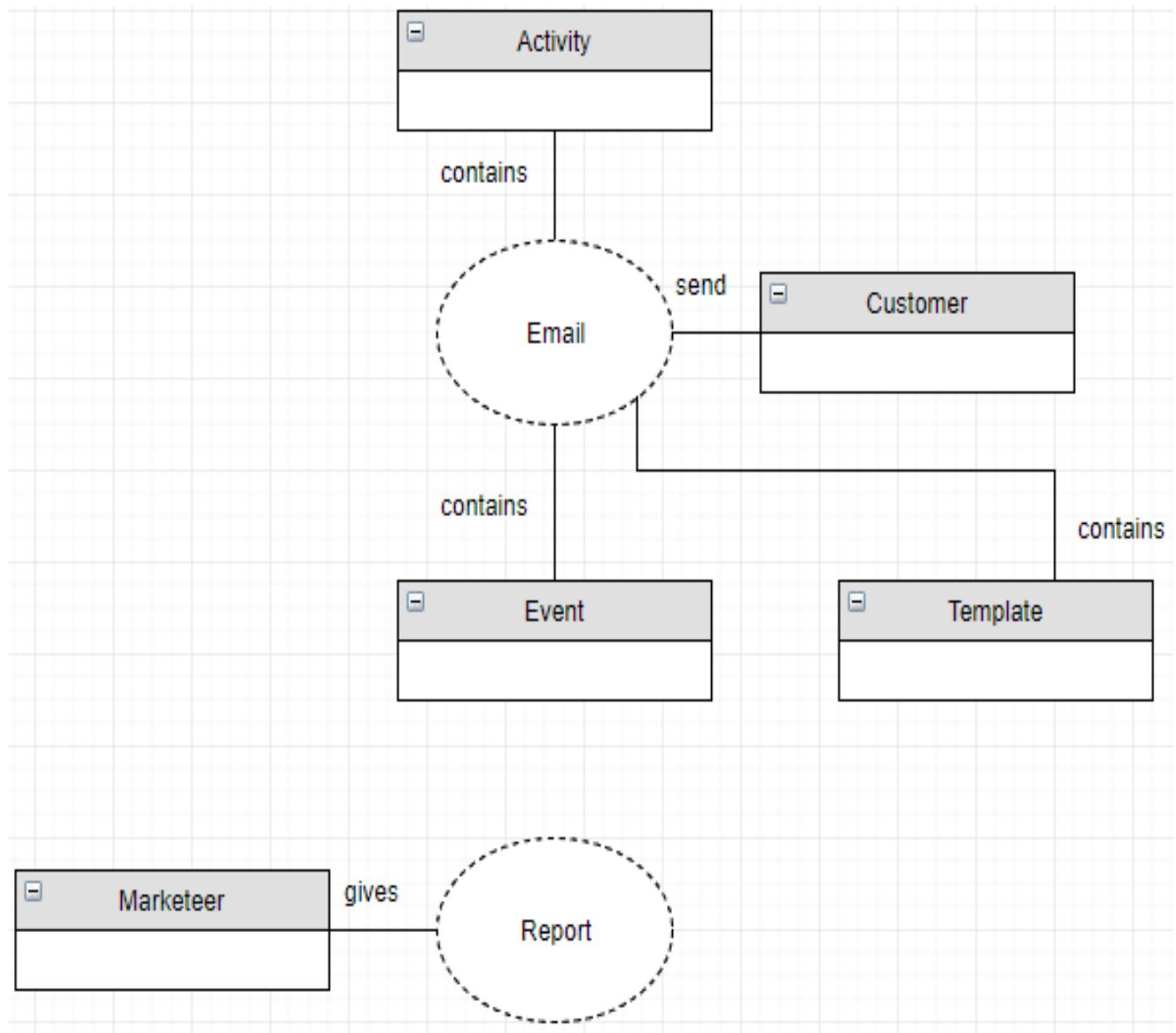


Figure 4.1.8.3 Composite Structure Diagram

This diagram shows that the Report and Email is the collaborator, and the activity, customer, event, template, and marketer are the parts.

4.1.8.4 Deployment Diagram

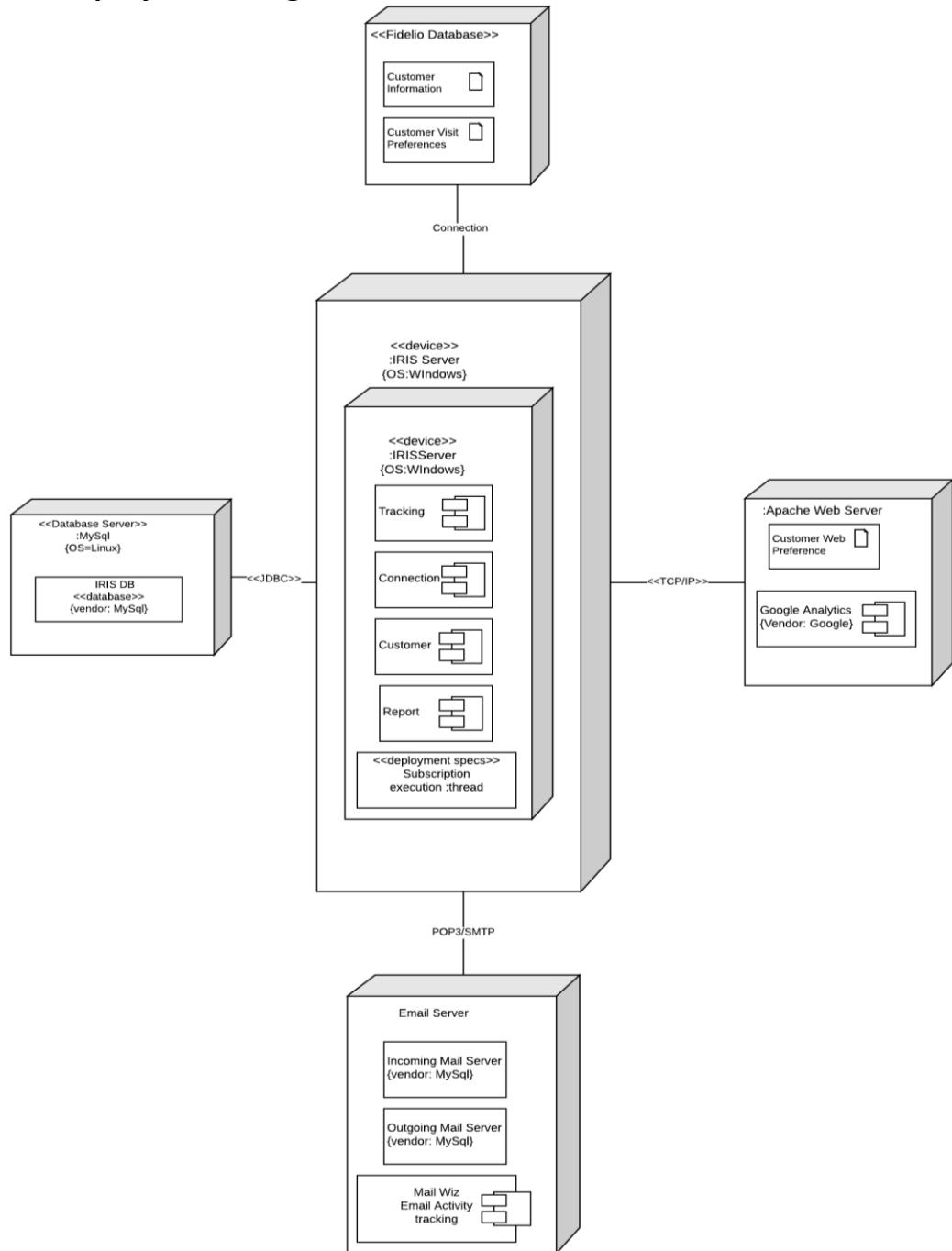


Figure 4.1.8.4 Deployment Diagram

Figure 4.1.8.4 shows the hardware and software that are used to gather and send data in the system and to the customers.

4.1.8.5 Interaction Overview Diagram

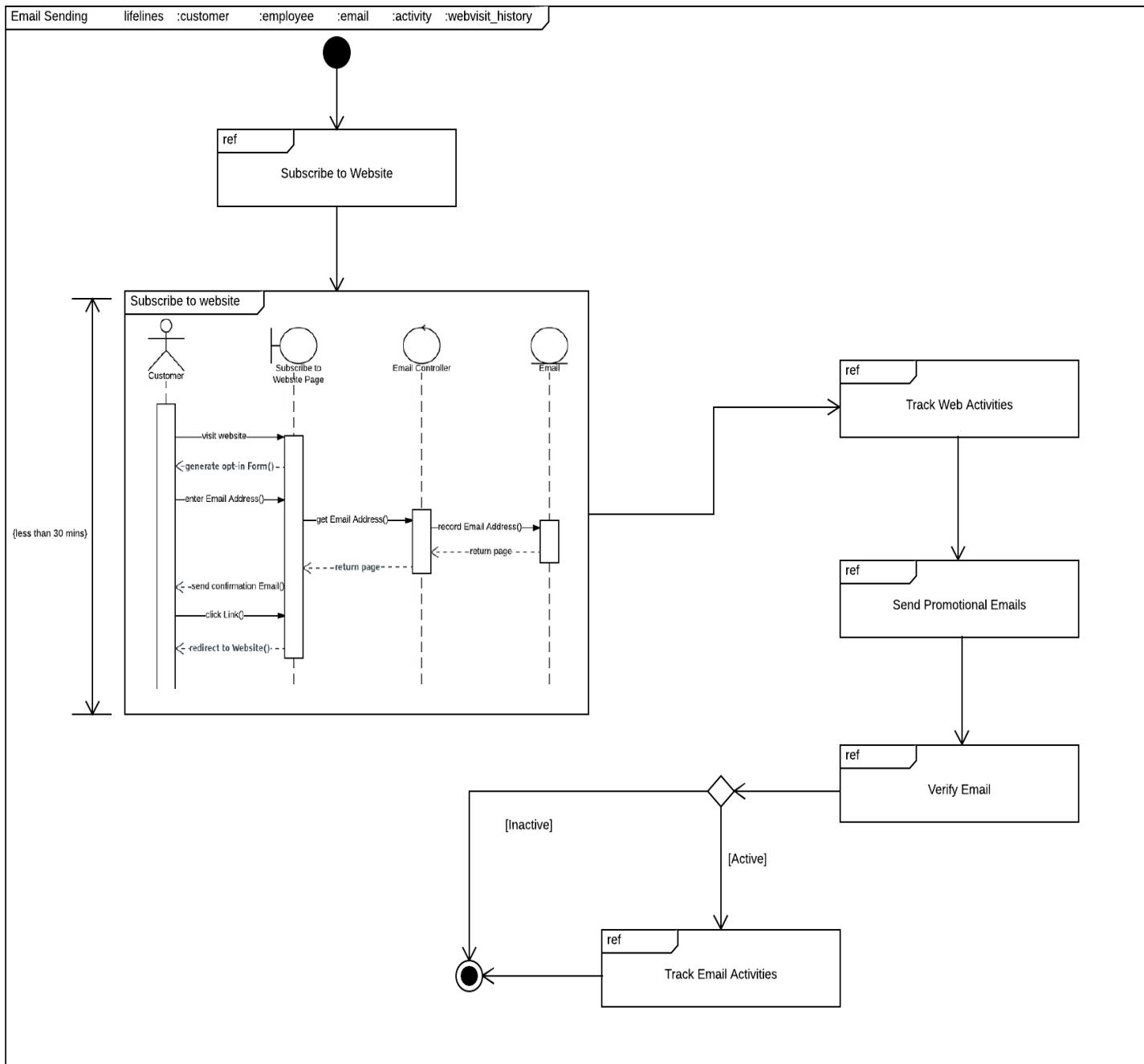


Figure 4.1.8 5 Interaction Overview Diagram

The Interaction Overview Diagram is the combination of sequence and activity diagram for it to show more detailed flow of action in the system.

4.1.8.6 Object Diagram

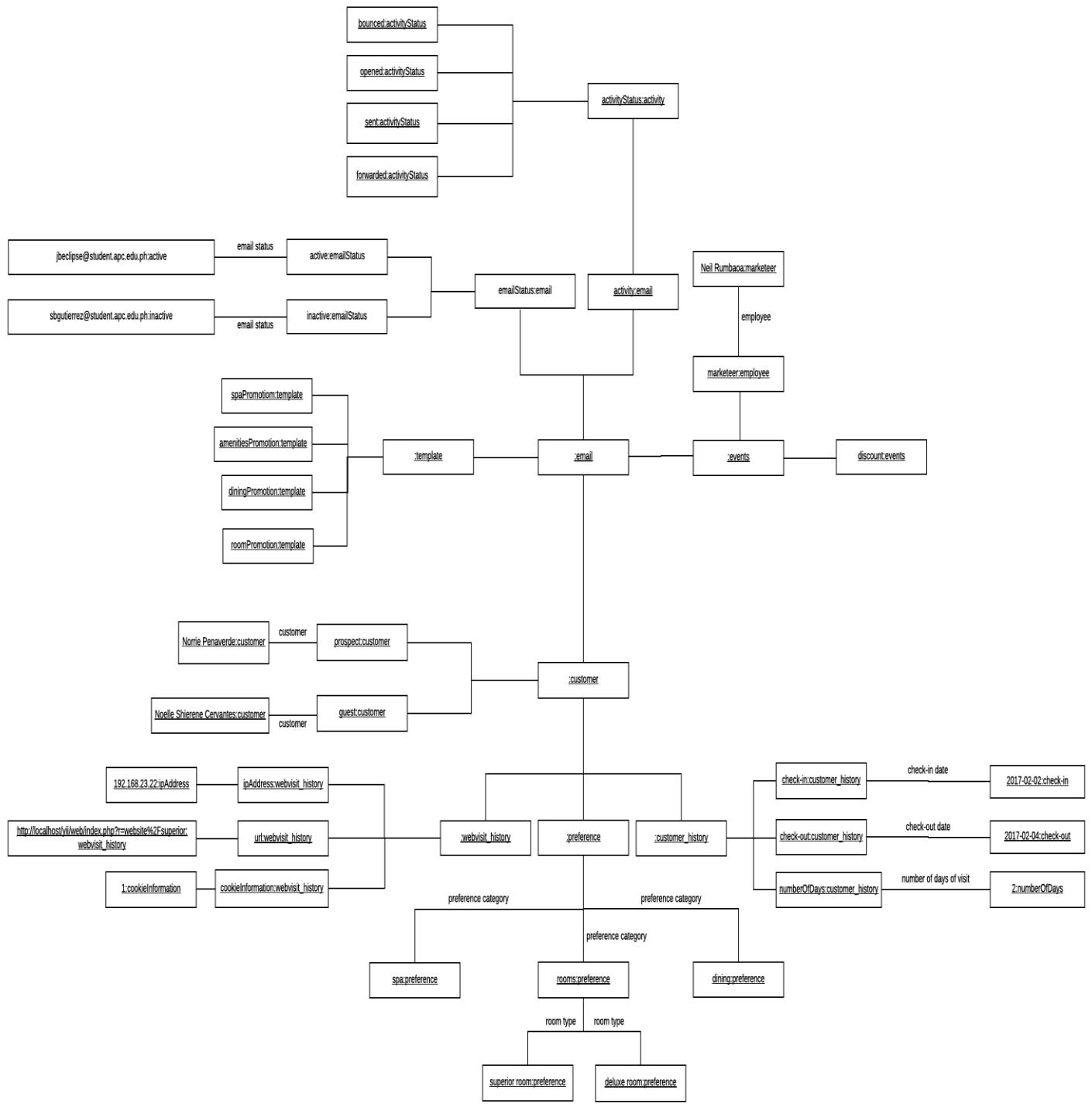


Figure 4.1.8 6 Object Diagram

The object diagram shows the more precise classes in the system and give emphasis between class.

4.1.8.7 Package Diagram

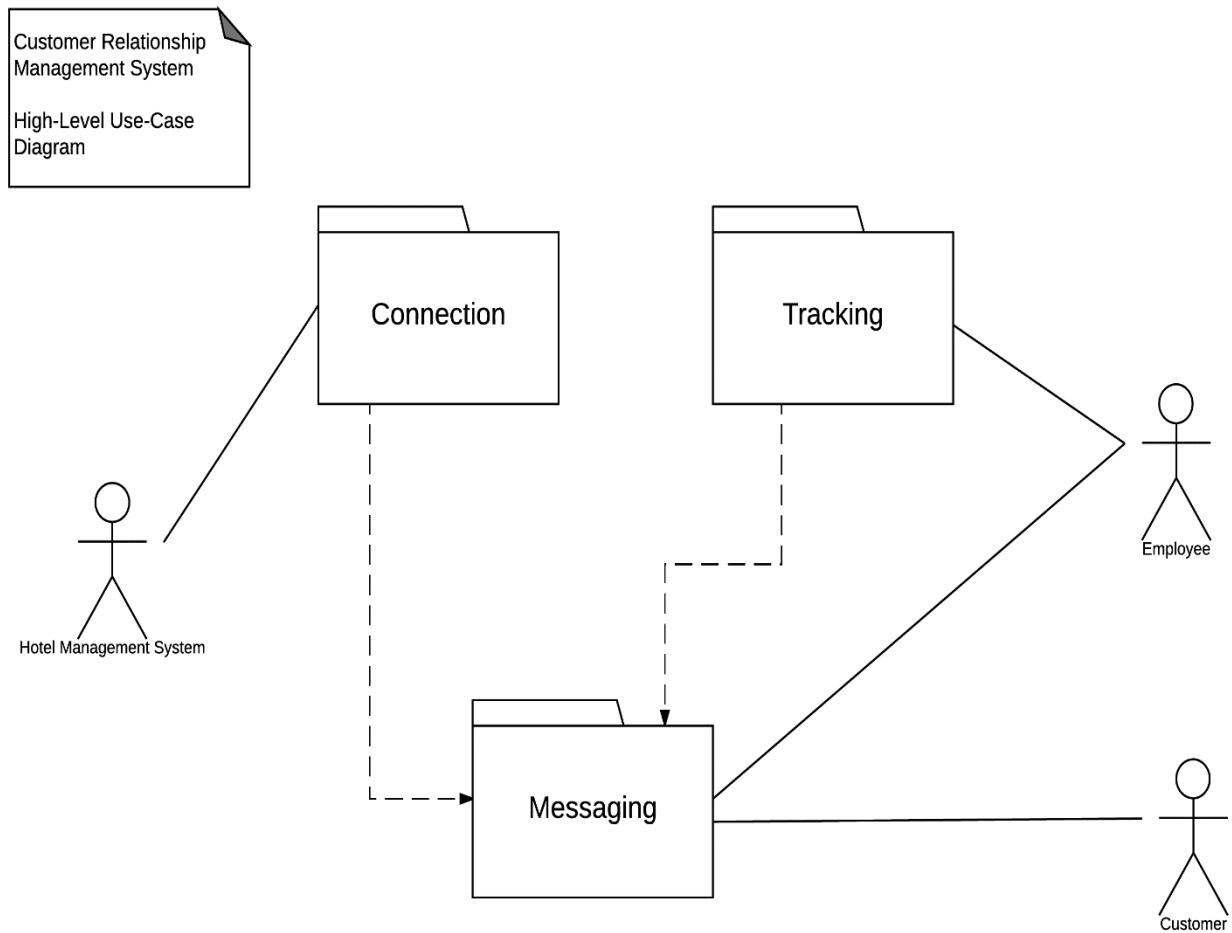


Figure 4.1.8 7 Package Diagram

The connection, tracking and messaging are the main packages in the system. The connection package is for the connection of the IRIS system to the Fidelio/ Hotel Management System. Tracking package is seen by the employee then goes to Messaging package for the emailing of the customer.

4.1.8.8 State Diagram

4.1.8.8.1 State Diagram (Manage Customer Information)

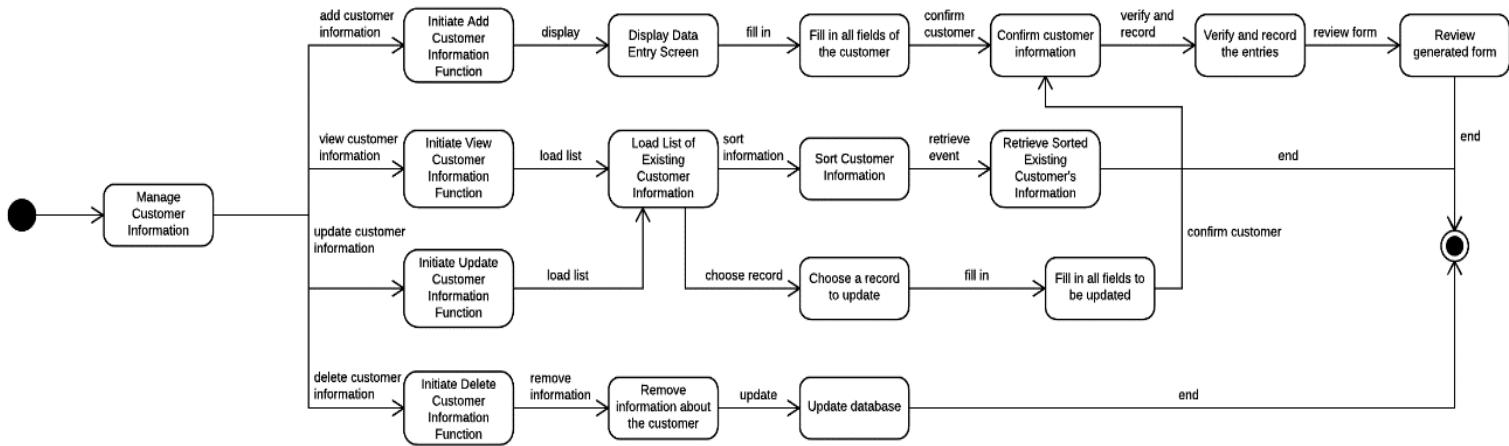


Figure 4.1.8.8.1 State Diagram (Manage Customer Information)

The diagram shows the state in managing the customer information that includes the create, update and delete function also the verification and recording of the information of the customer.

4.1.8.8.2 State Diagram (Sending Promotional Emails)

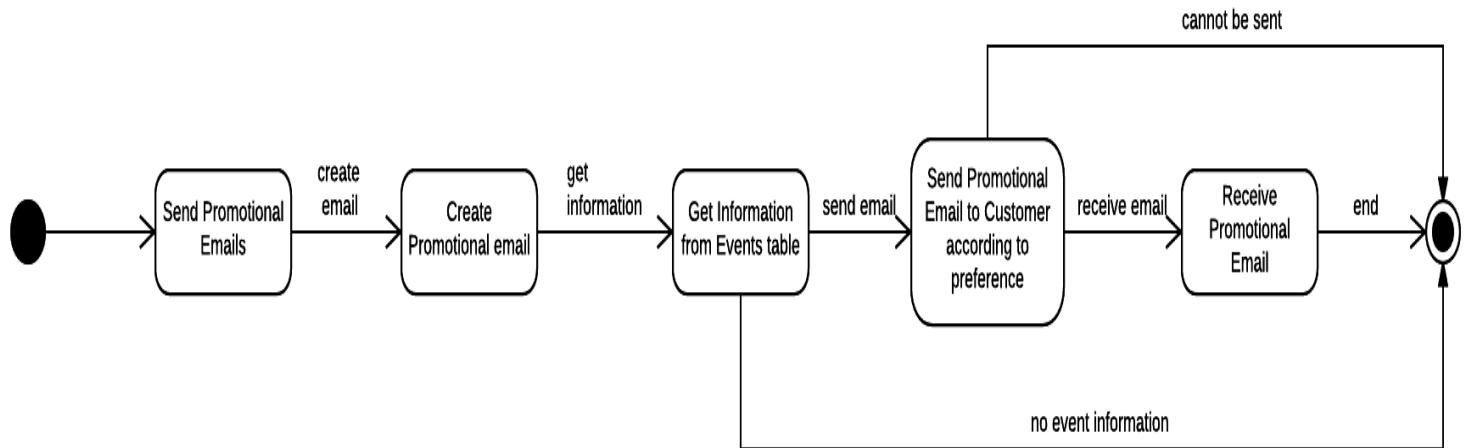


Figure 4.1.8.8.2 State Diagram (Sending Promotional Emails)

The diagram shows the state when the system will send promotional emails to the customer, where every promotional email contains the events and it is based on the customers preferences.

4.1.8.8.3 State Diagram (Subscribe to Website)

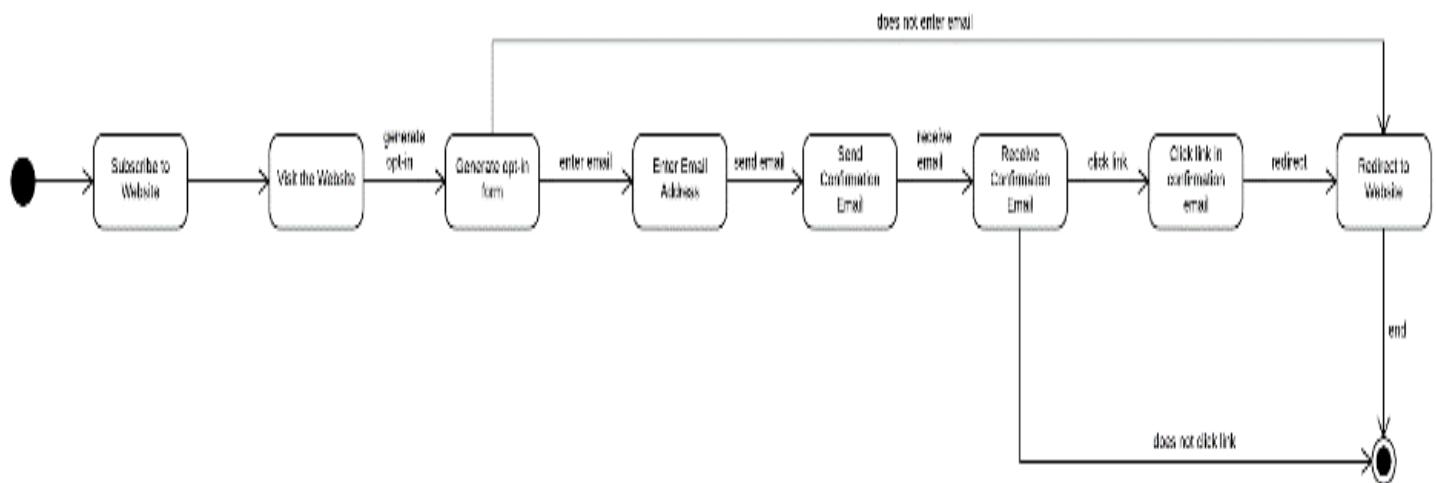


Figure 4.1.8.8.3 State Diagram (Subscribe to Website)

The diagram shows the states when a customer will subscribe in the website, from entering to the website up to the confirmation of the subscription of the customer.

4.1.8.8.4 State Diagram (Track Activities)

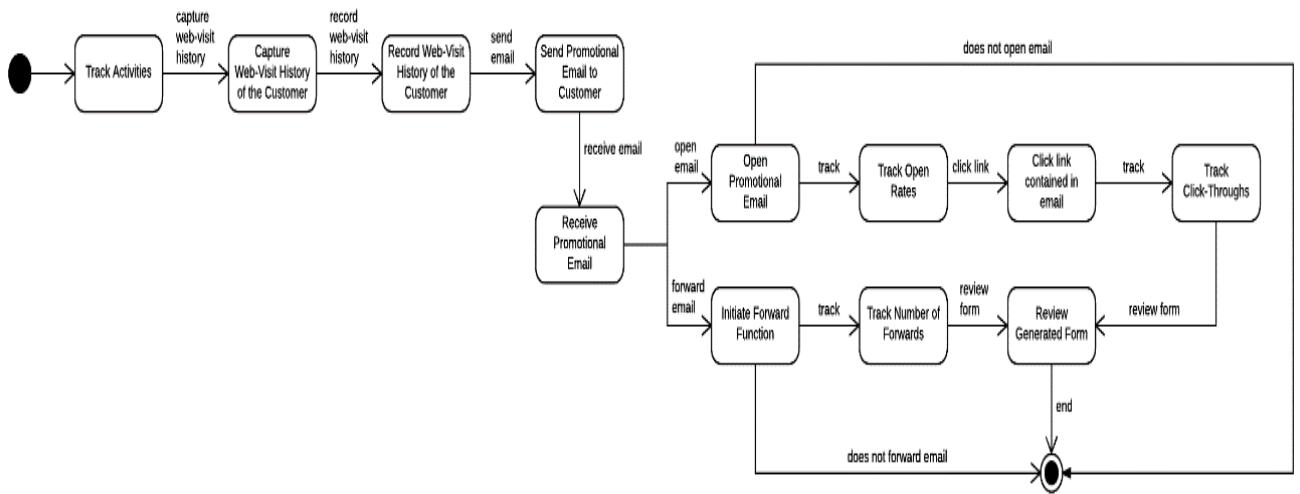


Figure 4.1.8.8 4 State Diagram (Track Activities)

This diagram shows the transition between the states in tracks the web and email activities of the prospective customer.

4.1.9.1 Timing Diagram (Send Promotional Emails)

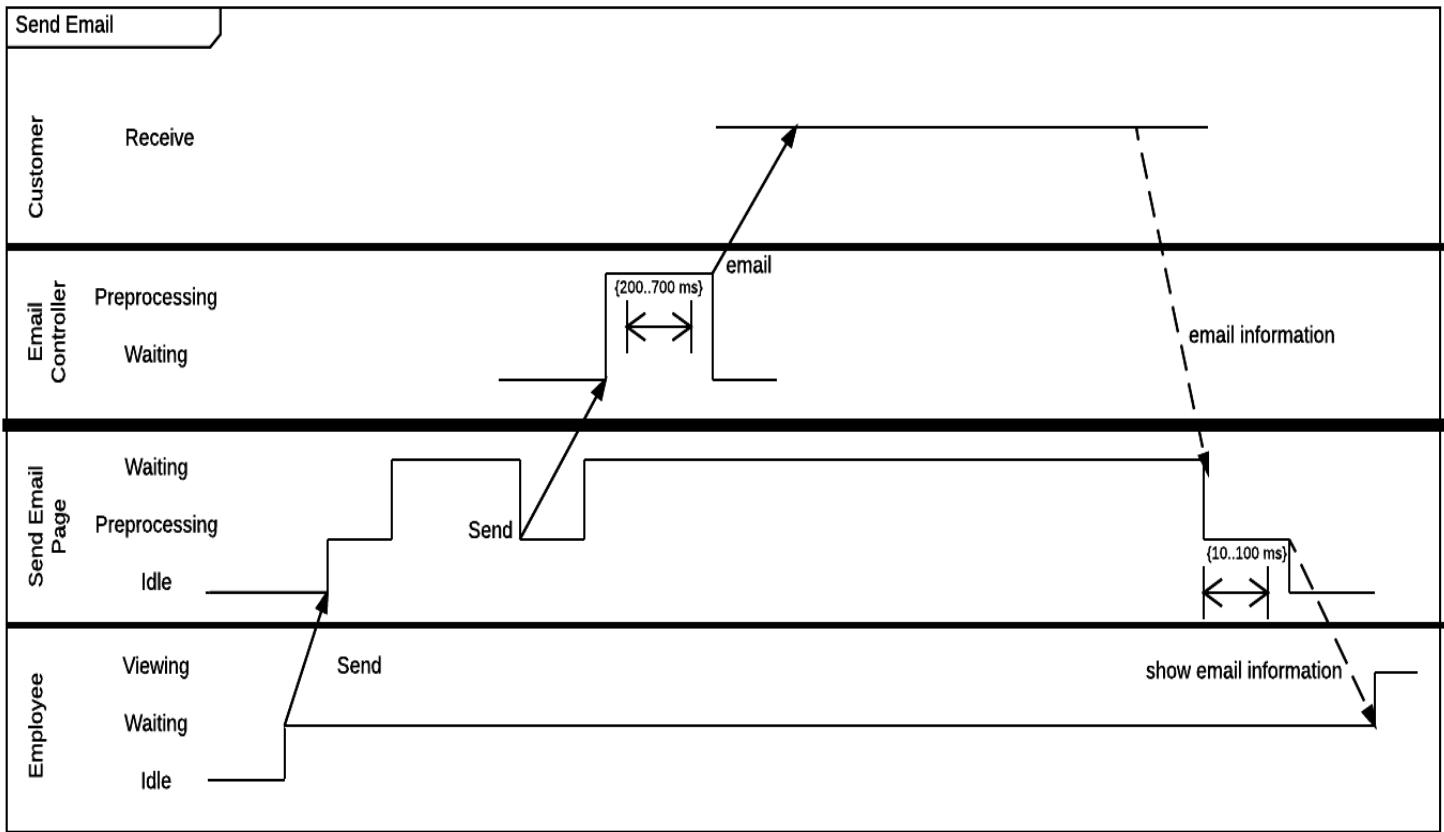


Figure 4.1.9.1 Timing Diagram (Send Promotional Emails)

The diagram shows the time when the system sends promotional email and the time customers received and viewed the email.

4.1.9.2 Timing Diagram (Manage Customer)

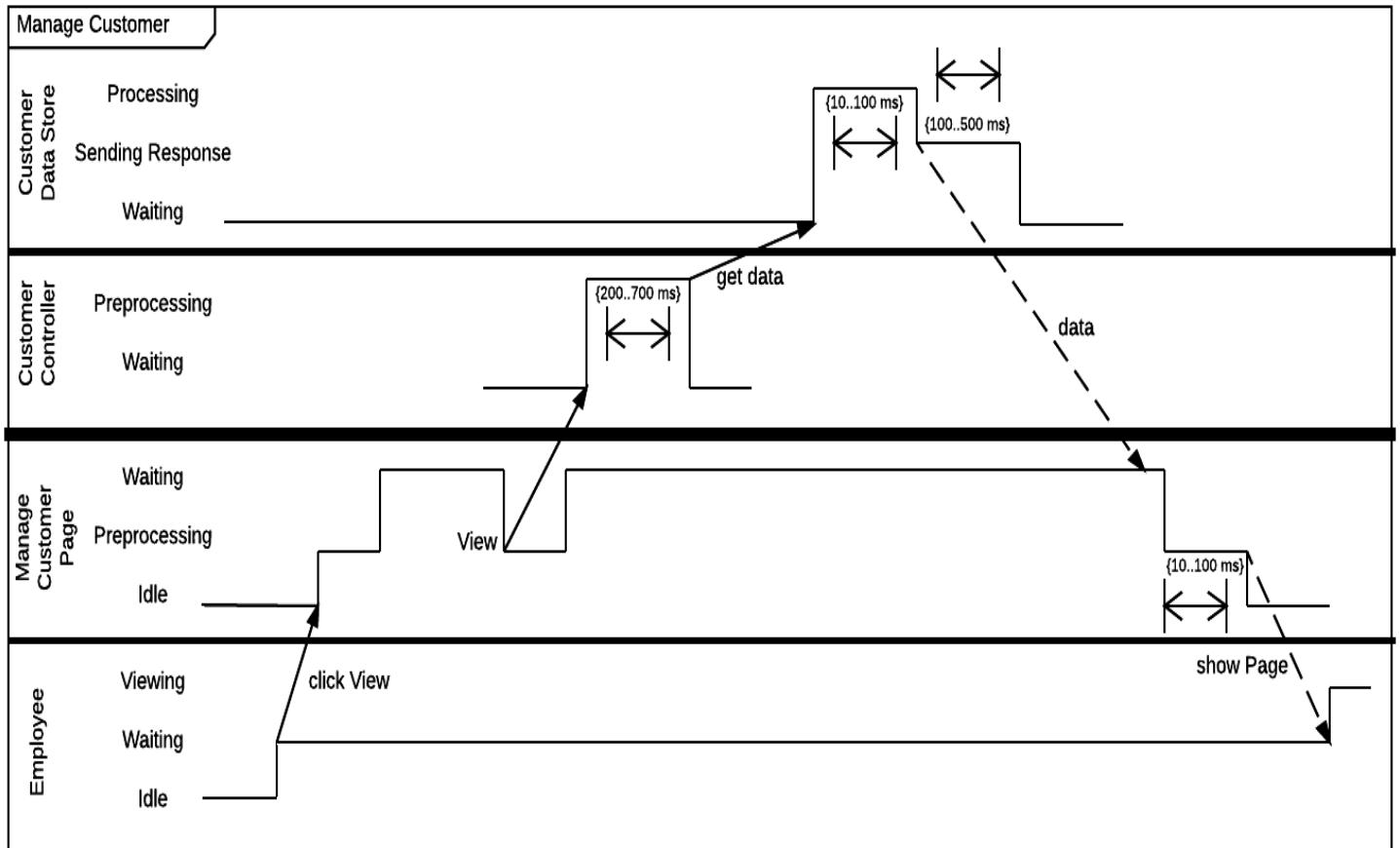


Figure 4.1.9 2 Timing Diagram (Manage Customer)

The diagram shows the time when the marketeer viewed the data of the customer from the website.

4.1.9.3 Timing Diagram (Subscribe to Website)

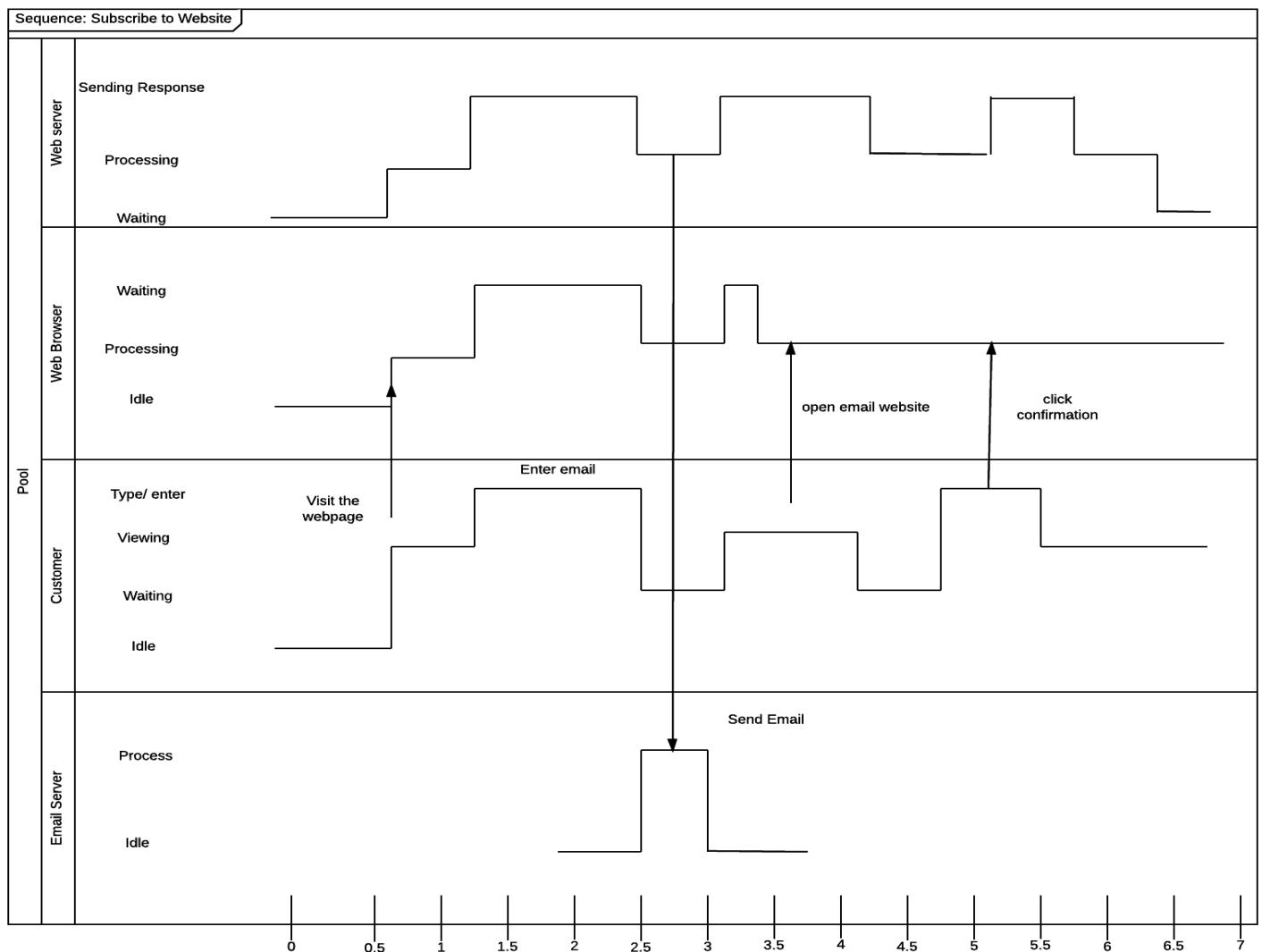


Figure 4.1.9.3 Timing Diagram (Subscribe to website)

The diagram shows the time when a customer subscribes to the website and the system will send an email.

4.1.9.4 Timing Diagram (Track Activities of Customer)

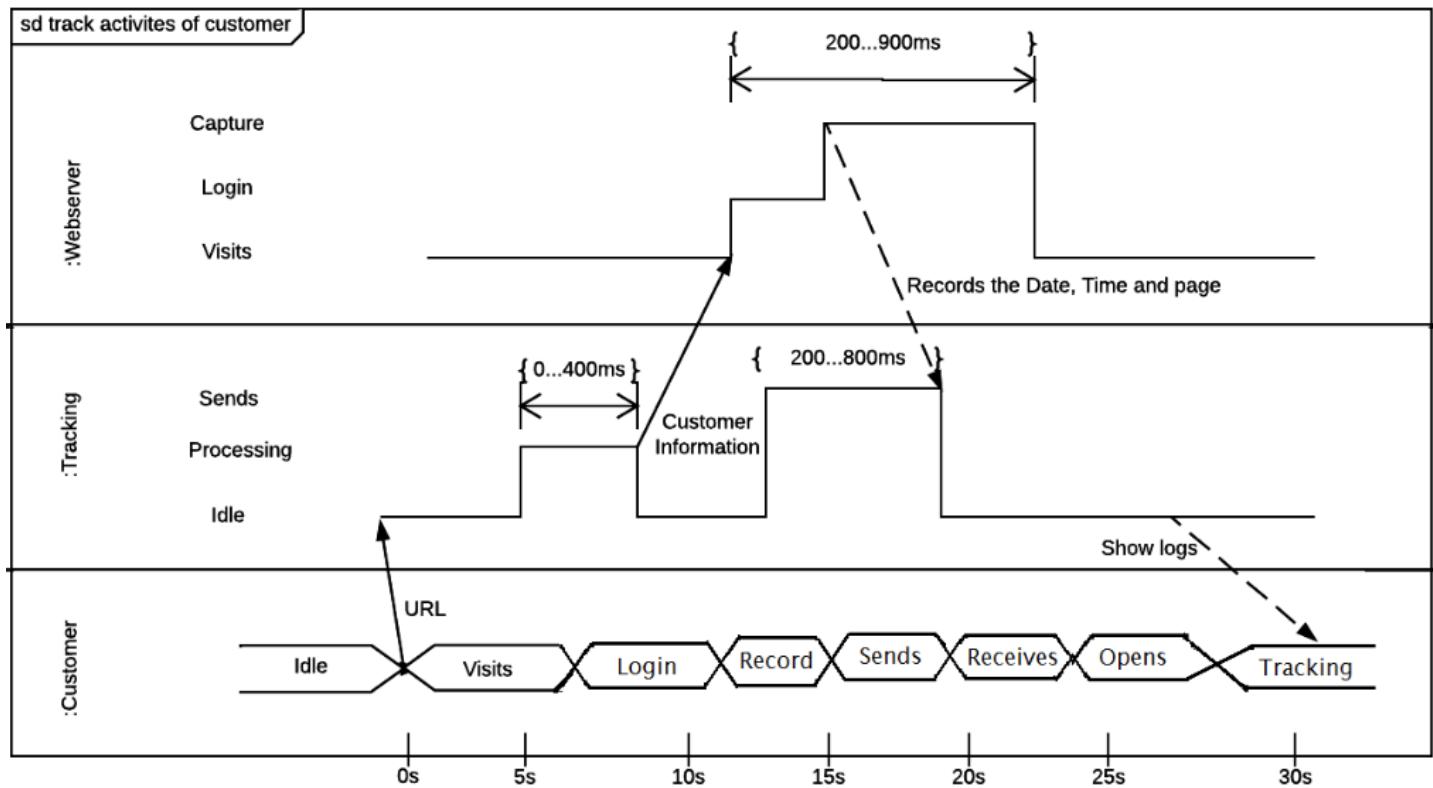


Figure 4.1.9 4 Timing Diagram

The diagram shows the time of every web visit and track all the activities of a customer.

4.2 Requirements Documentation

4.2.1 Use Case Diagram

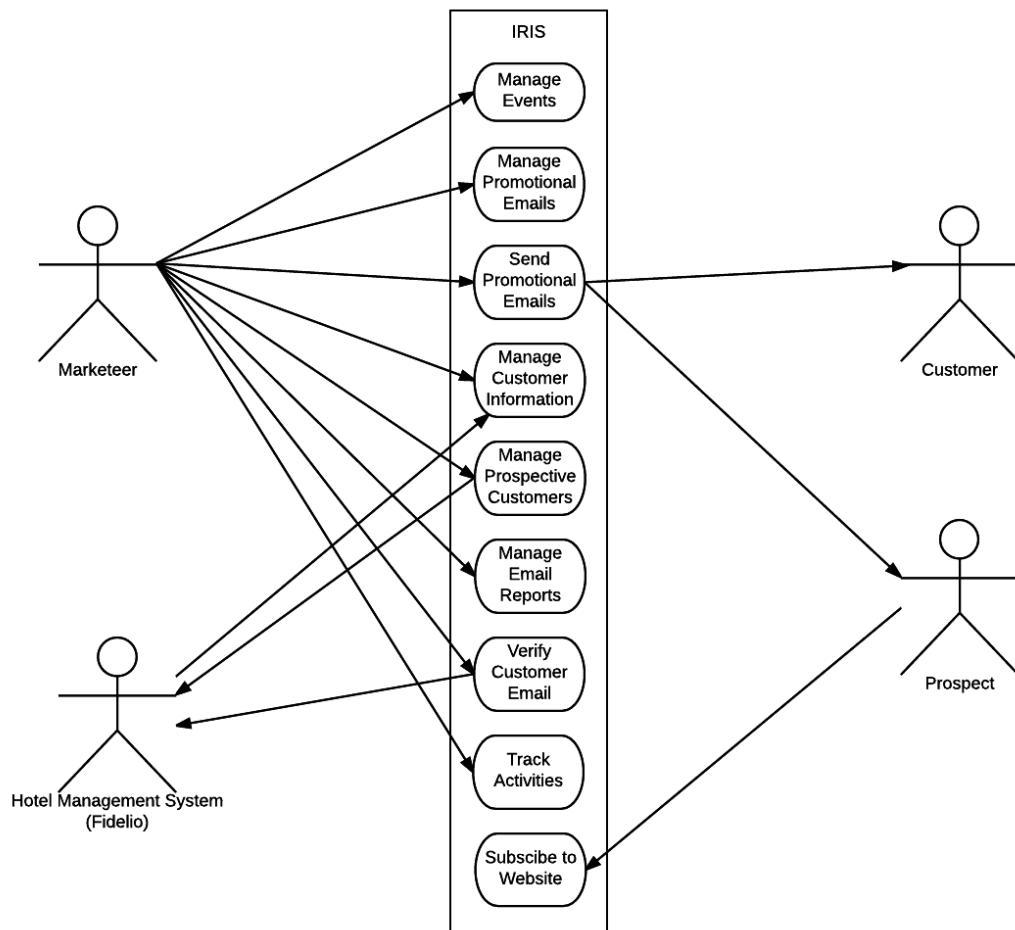


Figure 4.2.1 Use Case Diagram of Proposed System

Figure 4.2.1 shows the actors involved in the system, as well as the activities done within the system by the actors.

4.2.2 Use Case Specifications

This part shows the fully-dressed specifications of each use case shown in Figure 4.2.1. The description, preconditions, main success scenario, alternate flows, as well as the actors involved in each process are also defined.

4.2.2.1 Manage Events

Use Case ID	Use Case Name			
IRIS-USC01	Manage Events			
Description				
Records events information.				
Actor/s				
Marketeer				
Precondition/s				
Marketeer has an account in the system, and has authority to manage events information.				
Main Success Scenario:				
Step	Activity			
1	Marketeer initiates a View Events function.			
2	System loads a list of existing events from the database.			
3	System sorts events information according to categories.			
4	Marketeer retrieves sorted events information.			
Alternate Flows:				
Step	Alternate Flow	Activity		
*	Marketeer cancels managing events	System discards the entire process and ends use case.		
1a	Marketeer adds event's information.	<ol style="list-style-type: none">1. Marketeer initiates an Add Event function.2. System displays a data entry screen containing the following:<ul style="list-style-type: none">• Date the event was created• Description of event• Start date of event's effectiveness• End date of event's effectiveness3. Marketeer fills in all fields of the events.4. Marketeer confirms events information.5. System verifies inputs.6. System records the entries.		

		7. Marketeer reviews generated form.
1b	Marketeer updates event's information.	<ol style="list-style-type: none"> 1. Marketeer initiates an Update Event function. 2. System loads a list of existing events from the database. 3. System displays all existing events from the database. 4. Marketeer chooses a record to update. 5. Marketeer fills in fields to be updated. 6. Marketeer confirms events information. 7. System verifies inputs. 8. System records the entries. 9. Marketeer reviews generated form.
1c	Marketeer deletes event's information.	<ol style="list-style-type: none"> 1. Marketeer initiates a Delete Event function. 2. System omits information about the event. 3. System updates the database.
1a.5a/ 1b.7a	Marketeer fails to fill in required field/s.	<ol style="list-style-type: none"> 1. Marketeer does not fill in a required field. 2. System prompts the marketeer to fill in the field/s.
1a.5b/ 1b.7b	Marketeer's input does not match designated data type.	<ol style="list-style-type: none"> 1. Marketeer inputs a value to a field that does not match its assigned data type. 2. System prompts the marketeer to check field input with errors.
<p>Post-conditions</p> <ol style="list-style-type: none"> 1. System records events information. 		

Table 4.2.2 1 Manage Events

4.2.2.2 Manage Promotional Emails

Use Case ID	Use Case Name			
IRIS-USC02	Manage Promotional Emails			
Description				
Records promotional email's information.				
Actor/s				
Marketeer				
Precondition/s				
Marketeer should already have an account in the system, and has authority to manage promotional email's information.				
Main Success Scenario:				
Step	Activity			
1	Marketeer initiates a View Email function.			
2	System loads a list of existing emails from the database.			
3	System sorts emails according to categories.			
4	Marketeer retrieves sorted email information.			
Alternate Flows:				
Step	Alternate Flow	Activity		
*	Marketeer cancels managing promotional emails	System discards the entire process and ends use case.		
1a	Marketeer adds promotional emails information.	<ol style="list-style-type: none"> 1. Marketeer initiates an Add Promotional Email function. 2. System displays data entry screen containing the following: <ul style="list-style-type: none"> • Date the email is sent • Recipient of email • Content of email • Email template 3. Marketeer fills in all fields of promotional emails. 4. Marketeer confirms promotional emails information. 5. System verifies input. 6. System records the entries. 7. Marketeer reviews generated form. 		

1b	Marketeer updates promotional emails information.	<ol style="list-style-type: none"> 1. Marketeer initiates an Update Promotional Email function. 2. System loads a list of promotional emails from the database. 3. System displays a list of existing promotional emails. 4. Marketeer chooses a record to be updated. 5. Marketeer fills in fields to be updated. 6. Marketeer confirms promotional emails information. 7. System verifies inputs. 8. System records the entries. 9. Marketeer reviews generated form.
1c	Marketeer deletes promotional email's information.	<ol style="list-style-type: none"> 1. Marketeer initiates a Delete Promotional Email function. 2. System omits information about the promotional email. 3. System updates the database.
1a.5a/ 1b.7a	Marketeer fails to fill in required field/s.	<ol style="list-style-type: none"> 1. Marketeer does not fill in a required field. 2. System prompts the marketeer to fill in the field/s.
1a.5b/ 1b.7b	Input does not match designated data type.	<ol style="list-style-type: none"> 1. Marketeer inputs a value to a field that does not match its assigned data type. 2. System prompts the marketeer to check field input with error/s.
Post-conditions		<ol style="list-style-type: none"> 1. System records promotional email's information.

Table 4.2.2 2 Manage Promotional Emails

4.2.2.3 Send Promotional Emails

Use Case ID	Use Case Name			
IRIS-USC03	Send Promotional Emails			
Description				
Sends promotional email to the customer.				
Actor/s				
Marketeer				
Precondition/s				
Customer should already have a record in the database and the system should have internet connection.				
Main Success Scenario:				
Step	Activity			
1	System creates promotional email.			
2	System gets information from the events table that are contingent on prospective customer's preference.			
3	System sends promotional email to the customers according to what customer's preference.			
4	Customer receives promotional email.			
Alternative Flow				
Step	Alternate Flow	Activity		
2	System cannot find an event.	System notifies marketeer to create new events regarding customer's interest.		
3	System cannot send an email to the recipient.	<ol style="list-style-type: none"> 1. System notifies the marketeer. 2. System records bounced messages to database. 		
Post-condition/s				
<ol style="list-style-type: none"> 1. System sends promotional email to the customer. 2. System saves email information to database. 				

Table 4.2.2.3 Send Promotional Emails

4.2.2.4 Manage Customer Information

Use Case ID	Use Case Name			
IRIS-USC04	Manage Customer Information			
Description				
Records existing customer's information.				
Actor/s				
Marketeer				
Precondition/s				
Marketeer should already have an account in the system, and has authority to manage customer information.				
Main Success Scenario:				
Step	Activity			
1	Marketeer initiates an View Customer function.			
2	System loads a list of existing customers from the database.			
3	System sorts customer information according to categories.			
4	Marketeer retrieves sorted existing customer's information.			
Alternate Flows:				
Step	Alternate Flow	Activity		
*	Marketeer cancels managing customers' information	System discards the entire process and ends use case.		
1a	Marketeer adds customer's information.	<ol style="list-style-type: none"> 1. Marketeer initiates an Add Customer function. 2. System displays a data entry screen containing the following information: <ul style="list-style-type: none"> • First name of customer • Middle name of customer • Surname of customer • Customer's email address • Customer's contact number 3. Marketeer fills in all fields of the customer. 4. Marketeer confirms customer information. 5. System verifies inputs 6. System records the entries. 7. Marketeer reviews generated form. 		
1b	Marketeer updates	<ol style="list-style-type: none"> 1. Marketeer initiates an Update Customer 		

	customer's information.	<p>function.</p> <ol style="list-style-type: none"> 2. System loads a list of existing customers from the database. 3. System displays all existing customer information. 4. Marketeer chooses a customer record to be updated. 5. Marketeer fills in fields to be updated. 6. Marketeer confirms customer's information. 7. System verifies inputs 8. System records the entries. 9. Marketeer reviews generated form.
1c	Marketeer deletes customer's information.	<ol style="list-style-type: none"> 1. Marketeer initiates a Delete Customer function. 2. System omits information about the customer. 3. System updates the database.
1a.5a/ 1b.7a	Marketeer fails to fill in required field/s.	<ol style="list-style-type: none"> 1. Marketeer does not fill in a required field. 2. System prompts the marketeer to fill in the field/s.
1a.5b/ 1b.7b	Input does not match designated data type.	<ol style="list-style-type: none"> 1. Marketeer inputs a value to a field that does not match its assigned data type. 2. System prompts the marketeer to check field input with error/s.
Post-conditions		<ol style="list-style-type: none"> 1. System records customer's information.

Table 4.2.2 4 Manage Customer Information

4.2.2.5 Manage Prospective Customer

Use Case ID	Use Case Name			
IRIS-USC05	Manage Prospective Customer			
Description				
Records prospective customer's information.				
Actor/s				
Marketeer				
Precondition/s				
Marketeer should already have an account in the system, and has authority to manage customer information.				
Main Success Scenario:				
Step	Activity			
1	Marketeer initiates an View Prospect function.			
2	System loads a list of existing prospects from the database.			
3	System displays list of existing prospects sorting according to categories			
4	Marketeer views sorted prospective customer's information.			
Alternate Flows:				
Step	Alternate Flow	Activity		
*	Marketeer cancels operations	System discards the entire process and ends use case.		
1a	Marketeer adds prospective customer's information.	<ol style="list-style-type: none"> 1. Marketeer initiates an Add Prospect function. 2. System displays data entry screen containing the following information: <ul style="list-style-type: none"> • First name of prospect • Middle name of prospect • Surname of prospect • Prospect's email • Prospect's contact number 3. Marketeer fills in all fields of the prospect. 4. Marketeer confirms prospective customer information. 5. System verifies inputs. 6. System records the entries. 7. Marketeer reviews generated form. 		
1b	Marketeer updates prospective customer's	<ol style="list-style-type: none"> 1. Marketeer initiates an Update Prospect function. 		

	information.	<ol style="list-style-type: none"> 2. System loads a list of prospective customers from the database. 3. System displays data entry screen containing prospective customer's information. 4. Marketeer chooses a record to be updated. 5. Marketeer fills in fields to be updated. 6. Marketeer confirms prospective customer's information. 7. System verifies inputs. 8. System records the entries. 9. Marketeer reviews generated form.
1c	Marketeer deletes prospective customer's information.	<ol style="list-style-type: none"> 1. System omits information about the prospect. 2. System updates the database.
1a.5a/ 1b.7a	Marketeer fails to fill in required field/s.	<ol style="list-style-type: none"> 1. Marketeer does not fill in a required field. 2. System prompts the marketeer to fill in the field/s.
1a.5b/ 1b.7b	Input does not match designated data type.	<ol style="list-style-type: none"> 1. Marketeer inputs a value to a field that does not match its assigned data type. 2. System prompts the marketeer to check field input with error/s.
Post-conditions		<ol style="list-style-type: none"> 1. System records prospect's information.

Table 4.2.2.5 Manage Prospective Customer

4.2.2.6 Manage Email Report

Use Case ID	Use Case Name			
IRIS-USC06	Manage Email Report			
Description				
Records email reports information.				
Actor/s				
Marketeer				
Precondition/s				
Marketeer should already have an account in the system, and has authority to manage email reports information.				
Main Success Scenario:				
Step	Activity			
1	Marketeer initiates a View Email Report function.			
2	System loads a list of existing email report from the database.			
3	Marketeer sorts email reports according to categories.			
4	Marketeer retrieves sorted email reports.			
Alternate Flows:				
Step	Alternate Flow	Activity		
*	Marketeer cancels managing email reports.	System discards the entire process and ends use case.		
1a	Marketeer creates an email report.	<ol style="list-style-type: none"> 1. Marketeer initiates a Create Email function. 2. System displays a data entry screen containing the following information: <ul style="list-style-type: none"> • Email Date • Email Recipient • Email Content • Email Template 3. Marketeer fills in all fields of email report. 4. Marketeer confirms email report information. 5. System verifies inputs. 6. System records the entries. 7. Marketeer reviews generated form. 		
1b	Marketeer updates email report information.	<ol style="list-style-type: none"> 1. Marketeer initiates an Update Email Report function. 		

		<ol style="list-style-type: none"> 2. System loads a list of email reports from the database. 3. System displays data entry screen containing email reports. 4. Marketeer chooses a record to be updated. 5. Marketeer fills in fields to be updated. 6. Marketeer confirms email report information. 7. System verifies inputs. 8. System records the entries. 9. Marketeer reviews generated form.
1c	Marketeer deletes email report information.	<ol style="list-style-type: none"> 1. Marketeer initiates a Delete Email Report function. 2. System omits information about the prospect. 3. System updates the database.
1a.5a/ 1b.7a	Marketeer fails to fill in required field/s.	<ol style="list-style-type: none"> 1. Marketeer does not fill in a required field. 2. System prompts the marketeer to fill in the field/s.
1a.5b/ 1b.7b	Input does not match designated data type.	<ol style="list-style-type: none"> 1. Marketeer inputs a value to a field that does not match its assigned data type. 2. System prompts the marketeer to check field input with error/s.
Post-conditions		<ol style="list-style-type: none"> 1. System records email report information.

Table 4.2.2 6 Manage Email Report

4.2.2.7 Verify Customer Email

Use Case ID	Use Case Name			
IRIS-USC07	Verify Email			
Description				
Determines if an email is active or inactive.				
Actor/s				
Marketeer				
Precondition/s				
Marketeer should already have a list of email addresses and has the authority to send email to customers				
Step	Activity			
1	System displays a list of email addresses of the customer from the database			
2	Marketeer fills in all email fields to send promotional emails			
3	System verifies the inputs			
4	Marketeer prompts the system to send an email to customer			
5	System validates email addresses to know if it is active or inactive			
6	Marketeer reviews generated form			
Alternate Flows:				
Step	Alternate Flow	Activity		
*	Marketeer cancels sending email	<ol style="list-style-type: none"> Marketeer initiates a Cancel sending promotional email function. System cancels the entire process. 		
2	Marketeer fills in an invalid character to email field	<ol style="list-style-type: none"> Marketeer inputs a value to a field that does not match its assigned data type. System prompts the marketer to check the input fields. 		
5a	System recognizes an email to be inactive	<ol style="list-style-type: none"> System tags an email as inactive. Delete the email address from all the tables of email database. 		
Post-conditions				
<ol style="list-style-type: none"> System deletes emails from the database that are inactive. 				

Table 4.2.2.7 Verify Customer Email

4.2.2.8 Track Activities

Use Case ID	Use Case Name
IRIS-USC08	Track Activities
Description	
Tracks the number of web visits.	
Actor/s	
Marketeer	
Precondition/s	
Prospect should visit the website.	
Main Success Scenario:	
Step	Activity
1	Prospect/Customer visits the website.
2	Prospect subscribes to the website.
3	System captures web-visiting history of the prospect.
4	<p>System records the following:</p> <ul style="list-style-type: none"> • Date of visiting a page • Time when a page was visited • Page URL • Prospect's IP address • Prospect's browser's cookie information
5	System sends an email to the prospect/customer.
6	Prospect/Customer receives promotional email.
7	Prospect/Customer opens promotional email.
8	System tracks open rate.
9	Prospect/Customer initiates forward function.
10	System tracks number of forwards.

11	Prospect/Customer clicks link contained in the email.	
12	System tracks click-throughs.	
13	Marketeer reviews the form.	
Alternative Flow		
Step	Alternate Flow	Activity
2	Prospect does not subscribe to the website.	<ul style="list-style-type: none"> 1. Customer refuses to subscribe. 2. System collects prospect's cookie information to determine if the prospect already visited the website.
7	Prospect/Customer does not open promotional email.	<ul style="list-style-type: none"> 1. Prospect/Customer refuses to open mail. 2. System does not record any email activity.
9	Prospect/Customer does not initiate forward function.	<ul style="list-style-type: none"> 1. Prospect/Customer refuses to forward email. 2. System does not record a forward email activity.
11	Prospect/Customer does not click link contained in the email.	<ul style="list-style-type: none"> 1. Prospect/Customer refuses to click the link. 2. System does not record a click-through email activity.
Post-condition/s		
System records number of web-visits and email activities.		

Table 4.2.2.8 Track Activities

4.2.2.9 Subscribe to Website

Use Case ID	Use Case Name			
IRIS-USC10	Subscribe to Website			
Description				
Sending confirmation letter when the customer subscribed.				
Actor/s				
Marketeer				
Precondition/s				
The customer must subscribe.				
Main Success Scenario:				
Step	Activity			
1	Customer visits the website.			
2	System generates opt-in form.			
3	System prompts the customer to enter email address to subscribe.			
4	Customer enters the email address.			
5	System sends a confirmation letter through email.			
6	Customer receives the confirmation letter.			
7	Customer clicks the link from the confirmation letter.			
8	Customer is redirected to the website.			
Alternative Flow				
Step	Alternate Flow	Activity		
2	The customer does not enter the email address or closes opt-in form.	Customer views the website.		
Post-condition/s				
<ol style="list-style-type: none"> 1. System sends newsletters to customers who subscribed. 2. System records subscription information. 				

Table 4.2.2.9 Subscribe to Website

4.3 Gap Analysis/ Needs Assessment

The following tables pertain to the differences between the existing and proposed modules that have been agreed upon by the developers and the client. User requirements, differences between the client's system and the proposed system, as well as the expected outcome of the changes are also described.

4.3.1 Gap Analysis for Messaging Module

Messaging Module			
User Requirements	Current System	Proposed Changes	Remarks/Impact
Marketeer sends promotional emails	Marketeer may send emails to existing customers alone.	Marketeer may send promotional emails to both existing and prospective customers.	Less workload for the marketeers
Marketeer creates templates	Marketeer manually designs a template.	Templates are readily made, but if the marketeer wishes to add more, they may also do so.	Less workload for the marketeers

Table 4.3.1 Gap Analysis for Messaging Module

4.3.2 Gap Analysis for Tracking Module

Tracking Module			
User Requirements	Current System	Proposed Changes	Remarks/Impact
Track email activity	Client subscribes to an eDM offering a tracking email activity feature.	System is integrated with other information systems and has an eDM functionality.	Less cost for software subscription
Track web visit	Tracks most visited pages, clicked web pages without the web-visitors' identity	System is capable of tracking web-visiting habits of both existing and prospective customers	Wider audience for marketeers' contents

Table 4.3.2 Gap Analysis for Tracking Module

4.3.3 Gap Analysis for Connection Module

Connection Module			
User Requirements	Current System	Proposed Changes	Remarks/Impact
System connects to Hotel Management System (HMS)	EMS is not integrated with other information systems of the hotel	System is connected to HMS for faster retrieval of customers' information and preferences provided by the customers	System is capable of connecting directly to HMS in order to gather existing customer's information.

Table 4.3 3 Gap Analysis for Connection Module

4.4 Design of Software, Systems, Product, and/or Processes

The following figures show the system and website screenshots done by the developers. The proposed templates that will be used by the system are also shown.

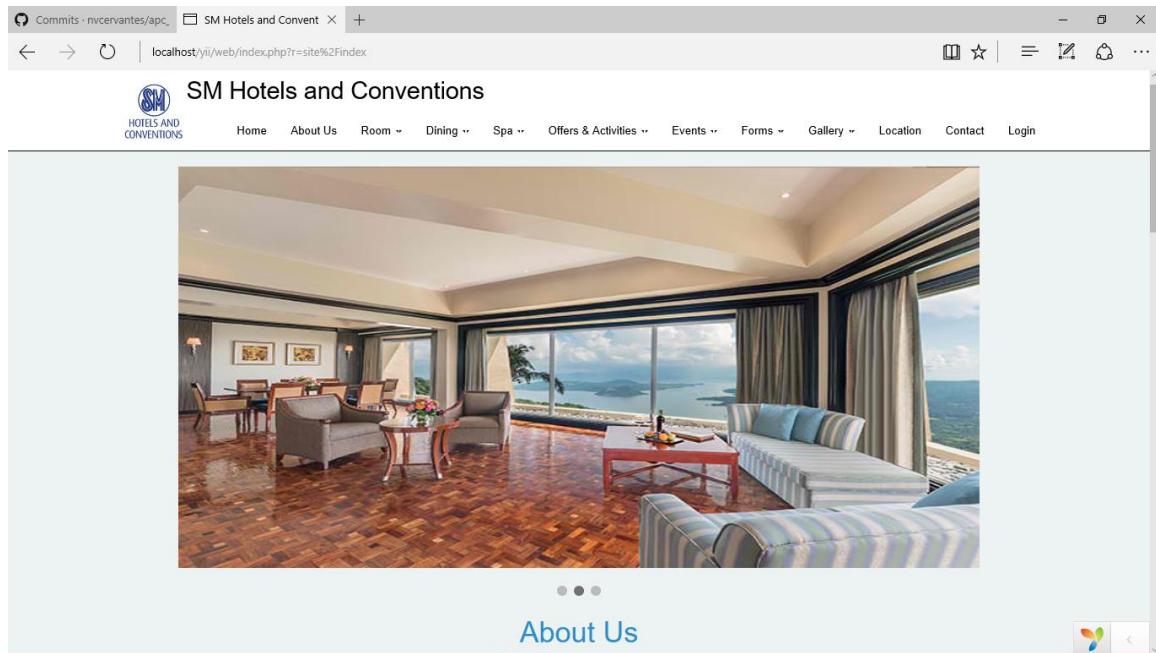


Figure 4. 4 1 Home Page

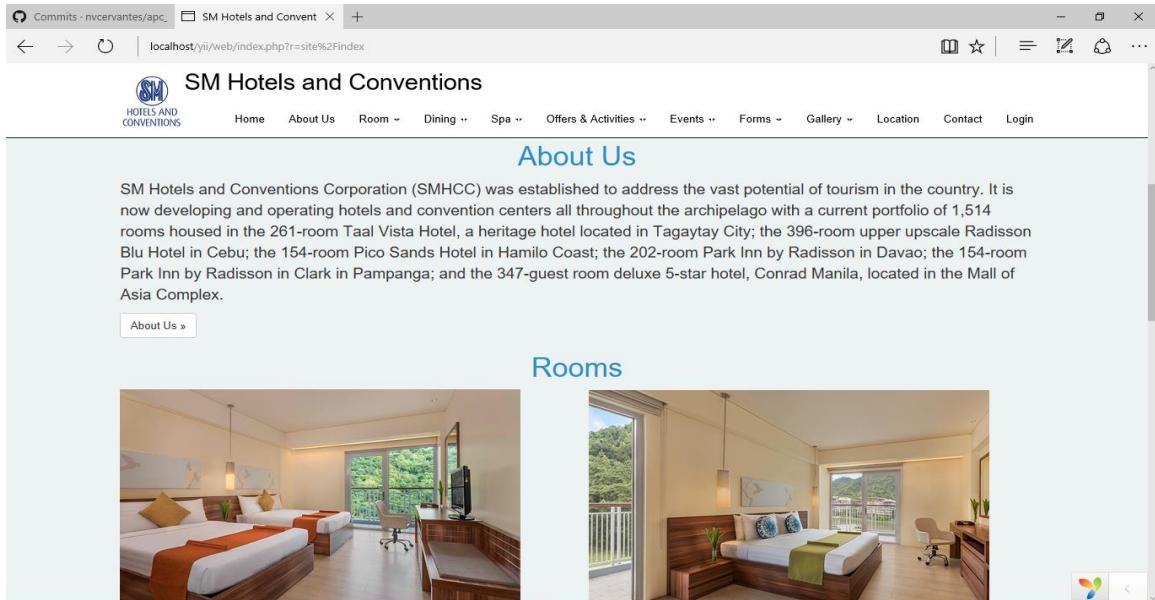


Figure 4. 4 2 Home Page

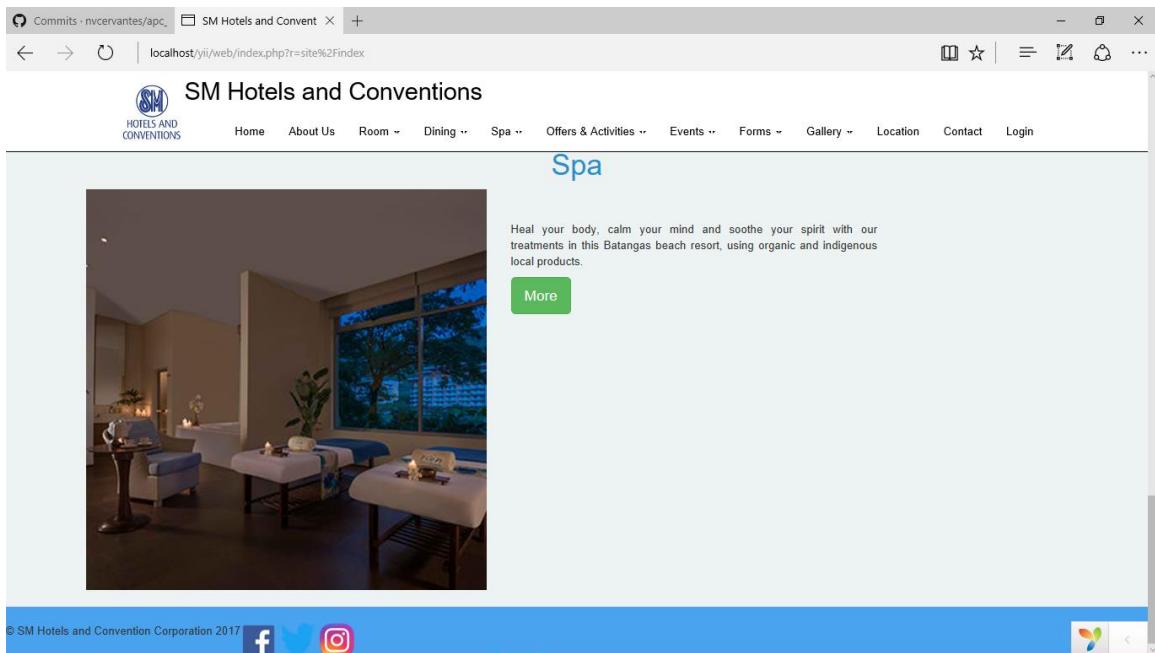


Figure 4. 4 3 Home Page

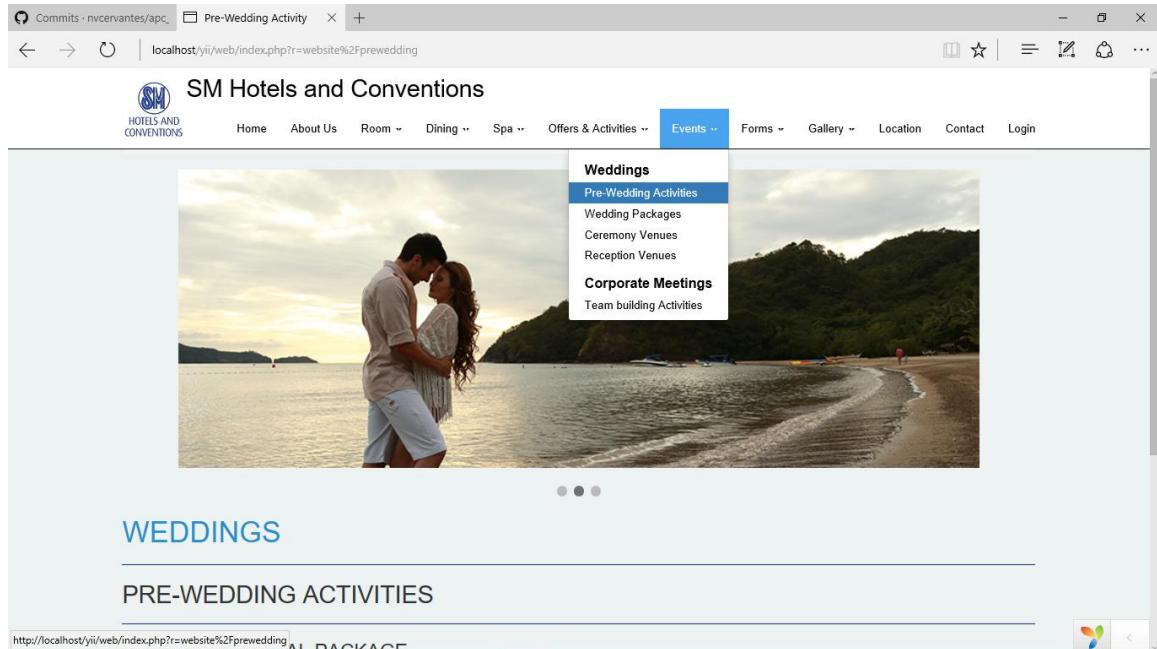


Figure 4. 4 4 Events Page

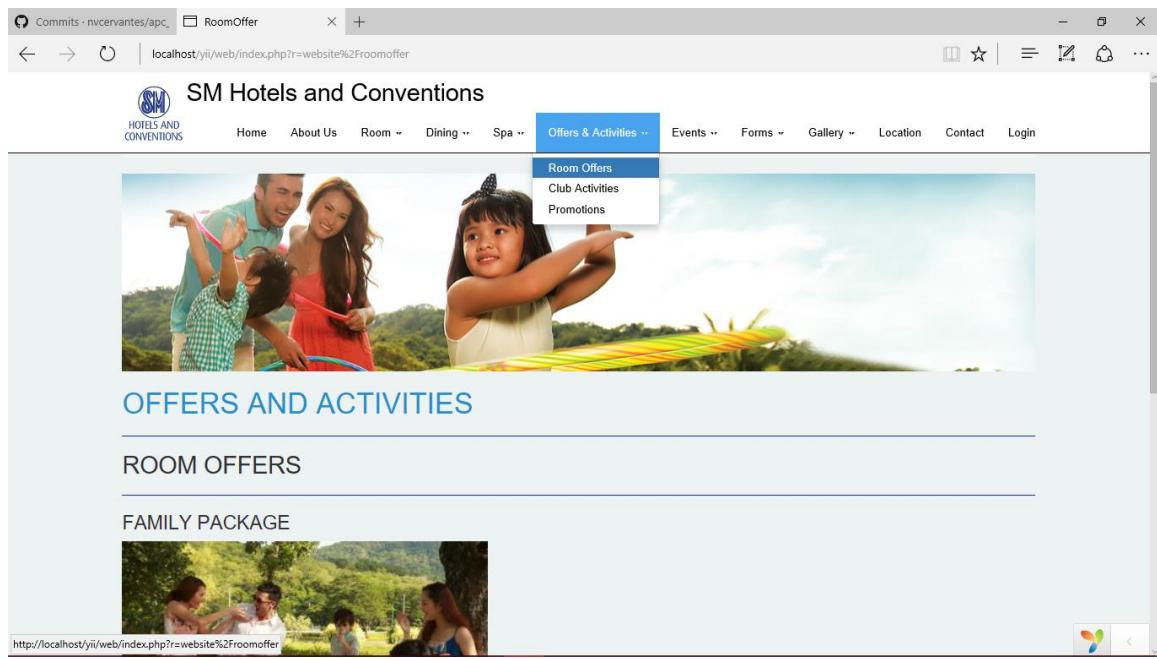


Figure 4. 4 5 Offers and Activities Page

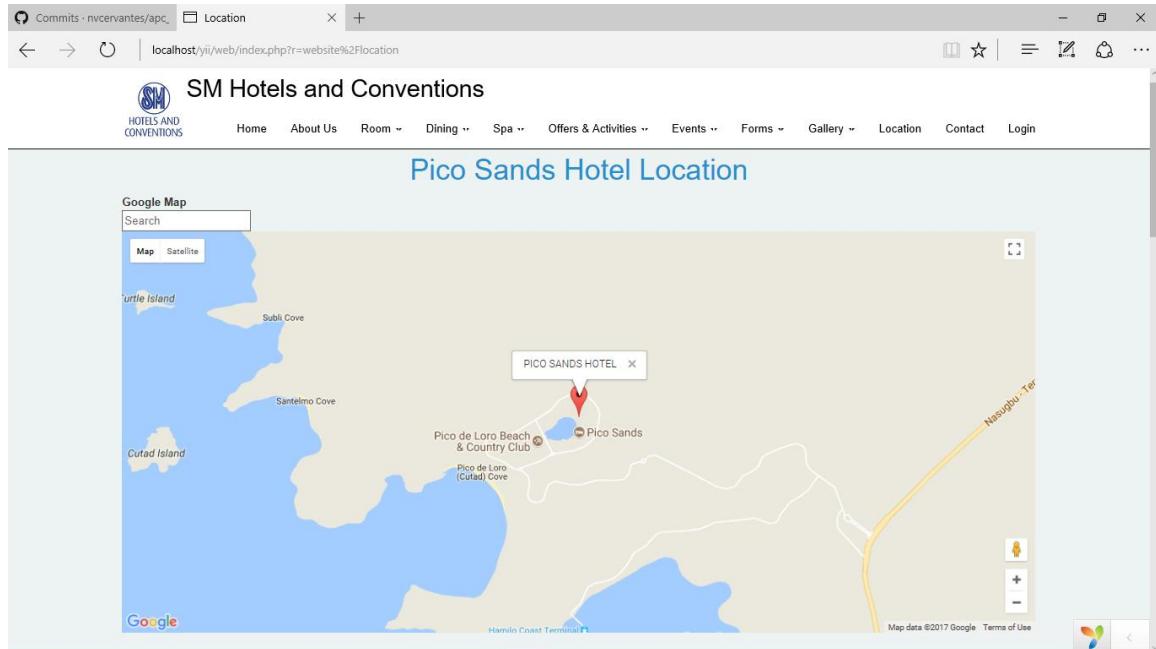


Figure 4. 4 6 Location Page

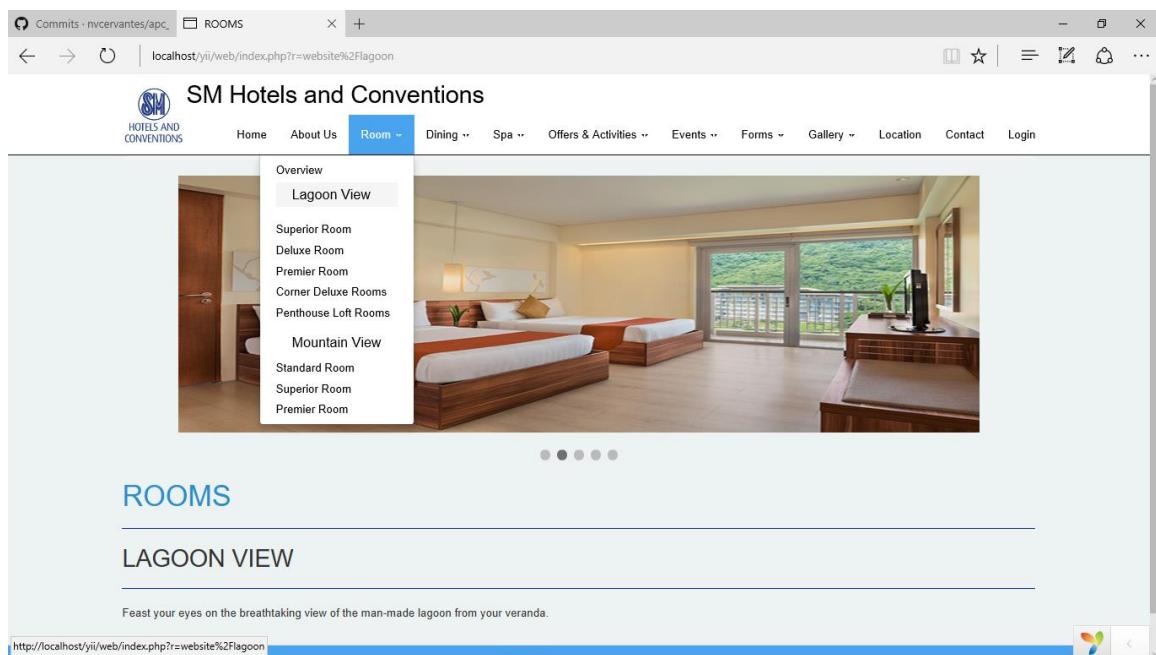


Figure 4. 4 7 Room - Lagoon View Page

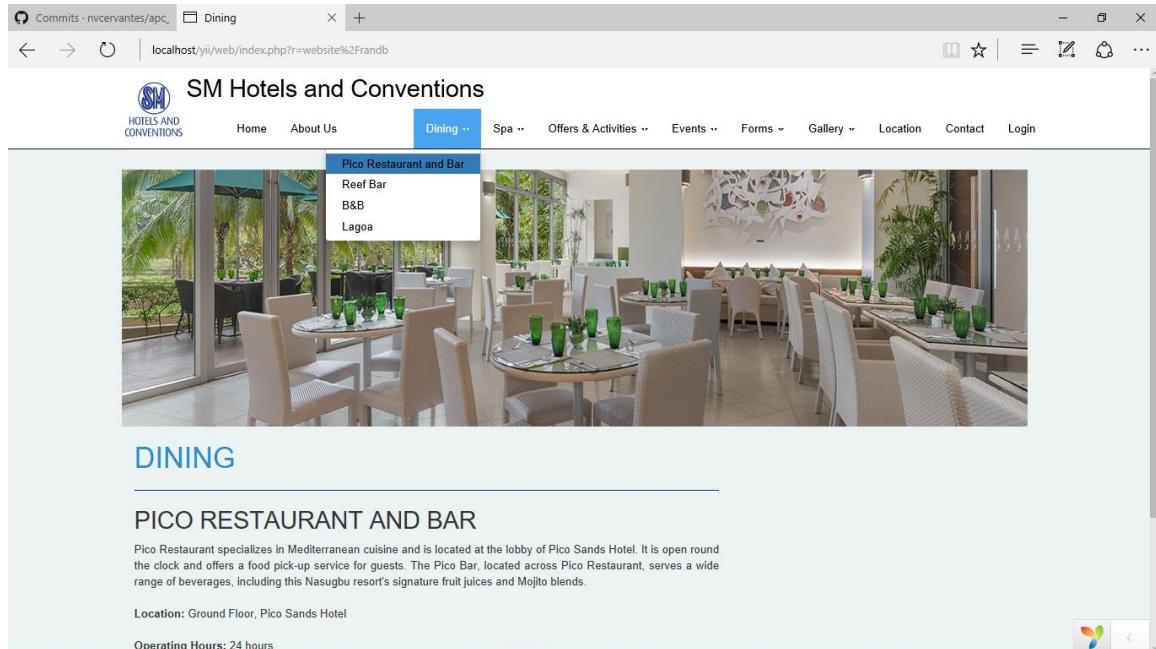


Figure 4. 4 8 Dining - Pico Restaurant and Bar Page

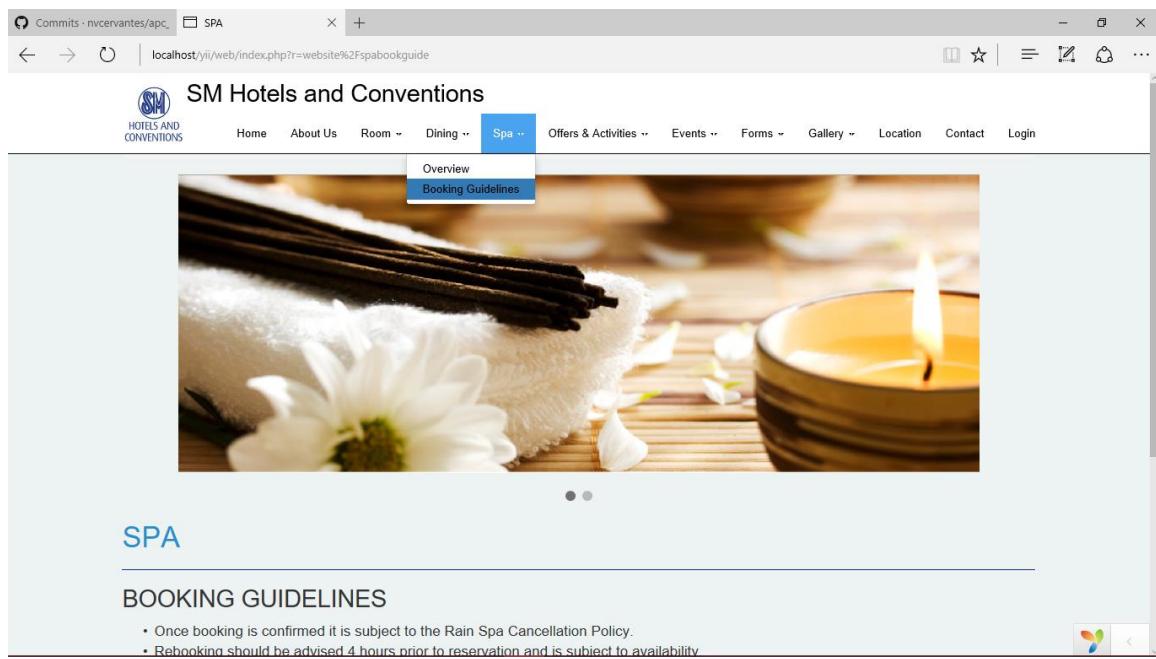


Figure 4. 4 9 Spa Page

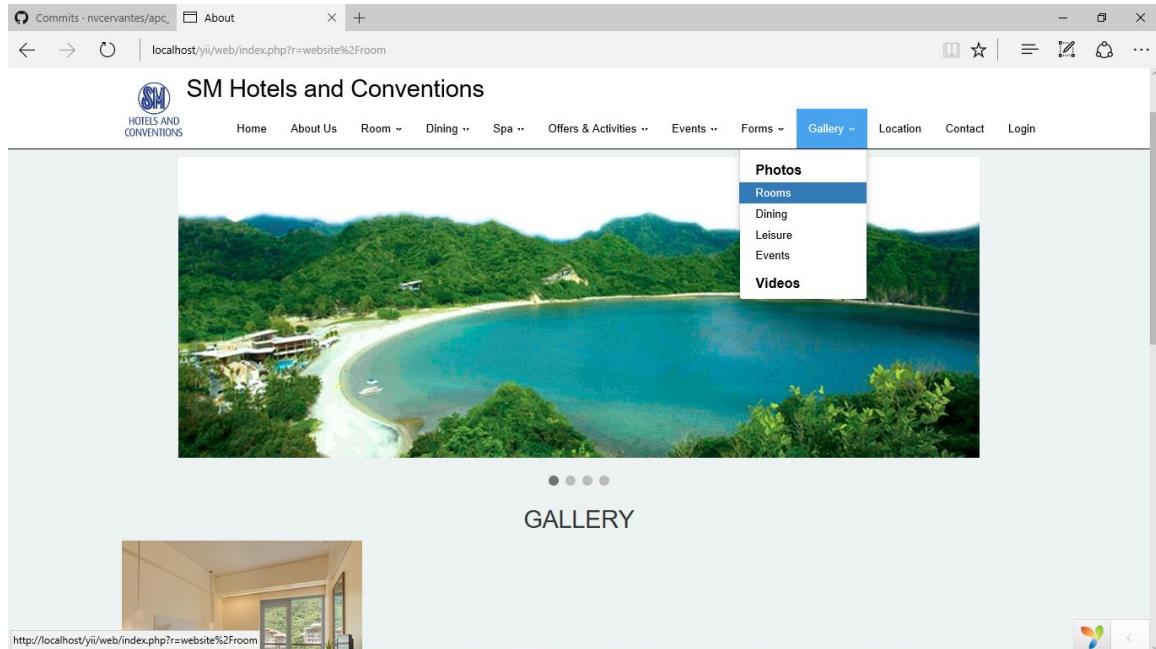


Figure 4. 4 10 Gallery Page

Figure 4. 4 11 Contact Page

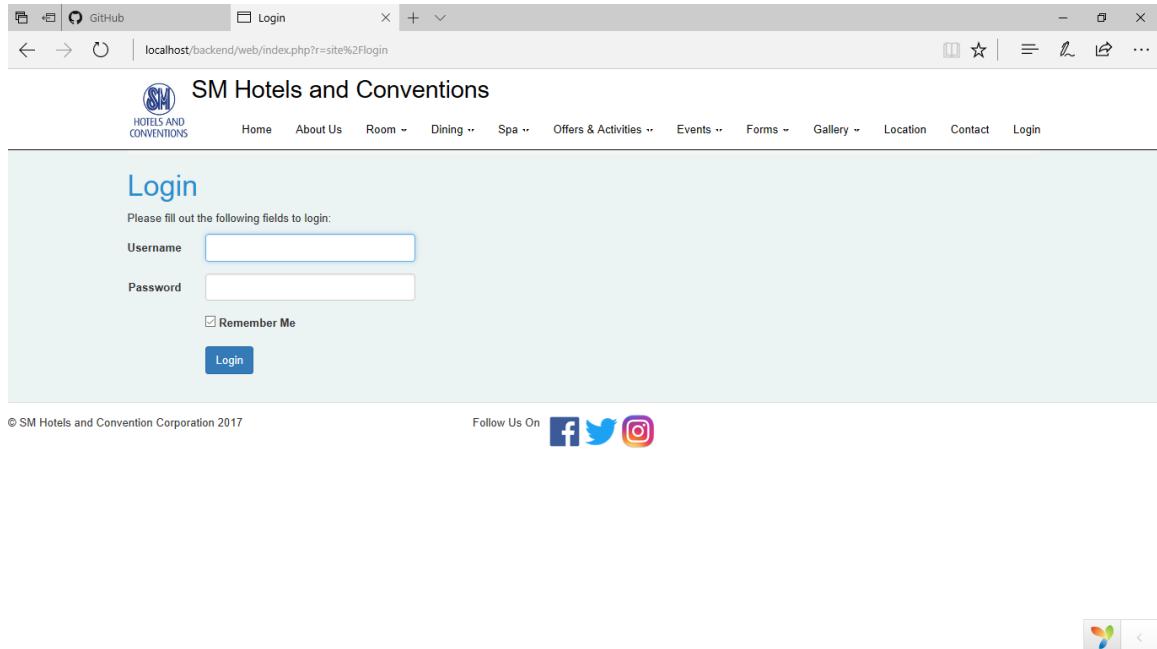


Figure 4.4 12 Login Page

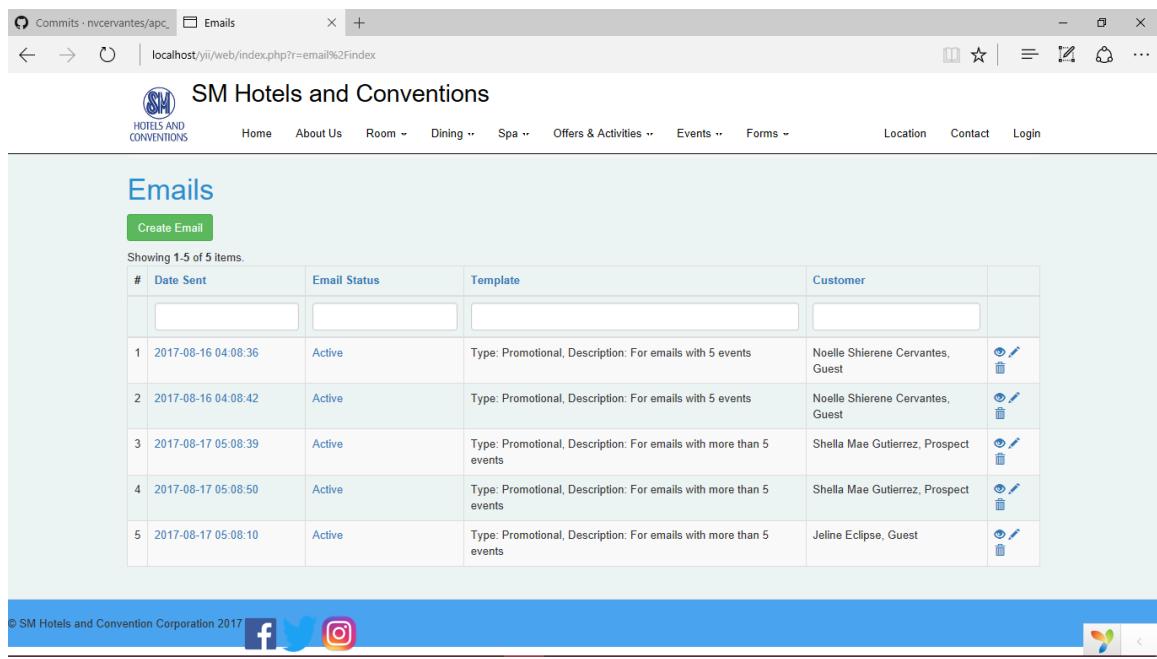


Figure 4.4 13 Email View Page

Showing 1-10 of 10 items.

#	Type	First Name	Middle Name	Last Name	
1	Marketeer	Shierene		Cervantes	
2	Marketeer	Jeline		Eclipse	
3	Marketeer	Shella	Barcelo	Gutierrez	
4	Marketeer	Hazel	Terte	Comia	
5	Marketeer	Norrie		Penaverde	
6	Marketeer	Neil		Rumboa	
7	Marketeer	JoeGene		Quesada	
8	Marketeer	Jacob		Catayoc	
9	Marketeer	Maricel		Naviamos	
10	Marketeer	Roselle Wednesday		Gardon	

Figure 4.4 14 Employee View Page

Showing 1-5 of 5 items.

#	Type	Email	First Name	Middle Name	Last Name	Contact Number	
1	Guest	shierene*cervantes23@gmail.com	Noelle Shierene	Villamayor	Cervantes	639029374831	
2	Prospect	sbgutierrez@student.apc.edu.ph	Shella Mae	Barcelo	Gutierrez	639821847717	
3	Guest	jbeclipse@student.apc.edu.ph	Jeline	Bagasin	Eclipse	639218738212	
4	Prospect	mtcomia@student.apc.edu.ph	Mary Hazel	Terte	Comia	639213788284	
5	Guest	nbpenaverde@student.apc.edu.ph	Norrie	Bernardo	Penaverde	639213821738	

Figure 4.4 15 Customer View Page

nvcervantes/apc_sysadd_mi Customer Histories + localhost/yii/web/index.php?r=customer-history%2Findex

SM Hotels and Conventions

HOTELS AND CONVENTIONS

Home About Us Room Dining Spa Offers & Activities Events Forms Gallery Location Contact Login

Customer Histories

Create Customer History

Showing 1-6 of 6 items.

#	Check-in Date	Check-out Date	Number of days	Customer	
1	2017-02-02	2017-02-04	2	Noelle Shierene Cervantes, Guest	
2	2017-02-02	2017-02-04	2	Jeline Eclipse, Guest	
3	2017-02-02	2017-02-05	3	Shella Mae Gutierrez, Prospect	
4	2017-02-07	2017-02-11	4	Mary Hazel Comia, Prospect	
5	2017-02-11	2017-02-15	4	Norrie Penaverde, Guest	
6	2017-02-15	2017-02-18	3	Norrie Penaverde, Guest	

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Figure 4. 4 16 Customer Histories View Page

nvcervantes/apc_sysadd_mi Preferences × + localhost/yii/web/index.php?r=preference%2Findex

 SM Hotels and Conventions

HOTELS AND CONVENTIONS Home About Us Room Dining Spa Offers & Activities Events Forms Gallery Location Contact Login

Preferences

Create Preference

Showing 1-3 of 3 items.

#	Preference Category	Preference Description	
1	Dining	For restaurants, etc.	 
2	Spa	For relaxation, etc.	 
3	Room	For room types, etc.	 

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Figure 4.4 17 Preferences View Page

Showing 1-5 of 5 items.

#	Activity Status	Description	Email Information
1	Bounced	Email has bounced.	2017-08-16 04:08:36 Active
2	Sent	Email has been sent.	2017-08-16 04:08:42 Active
3	Opened	Email has been opened.	2017-08-17 05:08:39 Active
4	Forwarded	Email has been forwarded.	2017-08-17 05:08:50 Active
5	Sent	Email has been sent.	2017-08-17 05:08:50 Active

Figure 4. 4 18 Activities View Page

Showing 1-3 of 3 items.

#	Preference Category	Preference Description
1	Dining	For restaurants, etc.
2	Spa	For relaxation, etc.
3	Room	For room types, etc.

Figure 4. 4 19 Preferences View Page

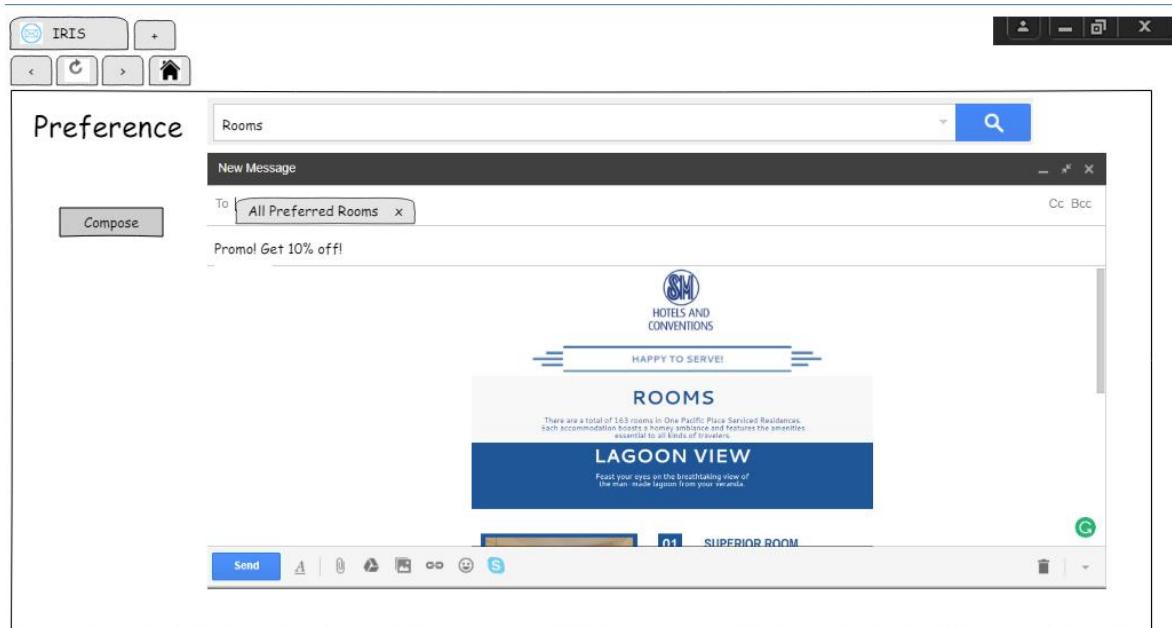


Figure 4.4 20 Send Email Page

SM HOTELS AND CONVENTIONS

"Tag line"

"Smart Promotions" Discounts

OVERVIEW

(Overview of Pico)



DINING

PICO RESTAURANT AND BAR

Pico Restaurant features a Mediterranean open air dining area with a covered section. It is located around the pool and offers a full-service service.

The Pico Bar, located across Pico Restaurant, serves a variety of cocktails, beer, wine, and soft drinks. It also offers a selection of local and regional fruits juices and tropical smoothies.

Location: Ground Floor, Pico Beach Hotel
Operating Hours: 24 hours

PICO RESTAURANT AND BAR's Picture

REEF BAR

Reef Bar is a lounge bar that offers refreshing drinks and delightful views where you can enjoy unique cocktails, beer, wine, and soft drinks.

Location: Pico Beach Hotel
Operating Hours: 10:00 AM - 10:00 PM (Monday to Wednesday), 10:00 AM - 12:00 PM (Thursday to Saturday)

REEF BAR'S PICTURE

B&B

B&B is a casual housing and laundry facility that serves laundry and laundry facilities.

Location: Ground Floor, Pico de Loro Country Club
Operating Hours: 8:00 AM - 10:00 PM (Monday to Saturday), 8:00 AM - 10:00 PM (Sunday to Wednesday)

B&B picture

LAGOA

A private setting off Pico Beach resort hotel, situated in the Country Club.

Location: Ground Floor, Pico de Loro Country Club
Operating Hours: 8:00 AM - 10:00 PM (Monday to Saturday), 8:00 AM - 10:00 PM (Sunday to Wednesday)

Lagoo picture



SM HOTELS AND CONVENTIONS

HAPPY TO SERVE!

"Smart Promotions" Discounts

ROOMS

There are a total of 149 rooms in One Pacific More Accented Residences. Each room is a comfortable living space with a balcony and features the amenities essential for a touch of luxury.

LAGOON VIEW

Fantastick view on the breathtaking view of the new-made lagoon from your balcony.

01 SUPERIOR ROOM


"Details"
"Price"

02 DELUXE ROOM


"Details"
"Price"

03 PREMIERE ROOM


"Details"
"Price"

04 CORNER DELUXE ROOM


"Details"
"Price"

05 PENTHOUSE LOFT ROOMS


"Details"
"Price"

MOUNTAIN VIEW

Book us for the vibrant backdrop of green hills and the stunning Mt. Pinatubo.

01 STANDARD ROOM


"Details"
"Price"

02 SUPERIOR ROOM


"Details"
"Price"

03 PREMIERE ROOM


"Details"
"Price"

05 LOCATION



SM HOTELS AND CONVENTIONS

"Tag line"

"Smart Promotions" Discounts

RAIN SPA

Experience traditional and aromatic therapies, combined in health and well-being. Our Rain Spa provides a relaxing atmosphere for relaxation and reduction of stress levels offered at the Rain Spa.

OVERVIEW

(Rain Spa Overview)



Signature Treatments

AWAKEN THE SENSES

Start your day with a full body scrub, followed by a warm sauna and steam room. End the session with a cold shower and a cooling towel.

SOY AND FIRE MASSAGE FOR TWO

Soak your partner with this full body massage, followed by a warm sauna and steam room. End the session with a cold shower and a cooling towel.

Foot Reflexology with Scalp Massage

This foot massage will improve vitality by stimulating the reflexes in the feet. It is followed by a scalp massage for stimulate hair growth.

INDULGE GLOW

Bring back your glow with this regimen that refines skin, relaxes the body and stimulates the immune system.

HAND / FOOT CARE

INDULGE HAND CARE

A holistic way of caring for your hands and nails using 100% organic products with organic ingredients.

INDULGE FOOT CARE

A holistic way of caring for your hands and nails using 100% organic products with organic ingredients.

SPA PACKAGE

REFRESH

This treatment is perfect for removing the skin and body toxins. It is followed by a cold shower to tighten the pores and a scalp massage.

REJUVENATE

This treatment is perfect for reducing the skin and body toxins. It is followed by a cold shower to tighten the pores and a scalp massage.

FACIAL TREATMENT

DEEP CLEANSING FACIAL

This hypo-allergenic facial provides the skin with deep cleaning and exfoliation while leaving the skin a totally hydrated appearance.

Figure 4. 4 23 Template 1

Figure 4. 4 22 Template 2

Figure 4. 4 21 Template 3

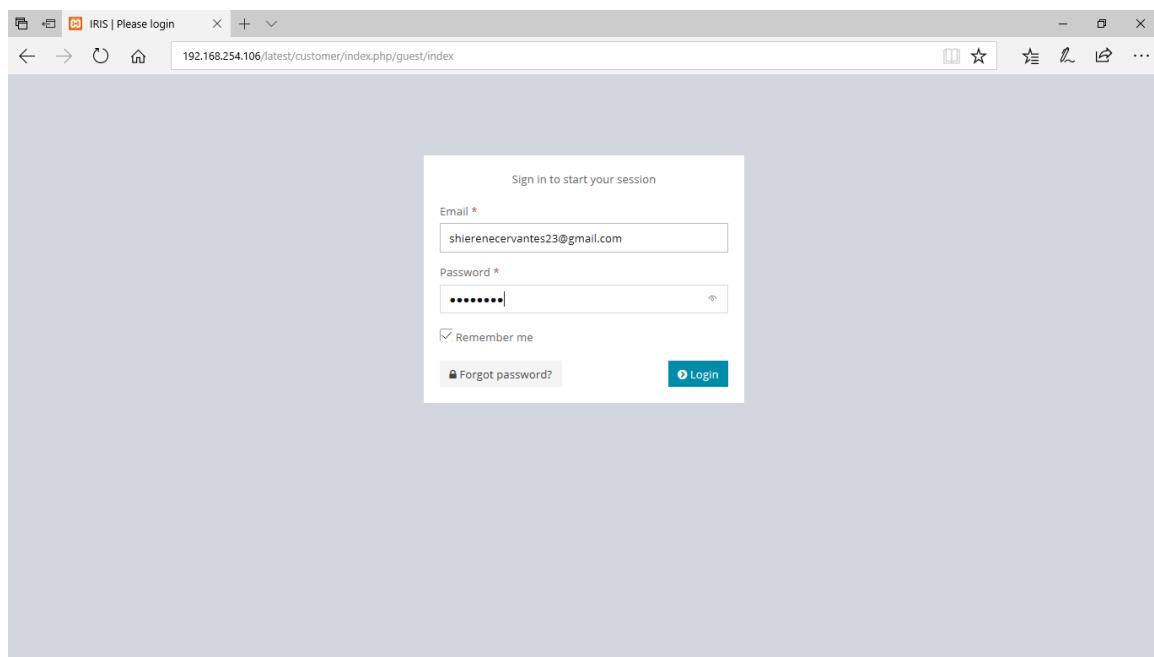


Figure 4. 4 24 Mailer Login

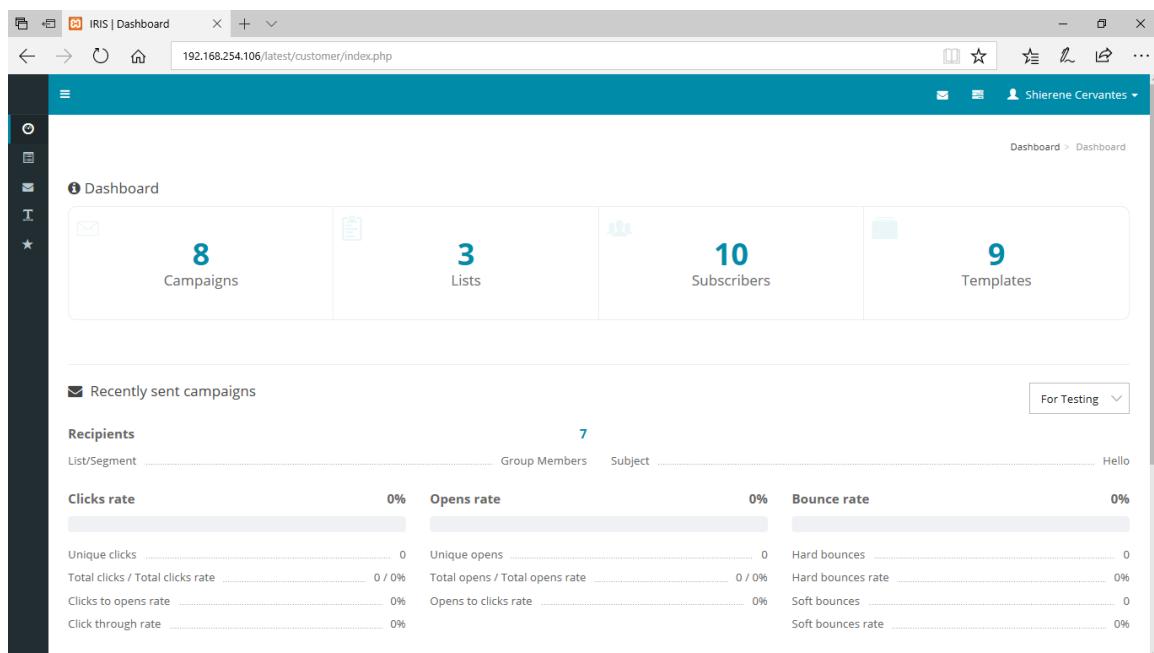


Figure 4. 4 25 Mailer Dashboard

IRIS | Campaigns

192.168.254.106/latest/customer/index.php/campaigns/index

Campaigns

Displaying 1-8 of 8 results.

ID	Unique ID	Campaign name	Type	Group	List	Segment	Recurring	Send at	Status	Opens	Clicks	Bounces	Unsub
13	zk584dqw2376c >	For Testing >	Regular	-	Group Members >	-	No	12/20/17, 9:19 AM	Sent (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
12	zo453ztqsm5ce >	Try >	Regular	-	Group Members >	-	No	12/19/17, 11:00 PM	Sent (100%)	2 (25%)	2 (25%)	0 (0%)	1 (12.5)
9	px4154krwm5e2 >	Promotion >	Regular	-	Group Members >	-	No	12/17/17, 3:55 PM	Sent (100%)	2 (28.571%)	2 (28.571%)	1 (12.5%)	0 (0%)
8	no69248voaadb >	hi >	Regular	-	Subscribers >	-	No	12/17/17, 2:16 PM	Sent (100%)	0 (0%)	0 (0%)	1 (50%)	0 (0%)
7	jk8380ogo8b0a >	Hello >	Regular	-	Subscribers >	-	No	12/17/17, 2:11 PM	Sent (100%)	1 (100%)	1 (100%)	1 (50%)	0 (0%)
5	to689p4ecxb32 >	tryestet >	Autoresponder (0 day/after-subscribe)	-	Subscribers >	-	No	11/30/17, 6:04 PM	Processing (100%)	0 (0%)	0 (0%)	0 (0%)	1 (50)

Figure 4. 4 26 Campaign List

IRIS | Email templates

192.168.254.106/latest/customer/index.php/templates/index

Email templates

Displaying 1-9 of 9 results.

Screenshot	Name	Category	Date added	Last updated	Options
	example-template >		12/19/17, 6:28 PM	12/20/17, 9:20 AM	  
	Sample >		12/20/17, 9:17 AM	12/20/17, 9:17 AM	  
	amenities template >		12/19/17, 11:48 PM	12/19/17, 11:48 PM	  

Figure 4. 4 27 Template List

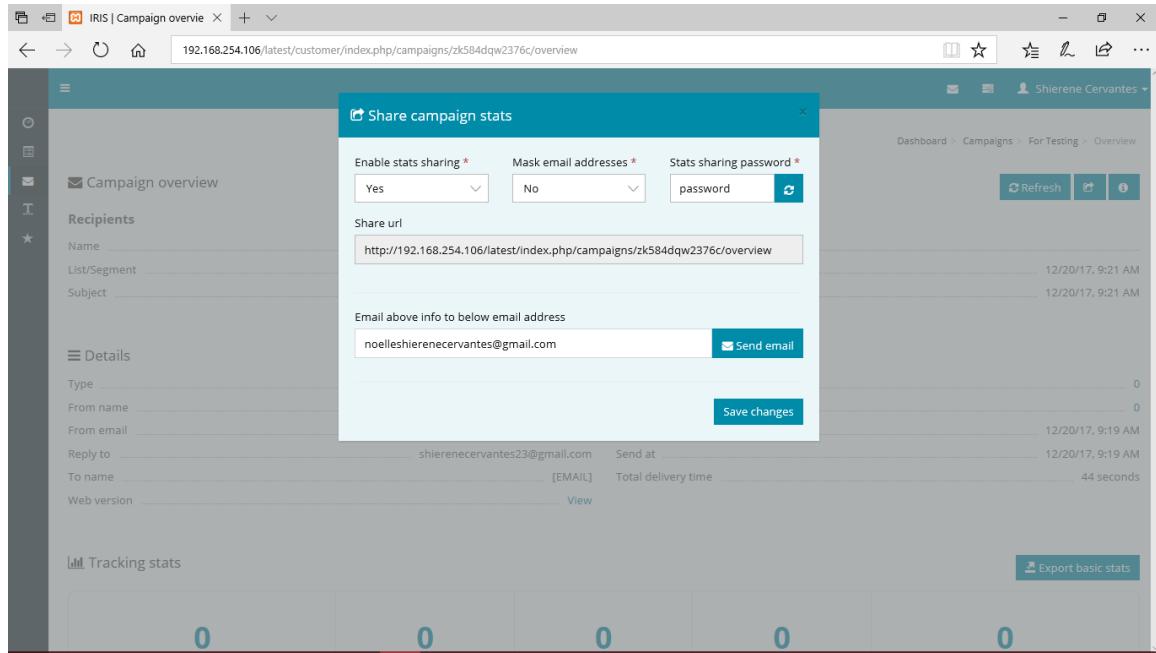


Figure 4.4 28 Mailer Sharing Campaign Statistics

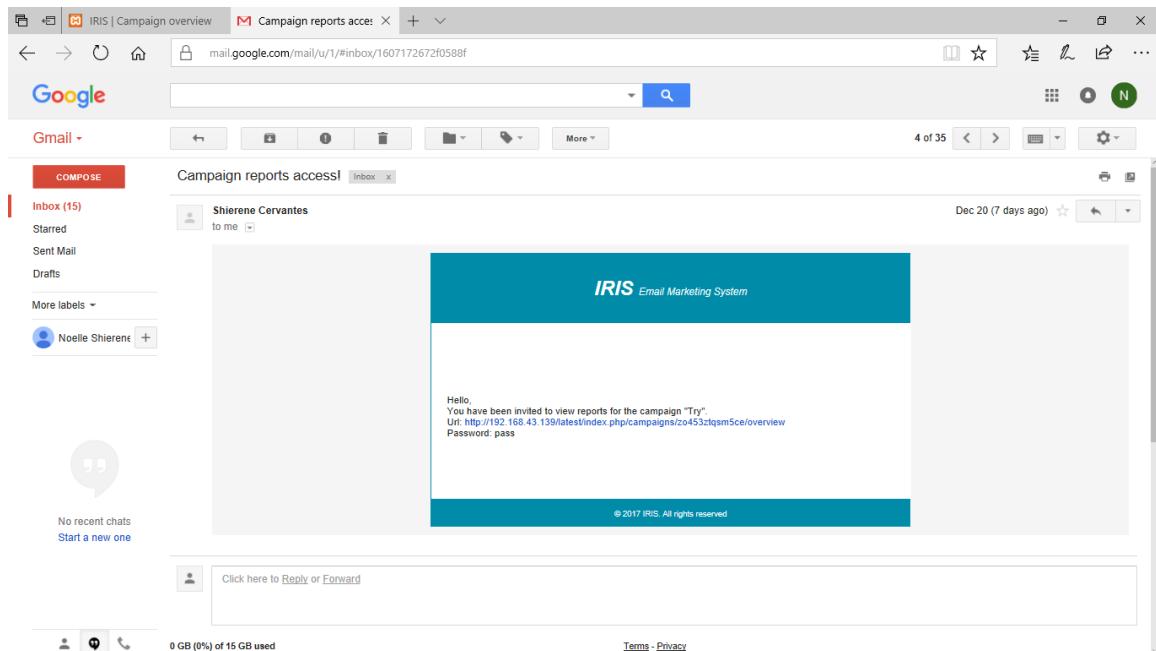


Figure 4.4 29 Mailer Sharing Campaign Statistics Report Access

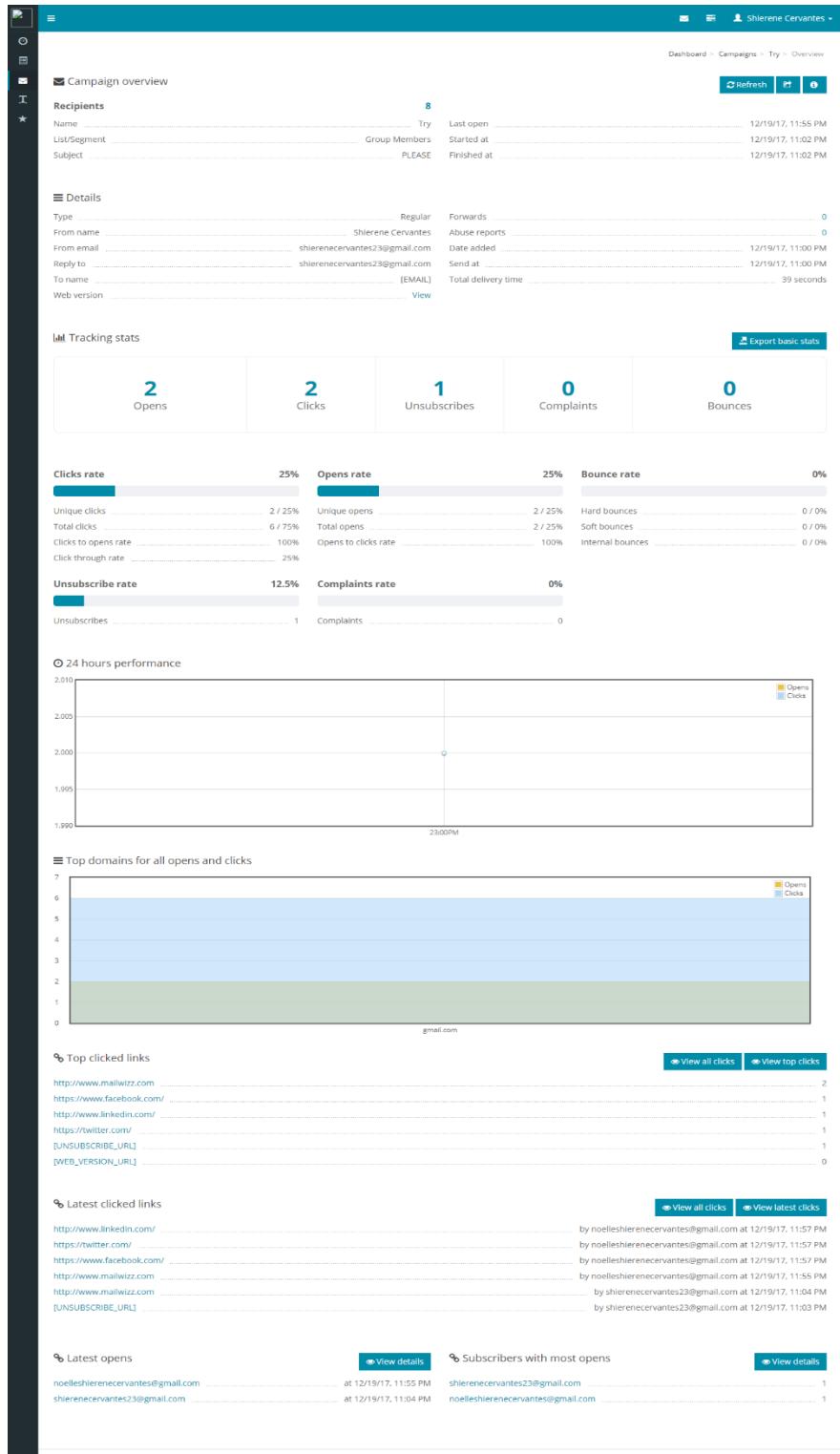


Figure 4. 4 30 Email Report

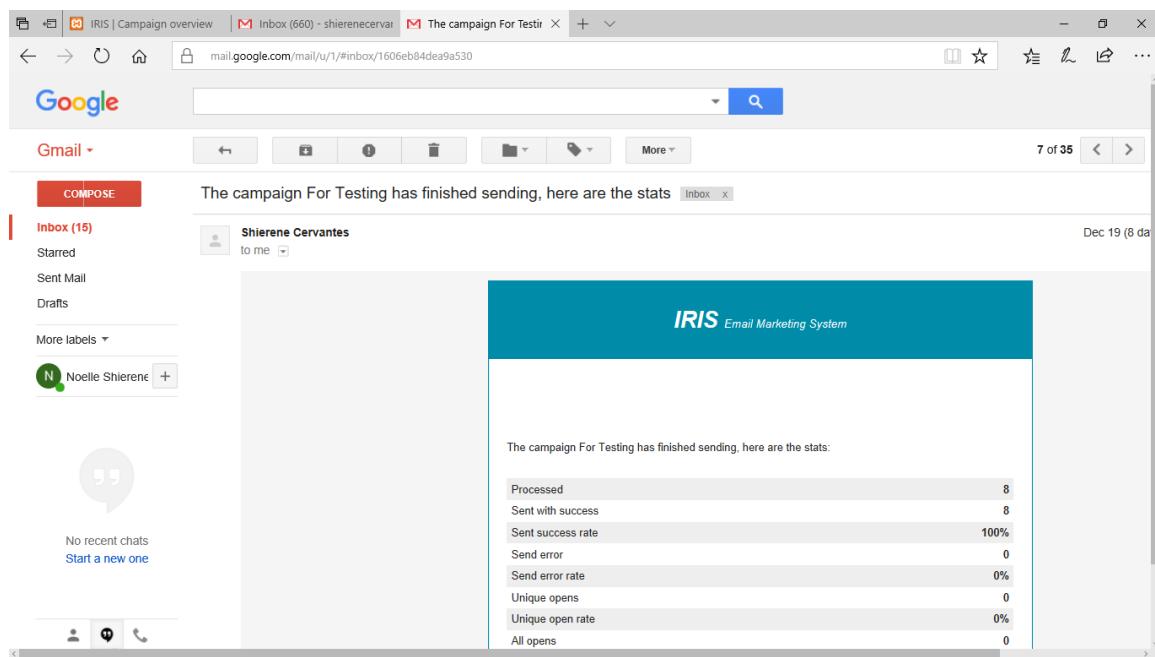


Figure 4.431 Email Report Sent to Email

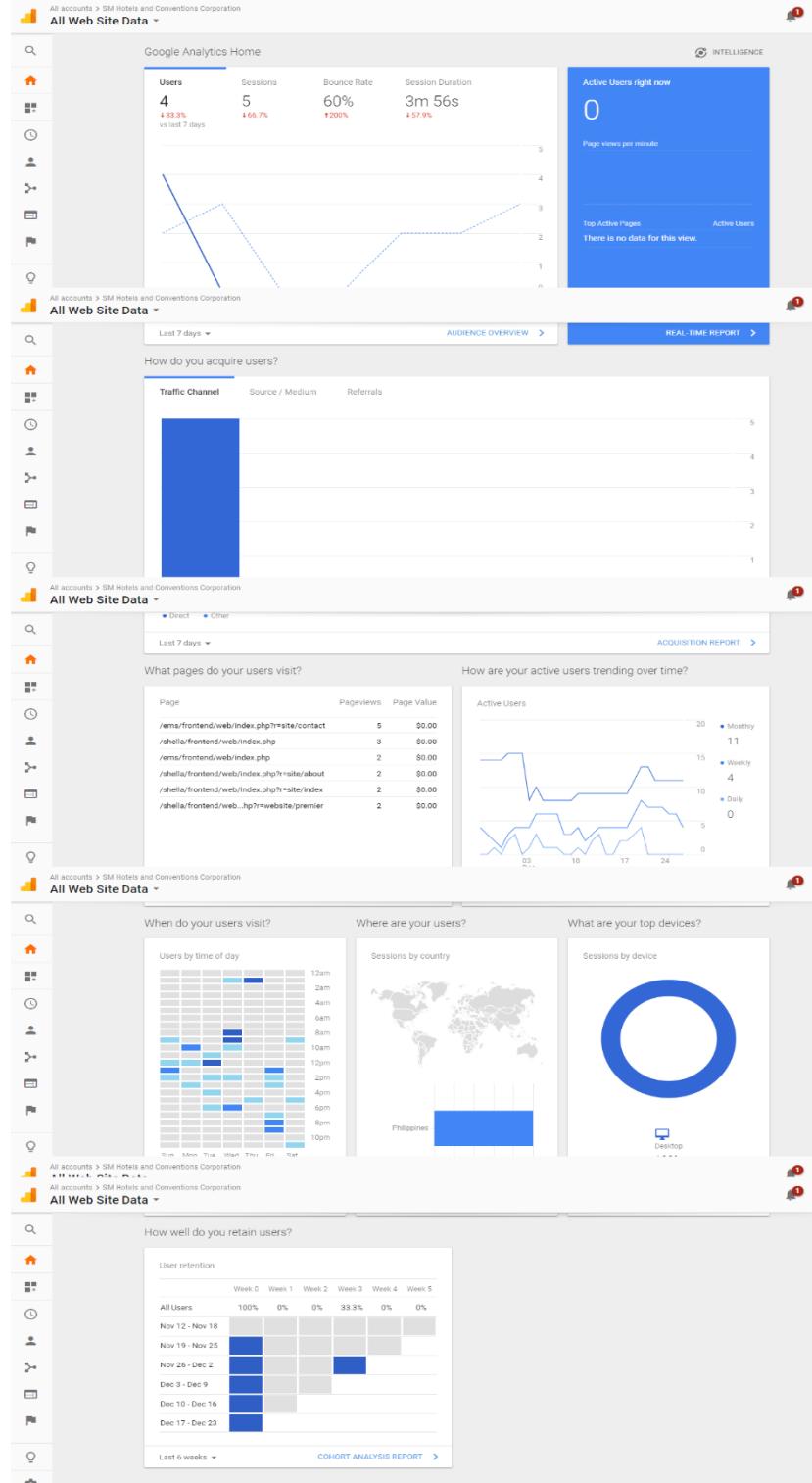


Figure 4.4.32 Web Visit Reports

Chapter V

Conclusions and Recommendations

The overriding purpose of this project was to build an email marketing system that will be of importance to the client by means of becoming a tool that applies direct marketing methodologies that will help assist in customer retention, make its target audience wider, and eventually drive sales growth. This requires an in-depth analysis as to how the system will function and be implemented in order to come up with a design process suitable for the tool aforementioned. Related to that effort, it became necessary to reach an understanding about UML diagrams applicable all throughout the implementation of the project. To provide for the possibility that the design of the system could be different from the client's expectations, it was important to develop a process with the potential for encompassing the totality of an electronic direct mail. Once these fundamental steps were achieved, the project was able to go forward. This chapter presents the conclusions and recommendations that resulted from this study.

The following conclusions can be drawn from the results obtained while on the process of analyzing and designing the system's process. First, it is necessary that the information system to be implemented integrates with those that already exist and are used by the client. The seamless integration makes the data collection needed by the system more efficient and reliable. Second, direct marketing methodologies are not limited on assisting in customer retention as it can also be a means of reaching out to those with an interest to visit, known as the prospective customers. Establishing a relationship with the prospects has been proven to have an effect on marketing strategies, on which an EMS is founded. Lastly, the essence of system's process and design must be utterly comprehended by the developers so as to be able to develop a tool suitable to meet the client's requirements and expectations.

The following recommendations are offered for related projects. First, it is important that the developers delve into the processes involved in the implementation of the project in order to come up with a system design that match the requirements that have been agreed upon with the client. Second, making use of available resources and conducting a thorough discussion with regards to the system is necessary in order to gain utter comprehension on how the system functions. Lastly, it is necessary to have constant communication with the client. This validates just about all project-related ideas and maximizes time for the project's implementation.

Chapter VI

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Chapter VII

Appendices

6.1 Data Dictionary

API (Application Program Interface)

- A set of routines, protocols, and tools for building software applications. An API specifies how software components should interact. Additionally, APIs are used when programming graphical user interface (GUI) components. (API - Application Program Interface, 2017)

Application

- An application program is a program designed to perform a specific function directly for the user or, in some cases, for another application program. (Application, 2017)

Bounced messages

- Bounce e-mail (sometimes referred to as *bounce mail*) is electronic mail that is returned to the sender because it cannot be delivered for some reason. (Bounce Email (Bounce Mail), n.d.)

Click through

- The process of clicking through an online advertisement to the advertiser's destination. (Clickthrough, n.d.)

CRM (Customer Relationship Management)

- Refers to the principles, practices and guidelines that an organization follows when interacting with its customers. From the organization's point of view, this entire relationship encompasses direct interactions with customers, such as sales and service-related processes, and forecasting and analysis of customer trends and behaviors. (Customer Relationship Management - CRM, n.d.)

Database

- A database is a collection of information organized to provide efficient retrieval. The collected information could be in any number of formats (electronic, printed, graphic, audio, statistical, combinations). There are physical (paper/print) and electronic databases. (Board of Regents of the University System of Georgia, 2017)

Electronic Direct Mail (eDM)

- An increasingly popular communication channel that uses email to deliver tailored content to target audiences at a relatively low cost. Also, it enables a high level of instant measurement; authors are able to track number of opens, email responses, bounced messages and click-throughs. (Electronic Direct Mail (EDM), n.d.)

Electronic mail (E-mail/ Email)

- The exchange of computer-stored messages by telecommunication. (Rouse, n.d.)

Information Technology Outsourcing or ITO

- A company's outsourcing of computer or Internet related work, such as programming, to other companies. It is used in reference to business process outsourcing or BPO, which is the outsourcing of the work that does not require much of technical skills. (Information technology outsourcing, n.d.)

Marketeer

- A specialist in promoting or selling a product or service. (Marketeer, n.d.)

Operating system (OS)

- System software that manages computer hardware and software resources and provides common services for computer programs. All

computer programs, excluding firmware, require an operating system to function.

(Operating System, n.d.)

Programming Language

- A programming language is a formal language that specifies a set of instructions that can be used to produce various kinds of output. Programming languages generally consist of instructions for a computer. Programming languages can be used to create programs that implement specific algorithms. (Programming Language, n.d.)

Server

- A computer or computer program that manages access to a centralized resource or service in a network. (Mitchell, 2017)

SMTP

- Simple Mail Transfer Protocol is an Internet standard for electronic mail (email) transmission. To facilitate the sending and receiving of messages. (SMTP (Simple Mail Transfer Protocol), n.d.)

Software

- Is a general term for the various kinds of programs used to operate computers and related devices. (Software, n.d.)

System

- A set of detailed methods, procedures and routines created to carry out a specific activity, perform a duty, or solve a problem.(System, n.d.)

Web Visiting Habits

- Activity of a single Web visitor for a defined period of time. (Jason Burby, Angie Brown & WAA Standards Committee, 2007)

6.2 Gantt Chart

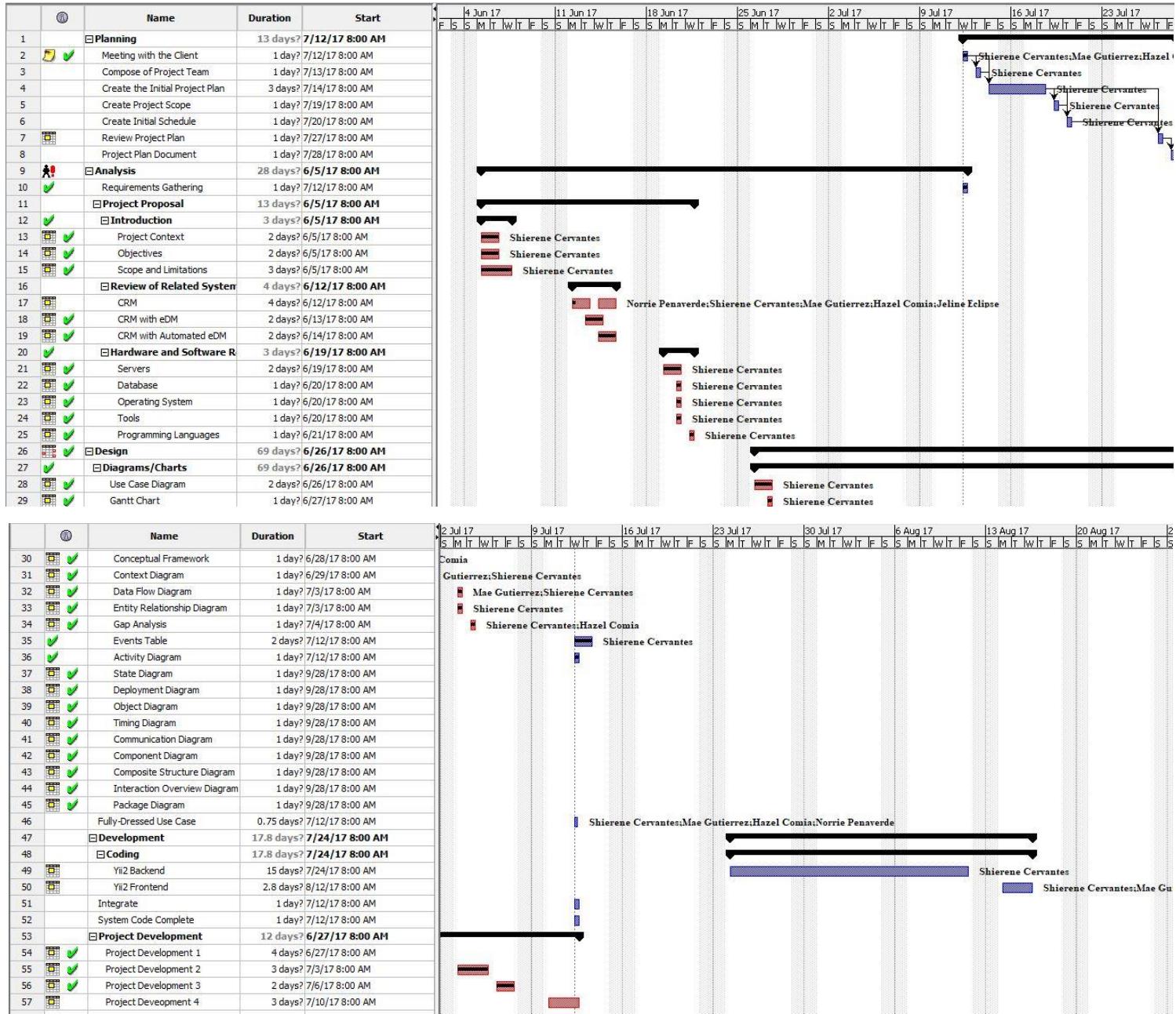


Figure 6.2 1 Gantt Chart

6.3 Source Code

The following are the relevant source code used by the group for the project in order to meet all the requirements of the client:

Sending of Email

main.php

```
<?php
```

```
return [
```

```
'vendorPath' => dirname(dirname(__DIR__)) . '/vendor',
```

```
'components' => [
```

```
    'cache' => [
```

```
        'class' => 'yii\caching\FileCache',
```

```
    ],
```

```
    'mailer' => [
```

```
        'class' => 'yii\swiftmailer\Mailer',
```

```
        'useFileTransport' => false,
```

```
        'transport' => [
```

```
            'class' => 'Swift_SmtpTransport',
```

```
            'host'=>'smtp.gmail.com',
```

```
            'username'=>'noelleshierenecervantes@gmail.com',
```

```
'password'=>'****',  
  
'port' => '465',  
  
'encryption' => 'ssl',  
  
,  
  
,  
  
],  
  
];  
  
main-local.php  
  
<?php  
  
return [  
  
'vendorPath' => dirname(dirname(__DIR__)) . '/vendor',  
  
'components' => [  
  
'cache' => [  
  
'class' => 'yii\\caching\\FileCache',  
  
,  
  
'mailer' => [  
  
'class' => 'yii\\swiftmailer\\Mailer',  
  
'useFileTransport' => false,  
  
'transport' => [
```

```

'class' => 'Swift_SmtpTransport',
'host'=>'smtp.gmail.com',
'username'=>'noelleshierenecervantes@gmail.com',
'password'=>'****',
'port' => '465',
'encryption' => 'ssl',
],
],
],
];

```

EmailComponent.php

```

<?php

return [
    protected function sendEmail($email, $subject, $message, $options=
array()) {

    $email = 'noelleshierenecervantes@gmail.com';

    **$emailSend      =      Yii::$app->mailer->compose(['html'=
=>'layouts/html'],['content' => $message])**

        ->setFrom(["noelleshierenecervantes@gmail.com"])

        ->setTo($email)

```

```
        ->setSubject($subject);

        return $emailSend->send();

    }

];
```

SiteController.php

```
<?php

namespace backend\controllers;

use Yii;

use yii\web\Controller;

use yii\filters\VerbFilter;

use yii\filters\AccessControl;

use common\models\LoginForm;

class SiteController extends Controller

{

    public function behaviors()

    {

        return [

            //置身于公共行为

            'access' => [
```

```
'access' => [
    'class' => '\yii\filters\AccessControl::className(),
    'only' => ['create', 'update'],
    'rules' => [
        // allow authenticated users
        [
            'allow' => true,
            'roles' => ['@'],
        ],
        // everything else is denied
    ],
],
};

public function actions()
{
    return [
        'error' => [
            'class' => '\yii\web\ErrorAction',

```

```
    ],  
    ];  
}  
  
public function actionIndex()  
{  
    return $this->render('index');  
}  
  
public function actionReports()  
{  
    return $this->render('reports');  
}  
  
public function actionLogin()  
{  
    if (!Yii::$app->user->isGuest) {  
        return $this->goHome();  
    }  
  
    $model = new LoginForm();  
  
    if ($model->load(Yii::$app->request->post()) && $model->login()) {
```

```
    return $this->goBack();

} else {

    return $this->render('login', [
        'model' => $model,
    ]);
}

}

public function actionLogout()

{

    Yii::$app->user->logout();

    return $this->goHome();

}

}


```

User.php

```
<?php

namespace app\models;

use Yii;
```

```
class User extends \yii\db\ActiveRecord

{
    public static function tableName()
    {
        return 'user';
    }

    public function rules()
    {
        return [
            [['username', 'auth_key', 'password_hash', 'email', 'created_at', 'updated_at'],
            'required'],
            [['status', 'created_at', 'updated_at'], 'integer'],
            [['username', 'password_hash', 'password_reset_token', 'email'], 'string', 'max' => 255],
            [['auth_key'], 'string', 'max' => 32],
            [['username'], 'unique'],
            [['email'], 'unique'],
            [['password_reset_token'], 'unique'],
        ];
    }
}
```

```
public function attributeLabels()

{
    return [
        'id' => 'ID',
        'username' => 'Username',
        'auth_key' => 'Auth Key',
        'password_hash' => 'Password Hash',
        'password_reset_token' => 'Password Reset Token',
        'email' => 'Email',
        'status' => 'Status',
        'created_at' => 'Created At',
        'updated_at' => 'Updated At',
    ];
}

}
```

ContactForm.php

```
<?php
```

```
namespace frontend\models;
```

```
use Yii;

use yii\base\Model;

class ContactForm extends Model

{

    public $name;

    public $email;

    public $subject;

    public $body;

    public $verifyCode;

    public function rules()

    {

        return [

            // name, email, subject and body are required

            [['name', 'email', 'subject', 'body'], 'required'],

            // email has to be a valid email address

            ['email', 'email'],

```

```
// verifyCode needs to be entered correctly

['verifyCode', 'captcha'],

];

}

public function attributeLabels()

{

    return [

        'verifyCode' => 'Verification Code',

    ];

}

public function sendEmail($email)

{

    return Yii::$app->mailer->compose()

        ->setTo($email)

        ->setFrom([$this->email => $this->name])

        ->setSubject($this->subject)

        ->setTextBody($this->body)

        ->send();

}
```

```
}
```

```
}
```

SiteController.php

```
<?php
```

```
namespace frontend\controllers;
```

```
use Yii;
```

```
use yii\base\InvalidArgumentException;
```

```
use yii\web\BadRequestHttpException;
```

```
use yii\web\Controller;
```

```
use yii\filters\VerbFilter;
```

```
use yii\filters\AccessControl;
```

```
use common\models\LoginForm;
```

```
use frontend\models>PasswordResetRequestForm;
```

```
use frontend\models\ResetPasswordForm;
```

```
use frontend\models\SignupForm;
```

```
use frontend\models>ContactForm;
```

```
class SiteController extends Controller
```

```
{  
    public function behaviors()  
    {  
        return [  
            'access' => [  
                'class' => AccessControl::className(),  
                'only' => ['logout', 'signup'],  
                'rules' => [  
                    [  
                        'actions' => ['signup'],  
                        'allow' => true,  
                        'roles' => ['?'],  
                    ],  
                    [  
                        'actions' => ['logout'],  
                        'allow' => true,  
                        'roles' => ['@'],  
                    ],  
                ],  
            ],  
        ];  
    }  
}
```

```
        ],  
  
        'verbs' => [  
  
            'class' => VerbFilter::className(),  
  
            'actions' => [  
  
                'logout' => ['post'],  
  
            ],  
  
        ],  
  
    );  
  
}  
  
public function actions()  
  
{  
  
    return [  
  
        'error' => [  
  
            'class' => 'yii\web\ErrorAction',  
  
        ],  
  
        'captcha' => [  
  
            'class' => 'yii\captcha\CaptchaAction',  
  
            'fixedVerifyCode' => YII_ENV_TEST ? 'testme' : null,  
  
        ],  
  
    ];  
}
```

```
];
}

public function actionIndex()

{

    return $this->render('index');

}

public function actionLogin()

{

    if (!Yii::$app->user->isGuest) {

        return $this->goHome();

    }

    $model = new LoginForm();

    if ($model->load(Yii::$app->request->post()) && $model->login()) {

        return $this->goBack();

    } else {

        return $this->render('login', [

            'model' => $model,

        ]);

    }

}
```

```
    }

}

/**

 * Logs out the current user.

 *

 * @return mixed

 */

public function actionLogout()

{

    Yii::$app->user->logout();

    return $this->goHome();

}

public function actionContact()

{

    $model = new ContactForm();

    if ($model->load(Yii::$app->request->post()) && $model->validate()) {

        if ($model->sendEmail(Yii::$app->params['adminEmail'])) {
```

```

        Yii::$app->session->setFlash('success', 'Thank you for contacting us. We will
respond to you as soon as possible.);

    } else {

        Yii::$app->session->setFlash('error', 'There was an error sending your
message.);

    }

    return $this->refresh();

} else {

    return $this->render('contact', [
        'model' => $model,
    ]);

}

public function actionAbout()

{

    return $this->render('about');

}

public function actionSignup()

{

    $model = new SignupForm();
}

```

```

if ($model->load(Yii::$app->request->post())) {

    if ($user = $model->signup()) {

        if (Yii::$app->getUser()->login($user)) {

            return $this->goHome();

        }

    }

}

return $this->render('signup', [

    'model' => $model,

]);

}

public function actionRequestPasswordReset()

{

    $model = new PasswordResetRequestForm();

    if ($model->load(Yii::$app->request->post()) && $model->validate()) {

        if ($model->sendEmail()) {

            Yii::$app->session->setFlash('success', 'Check your email for further instructions.');

        }

    }

}

```

```
        return $this->goHome();

    } else {

        Yii::$app->session->setFlash('error', 'Sorry, we are unable to reset password for
the provided email address.);

    }

}

return $this->render('requestPasswordResetToken', [
    'model' => $model,
]);

}

public function actionResetPassword($token)

{
    try {

        $model = new ResetPasswordForm($token);

    } catch (InvalidArgumentException $e) {

        throw new BadRequestHttpException($e->getMessage());
    }
}
```

```
if ($model->load(Yii::$app->request->post()) && $model->validate() && $model->resetPassword()) {  
  
    Yii::$app->session->setFlash('success', 'New password saved.');//  
  
    return $this->goHome();  
  
}  
  
return $this->render('resetPassword', [  
    'model' => $model,  
]);  
  
}  
  
}
```

PasswordResetRequestForm.php

```
<?php  
  
namespace frontend\models;  
  
use Yii;  
  
use yii\base\Model;
```

```
use common\models\User;

class PasswordResetRequestForm extends Model

{
    public $email;

    public function rules()
    {
        return [
            ['email', 'trim'],
            ['email', 'required'],
            ['email', 'email'],
            ['email', 'exist'],
            'targetClass' => '\common\models\User',
            'filter' => ['status' => User::STATUS_ACTIVE],
            'message' => 'There is no user with this email address.'
        ],
    };
}
```

```

}

public function sendEmail()

{

$user = User::findOne([
    'status' => User::STATUS_ACTIVE,
    'email' => $this->email,
]);

if (!$user) {

    return false;
}

if (!User::isPasswordResetTokenValid($user->password_reset_token)) {

    $user->generatePasswordResetToken();

    if (!$user->save()) {

        return false;
    }
}

```

```

        return Yii::$app

            ->mailer

            ->compose(

                ['html' => 'passwordResetToken-html', 'text' => 'passwordResetToken-text'],

                ['user' => $user]

            )

            ->setFrom([Yii::$app->params['supportEmail'] => Yii::$app->name . ' robot'])

            ->setTo($this->email)

            ->setSubject('Password reset for ' . Yii::$app->name)

            ->send();

    }

}

```

ResetPasswordForm.php

```

<?php

namespace frontend\models;

use yii\base\Model;

use yii\base\InvalidArgumentException;

use common\models\User;

```

```
class ResetPasswordForm extends Model

{

    public $password;

    private $_user;

    public function __construct($token, $config = [])

    {

        if (empty($token) || !is_string($token)) {

            throw new InvalidParamException('Password reset token cannot be blank.');

        }

        $this->_user = User::findPasswordResetToken($token);

        if (!$this->_user) {

            throw new InvalidParamException('Wrong password reset token.');

        }

        parent::__construct($config);

    }

    public function rules()

    {

        return [

            ['password', 'required'],


```

```
        ['password', 'string', 'min' => 6],  
    ];  
  
}  
  
public function resetPassword()  
{  
  
    $user = $this->_user;  
  
    $user->setPassword($this->password);  
  
    $user->removePasswordResetToken();  
  
  
  
    return $user->save(false);  
}  
  
}
```

SignupForm.php

```
<?php  
  
namespace frontend\models;  
  
  
  
use yii\base\Model;  
  
use common\models\User;  
  
class SignupForm extends Model
```

```
{  
  
    public $username;  
  
    public $email;  
  
    public $password;  
  
  
  
    public function rules()  
  
    {  
  
        return [  
  
            ['username', 'trim'],  
  
            ['username', 'required'],  
  
            ['username', 'unique', 'targetClass' => '\common\models\User', 'message' => 'This  
username has already been taken.'],  
  
            ['username', 'string', 'min' => 2, 'max' => 255],  
  
  
  
  
            ['email', 'trim'],  
  
            ['email', 'required'],  
  
            ['email', 'email'],  
  
            ['email', 'string', 'max' => 255],  
  
            ['email', 'unique', 'targetClass' => '\common\models\User', 'message' => 'This  
email address has already been taken.'],  
        ];  
    }  
}
```

```
[ 'password', 'required' ],  
[ 'password', 'string', 'min' => 6 ],  
];  
}  
  
public function signup()  
{  
    if (!$this->validate()) {  
        return null;  
    }  
  
    $user = new User();  
    $user->username = $this->username;  
    $user->email = $this->email;  
    $user->setPassword($this->password);  
    $user->generateAuthKey();  
  
    return $user->save() ? $user : null;  
}
```

}

Script used for tracking web visits

```
<script async src="https://www.googletagmanager.com/gtag/js?id=UA-108264025-1"></script>

<script>

    window.dataLayer = window.dataLayer || [];

    function gtag(){dataLayer.push(arguments);}

    gtag('js', new Date())

    gtag('config', 'UA-108264025-1');

</script>
```

Google Analytics for Report Generation

```
<iframe width="600" height="371" seamless frameborder="0" scrolling="no"
src="https://docs.google.com/spreadsheets/d/e/2PACX-
1vQQRccS7v8Jq63cSL5W_FnDnAPyNfIVw22ck_rCB4CPQM68cMcWiXsshdWwpd_RsHG6
sjTV5ny0Qyt/pubchart?oid=203812847&format=interactive"></iframe>

<!--for Users-->

<iframe width="600" height="371" seamless frameborder="0" scrolling="no"
src="https://docs.google.com/spreadsheets/d/e/2PACX-
1vQQRccS7v8Jq63cSL5W_FnDnAPyNfIVw22ck_rCB4CPQM68cMcWiXsshdWwpd_RsHG6
sjTV5ny0Qyt/pubchart?oid=490008769&format=interactive"></iframe>

<!--Location-->

<iframe width="600" height="371" seamless frameborder="0" scrolling="no"
src="https://docs.google.com/spreadsheets/d/e/2PACX-
```

```
1vQQrccS7v8Jq63cSL5W_FnDnAPyNflVw22ck_rCB4CPQM68cMcWiXsshdWwpd_RsHG6  
sjTV5ny0Qyt/pubchart?oid=1745203371&format=interactive"></iframe>
```

```
<!--for Top Browsers-->
```

```
<iframe width="600" height="371" seamless frameborder="0" scrolling="no"  
src="https://docs.google.com/spreadsheets/d/e/2PACX-  
1vQQrccS7v8Jq63cSL5W_FnDnAPyNflVw22ck_rCB4CPQM68cMcWiXsshdWwpd_RsHG6  
sjTV5ny0Qyt/pubchart?oid=457399618&format=interactive"></iframe>
```

```
<!--for Page Views Last Month-->
```

```
<iframe width="600" height="371" seamless frameborder="0" scrolling="no"  
src="https://docs.google.com/spreadsheets/d/e/2PACX-  
1vQQrccS7v8Jq63cSL5W_FnDnAPyNflVw22ck_rCB4CPQM68cMcWiXsshdWwpd_RsHG6  
sjTV5ny0Qyt/pubchart?oid=875275833&format=interactive"></iframe>
```

```
<!--for Page Views This Month-->
```

```
<iframe width="600" height="371" seamless frameborder="0" scrolling="no"  
src="https://docs.google.com/spreadsheets/d/e/2PACX-  
1vQQrccS7v8Jq63cSL5W_FnDnAPyNflVw22ck_rCB4CPQM68cMcWiXsshdWwpd_RsHG6  
sjTV5ny0Qyt/pubchart?oid=157271260&format=interactive"></iframe>
```

LoginForm.php

```
<?php  
  
namespace common\models;  
  
use Yii;  
  
use yii\base\Model;  
  
  
  
  
class LoginForm extends Model
```

```
{  
  
    public $username;  
  
    public $password;  
  
    public $rememberMe = true;  
  
  
  
    private $_user;  
  
    public function rules()  
  
    {  
  
        return [  
  
            // username and password are both required  
            [['username', 'password'], 'required'],  
  
            // rememberMe must be a boolean value  
            ['rememberMe', 'boolean'],  
  
            // password is validated by validatePassword()  
            ['password', 'validatePassword'],  
  
        ];  
  
    }  
  
    public function validatePassword($attribute, $params)  
    {
```

```

if (!$this->hasErrors()) {

    $user = $this->getUser();

    if (!$user || !$user->validatePassword($this->password)) {

        $this->addError($attribute, 'Incorrect username or password.');

    }

}

public function login()

{

    if ($this->validate()) {

        return Yii::$app->user->login($this->getUser(), $this->rememberMe ? 3600 * 24 * 30 : 0);

    } else {

        return false;

    }

}

protected function getUser()

{

    if ($this->_user === null) {

```

```
$this->_user = User::findByUsername($this->username);

}

return $this->_user;

}
```

User.php

```
<?php

namespace common\models;

use Yii;

use yii\base\NotSupportedException;

use yii\behaviors\TimestampBehavior;

use yii\db\ActiveRecord;

use yii\web\IdentityInterface;

class User extends ActiveRecord implements IdentityInterface

{

    const STATUS_DELETED = 0;
```

```

const STATUS_ACTIVE = 10;

public static function tableName()

{

    return '{{%user}}';

}

public function behaviors()

{

    return [

        TimestampBehavior::className(),

    ];

}

public function rules()

{

    return [

        ['status', 'default', 'value' => self::STATUS_ACTIVE],

        ['status', 'in', 'range' => [self::STATUS_ACTIVE, self::STATUS_DELETED]],

    ];

}

public static function findIdentity($id)

```

```

{

    return static::findOne(['id' => $id, 'status' => self::STATUS_ACTIVE]);

}

public static function findIdentityByAccessToken($token, $type = null)

{

    throw new NotSupportedException('"findIdentityByAccessToken" is not implemented.');

}

public static function findByUsername($username)

{

    return static::findOne(['username' => $username, 'status' => self::STATUS_ACTIVE]);

}

public static function findByPasswordResetToken($token)

{

    if (!static::isPasswordResetTokenValid($token)) {

        return null;

    }

    return static::findOne([

```

```

'password_reset_token' => $token,
'status' => self::STATUS_ACTIVE,
]);

}

public static function isPasswordResetTokenValid($token)
{
    if (empty($token)) {
        return false;
    }

    $timestamp = (int) substr($token, strpos($token, '_') + 1);
    $expire = Yii::$app->params['user.passwordResetTokenExpire'];
    return $timestamp + $expire >= time();
}

public function getId()
{
    return $this->getPrimaryKey();
}

public function getAuthKey()

```

```
{  
  
    return $this->auth_key;  
  
}  
  
public function validateAuthKey($authKey)  
  
{  
  
    return $this->getAuthKey() === $authKey;  
  
}  
  
public function validatePassword($password)  
  
{  
  
    return Yii::$app->security->validatePassword($password, $this->password_hash);  
  
}  
  
public function setPassword($password)  
  
{  
  
    $this->password_hash = Yii::$app->security->generatePasswordHash($password);  
  
}  
  
public function generateAuthKey()  
  
{  
  
    $this->auth_key = Yii::$app->security->generateRandomString();  
  
}
```

```
public function generatePasswordResetToken()  
{  
    $this->password_reset_token = Yii::$app->security->generateRandomString() . '_' .  
    time();  
  
}  
  
public function removePasswordResetToken()  
{  
    $this->password_reset_token = null;  
  
}  
  
}
```

For the full source code used by the group for the project, please refer to the developers' GitHub repository.

Link to the group's GitHub repository:

<https://github.com/seans888/H-Iris>