Survey Application

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Contents

Declaration

This report is my own work, and any references are appropriately cited.

Abstract

This report goes over the implementation and development of the survey application. Chapter 1 is the introduction briefly goes over the problem discussed in the development phase as well as re-discussing the solutions. Chapter 2 will briefly rediscuss the problem and similar existing systems as well as the choice of approach I have chosen. Chapter 3 will discuss the methodology chosen to develop the project and discuss its major components. Chapter 4 will discuss the implementation and subsequent testing of the project and the components as they are developed and lastly chapter 5 would discuss the overall document and expand on further implementations and improvements that can be made in the future.

Chapter 1 - Introduction

Brands and Companies often feel detached from consumers. As some brands or companies have become more prevalent in today's market the consumers would develop a relationship with the brand and the products and/or services it may offer. However, there are times when these products and services don't meet the expectations or needs of the consumer and ultimately fail due to the lack of support from their existing consumer base. The customer experience ultimately defines whether a company's business ventures will succeed or fail and knowledge of the consumer or the lack thereof can determine its success rate. Having suitable knowledge of the consumer base can improve the customer experience for them as well the act of acquiring the knowledge will represent a desire to further the relationship with the consumers. Studies have shown that customer experience would have an effect on the loyalty of said customer, as represented in figure 1.0 which shows data from a [2] study which compared the impact of the Customer Experience on the loyalty of the brand.

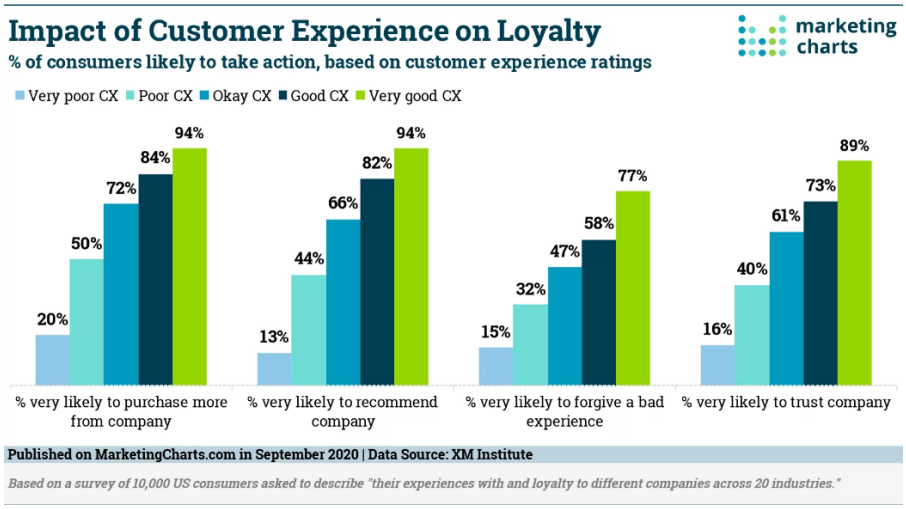

fig 1.0

This data shows that customers interaction and trust increase when the customer experience is better. The article further goes on to state that customers are attracted to loyalty programs.

My solution aims to provide a form of a loyalty program as well to facilitate a feedback process. Consumers will be able to create an account and subscribe to brands, companies and categories that

appeal to their unique interests. Companies in this category can create surveys based on a specific service or product they provide to gain consumer feedback. These companies can also offer rewards based on how many surveys that users complete. Users can complete surveys from multiple different companies and can also receive rewards from multiple different companies. Companies will be able to view statistical data per survey in a graphical format. This can help companies understand the consumer base via the surveys they create and by offering rewards to the consumers this provides an incentive to continually completely different surveys as well as bolstering trust between consumers and the company/brand.

This report shows a further analysis of the problem at hand and the systems used. This report will also show the methodology and the approach to implementing the solution and its major components. As well as a timeline of the project and risks that may be encountered.

Chapter 2 – Background and Literature review

In recent years, brands feel disconnected from their consumer base as they might offer products and services that feel unnecessary. Some consumers may say that the overall experience as a consumer is not worthy of further support and some brands may not have a proper way to receive feedback. These factors can affect the customer experience and damage a relationship with the existing consumer base as well as prevent new consumers from joining.

We will further analyze this with articles showing the disconnect between brands and consumers and reasons why this may be the case as well as comparing current systems that are similar and concluding with our choice of approach to solve the issue.

2.1 Background information

Brands feel disconnected from their consumer base due to the lack of communication and research on their consumer base. A study done in [1]2023 surveyed 2000 citizens of the UK in which 56% said they couldn't name a brand which they felt connected to or understood by. They then stated, in the wake of the economic crisis and social changes of the 2 years prior that consumers are finding it difficult to distinguish between brands and are overwhelmed by content furthering their belief that brands are "less connected to the people, society and current events". [4]Another article in Nov. 2022 shows various statistics about the difference in how companies view their strategies and how consumers have received them, two specific points I would like to shed light on is "90% of CX leaders think very positively about how well they are delivering personalized content to their customers, while only 26% of their customers felt the same," and " 53% of businesses believe their customers are very satisfied with their self-service offerings, but only 15% of consumers agree.". the article would then further clarify that the main cause would be the lack of the utilization of data acquired as seen in fig 2.1.

fig. 2.1 Excerpt from (WhatTheyTh!nk) article

[3] Furthermore a study done in 2011 analyzing the disconnect states that 67% of consumers are interacting with the brand expecting something in return. However, 60% of CMOs believe that people like the online content and will interact because of this while only 33% believe the interaction is driven for a desire for rewards and 27 % believe customers want a coupon or a 'follower exclusive' bonus. Customers seek rewards based on interaction with the brand online.

To remedy this disconnect we will use the survey app to help bridge the gap between consumer and company as well as present the data in such a way that it is easy to utilize as well as provide an avenue for consumers to be rewarded based on the surveys they complete. Let us look at some of the existing systems that can perform similar tasks and compare with ours

2.2 Comparison of Existing Systems

There are 3 existing systems that we will be comparing with SurveyPlanet, MyForms and SurveyNuts.

1) SurveyNuts

SurveyNuts is a survey creation website. In fig 2.2.2 you can see the home page. It requires an account to create surveys and you are only allowed 7 days of use before it requires subscription to improve. Once logged in there are only 2 other pages to interact with an account page (fig 2.2.4) and a survey dashboard (fig 2.2.3). On the survey dashboard you can choose between adding a new survey or adjusting a current one. In fig 2.2.5 we can see the survey creation page all centered in one page where the type of question can be chosen as well as the options for the questions. In fig 2.2.6 shows the results page where results from surveys are presented in a semi graphical format. My system will not have a subscription service and will not lock any features behind a paywall.

Pro

- User interface easy to use.
- Results are presented in an understandable format

Con

- Tedious to type/ no autofill function
- Cannot use external account such as google or Facebook.
- Lack of validation of email when creating account
- Content locked behind steep paywall.
- Navigation can be slightly confusing.
- Previewing the survey counts as data that is displayed in the results tab.
- Cannot export with pro plan.
- Only 7-day free plan before you have to pay to use site

Fig 2.2.1 - Logo

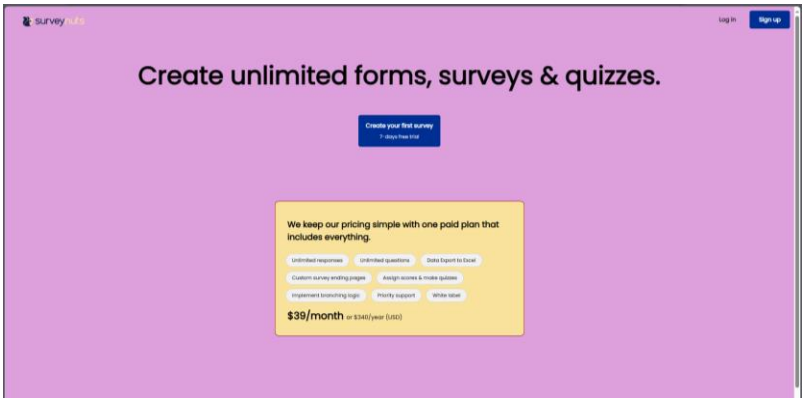

Fig 2.2.2 – Home Page

Fig 2.2.3 – Survey Dashboard

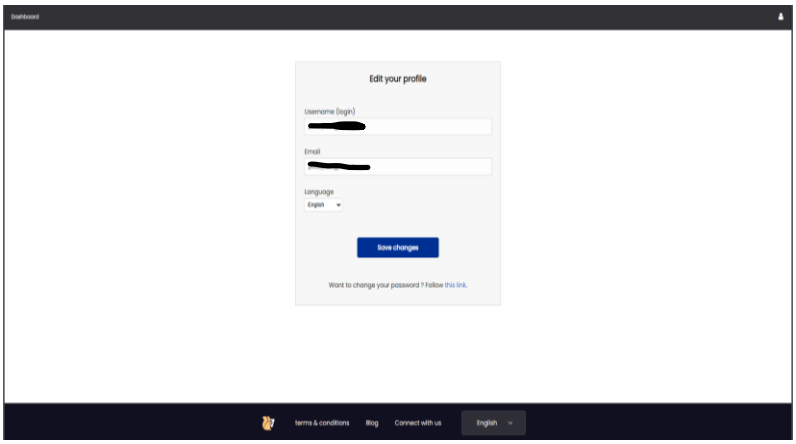

Fig 2.2.4 Account settings

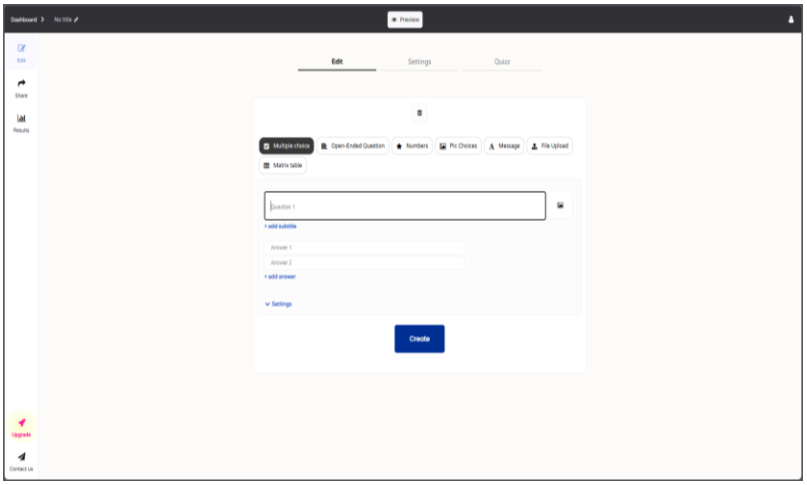

Fig 2.2.5 – Survey Question creator

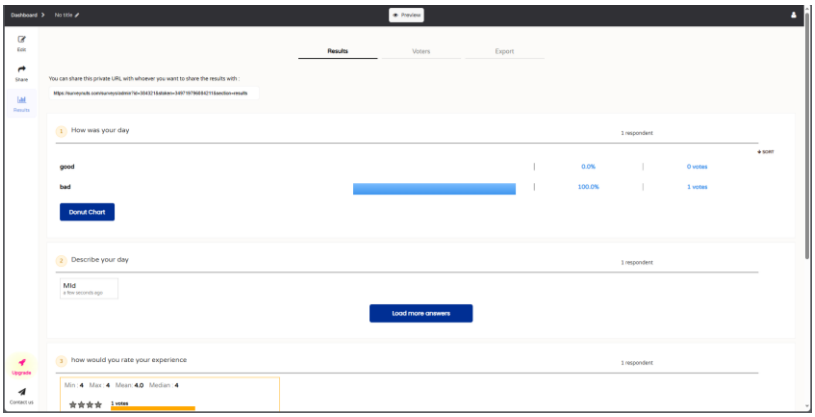

Fig 2.2.6 Results Hub

2) Myforms/Forms.app

MyForms is a web-based survey creator website. This site requires an account to use and has a subscription service in which free users are only allowed to have 7 surveys and you must pay to be able to create more. Additionally, features are locked behind this paywall such as better results and exportation of results. In fig 2.2.9 you can see the survey dashboard where you can adjust surveys you have already created and create new ones. In fig 2.2.10 we can see the survey creator options when creating a new survey and in fig 2.2.11 we can see the way they create questions and elements on the survey as well as adjusting pre-existing survey questions if a template was used. In fig 2.2.12 we can see an example of a survey whilst its being taken and in fig 2.2.13 we can see the results page where results

from surveys are presented in a semi graphical format. My system hopes to improve the format in which the results are presented, offering them in a easier to understand format and allowing them to exported without having to pay.

Pro

- Large variety in forms available for creation
- Ai feature to generate questions.
- Large amounts of customization

Cons

- Only allowed to create 5 forms total for free and only the 2 highest packages offer unlimited forms.
- Responses are limited to 100/month and can scale up to 100,000 responses a month.
- Interface can be confusing to use.
- With such a large variety it can be overwhelming to choose
- Images are not stored in cloud or saved on site and must be re-imported for each use.
- Can link external account to autofill information but still needs to create an account.

Fig 2.2.7 - Logo

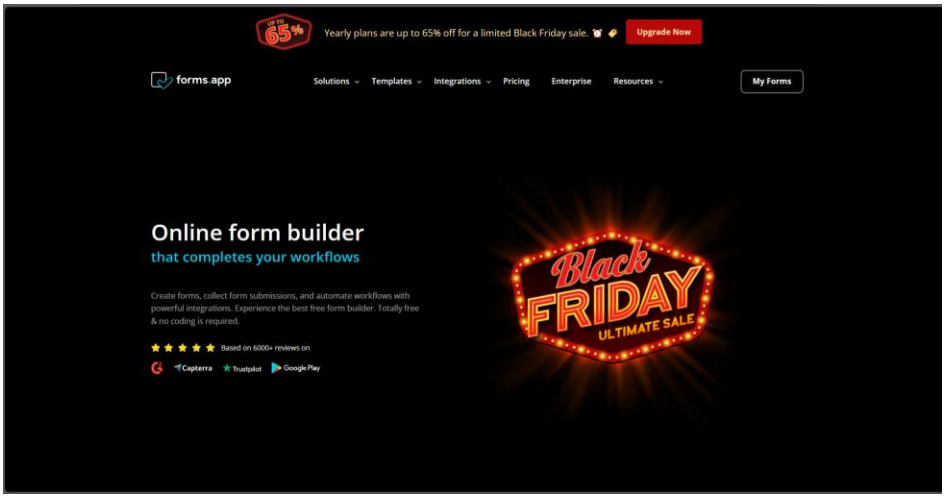

Fig 2.2.8 – Home Page

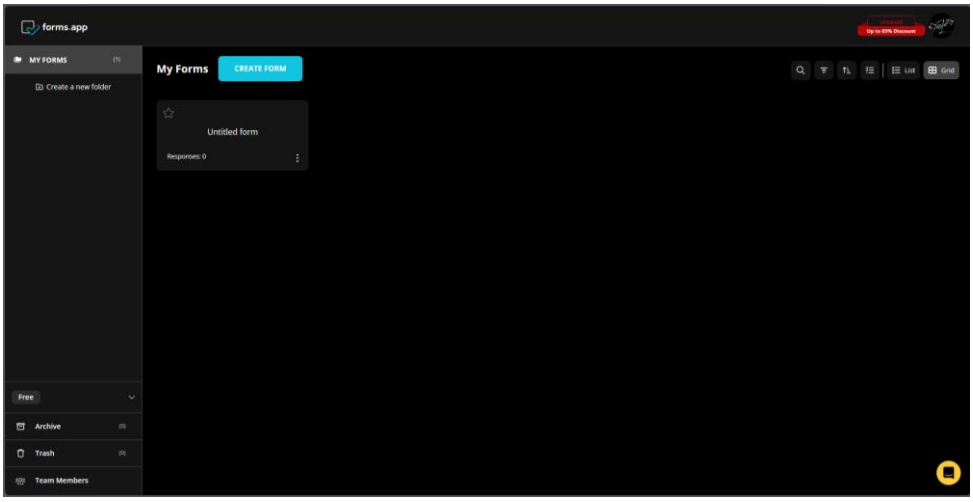

Fig 2.2.9 – Survey Dashboard

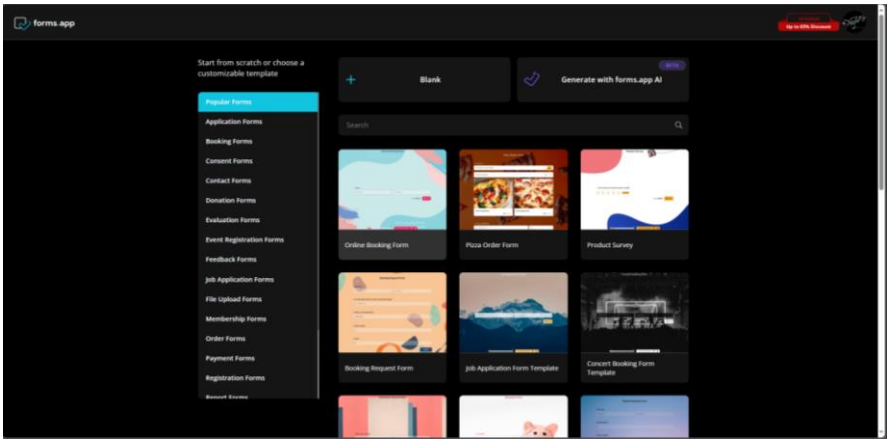

Fig 2.2.10 – Survey creator

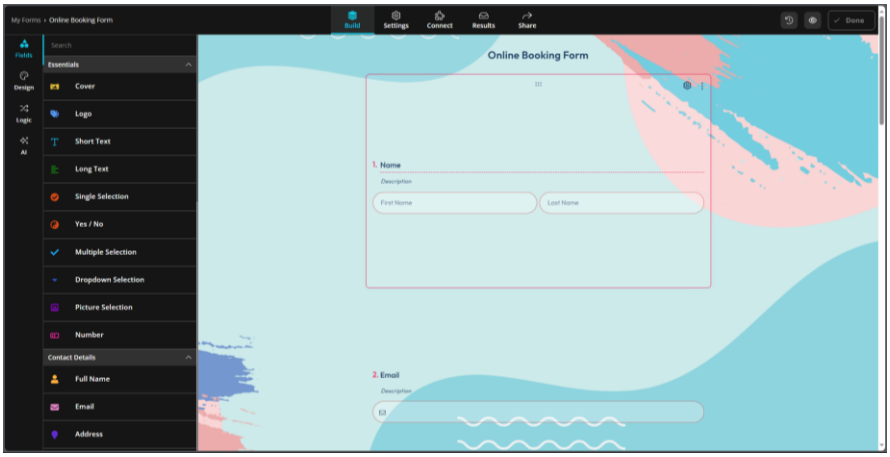

Fig 2.2.11- survey editor

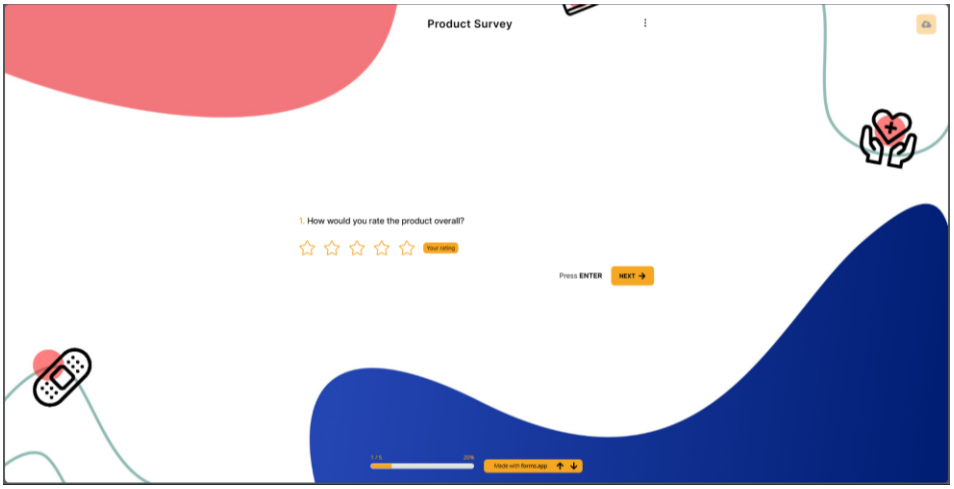

Fig 2.2.12 – example of a survey

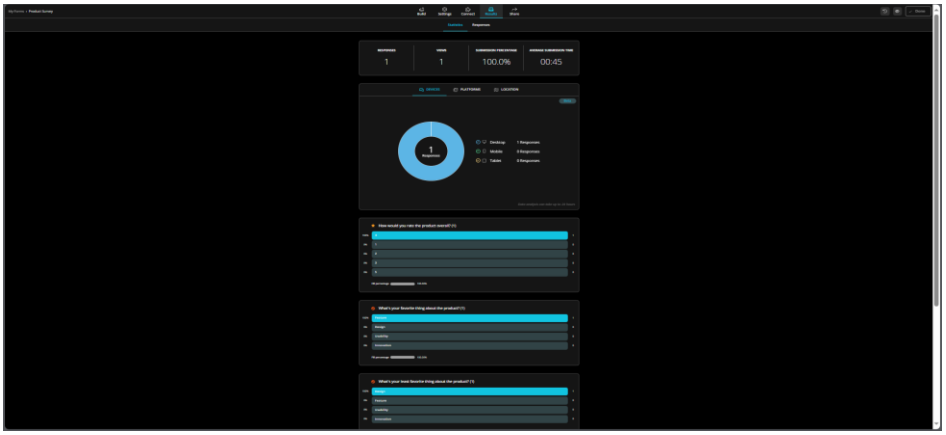

Fig 2.2.13 – results page

3) Survey Planet

SurveyPlanet is a Survey creation website. SurveyPlanet operates a subscription based service which gives additional features however it is not necessary to pay to continue using the service.In fig 2.2.12 you can see the main survey creation pages where you choose between creating a new survey or adjusting already created surveys. In fig 2.2.13 you can see the Survey Editor Page where u can select either templated questions or create new questions. From this page you can choose to set the survey

to active or inactive and you can also view the results here as well. In fig 2.2.15 you can see the results here. In fig 2.2.14 you can see an example of a Test Survey page.. my system hopes ot improve on the visual customization by allowing more options to cuztomize as well as making it easier to customize the form. I also hope to make the orocess quicker and less tedious.

Pros

- Large selection of pre-formatted surveys to use.
- Easy to understand UI.
- Large amounts of visual customization
- Survey is easy to navigate.
- Statistics for each question are shown in simple charts and graphs.

Cons

- Better data analysis featured locked behind steep paywalls as well as data exportation.
- Question creation can be quite tedious even when using pre-written questions.
- Most of the visual customization is locked behind paywall and the free customization is long and tedious to design.

Fig 2.2.3 Survey planet logo

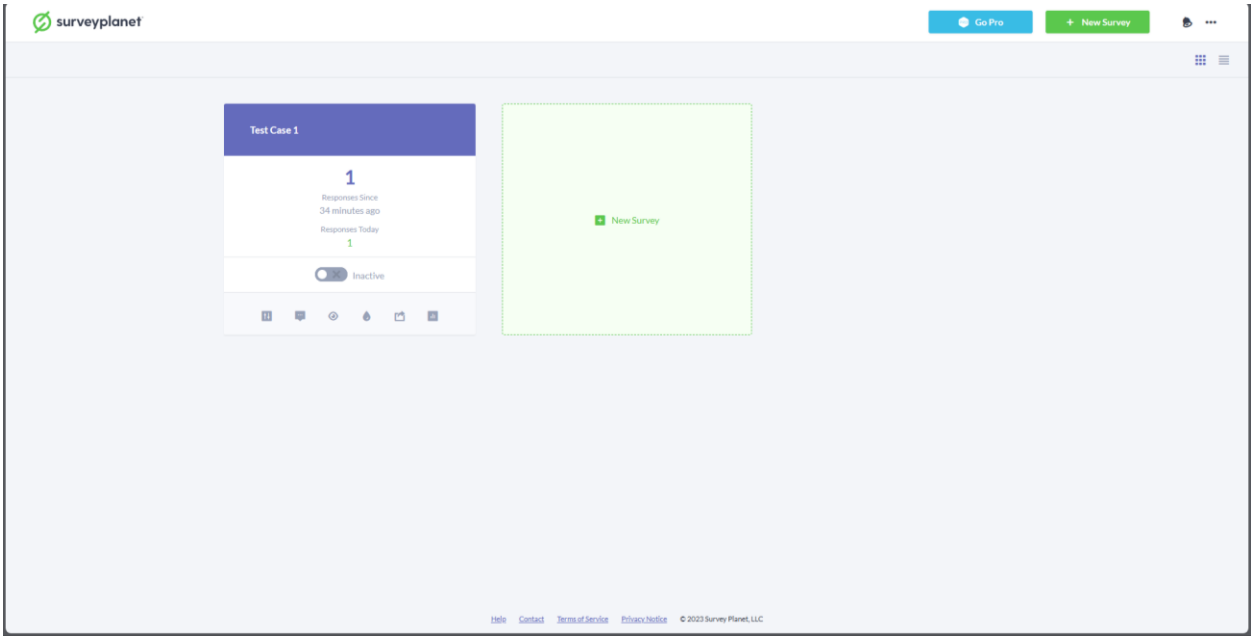

Fig 2.2.11 Survey Creation Page

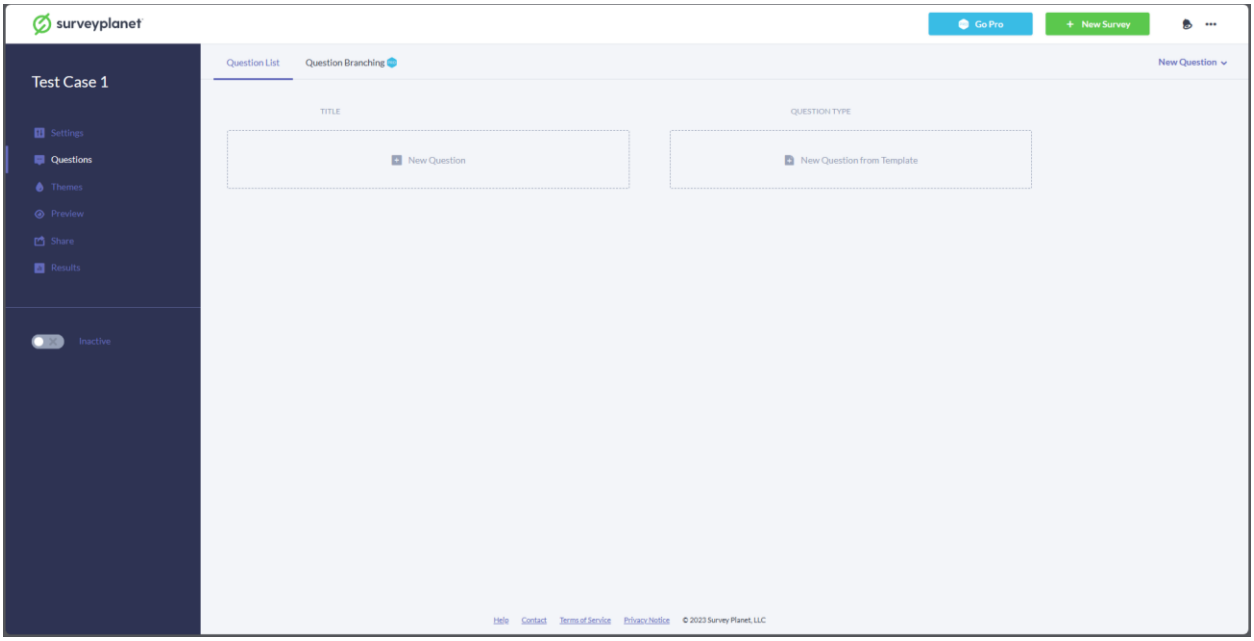

Fig 2.2.12 Survey editor Page

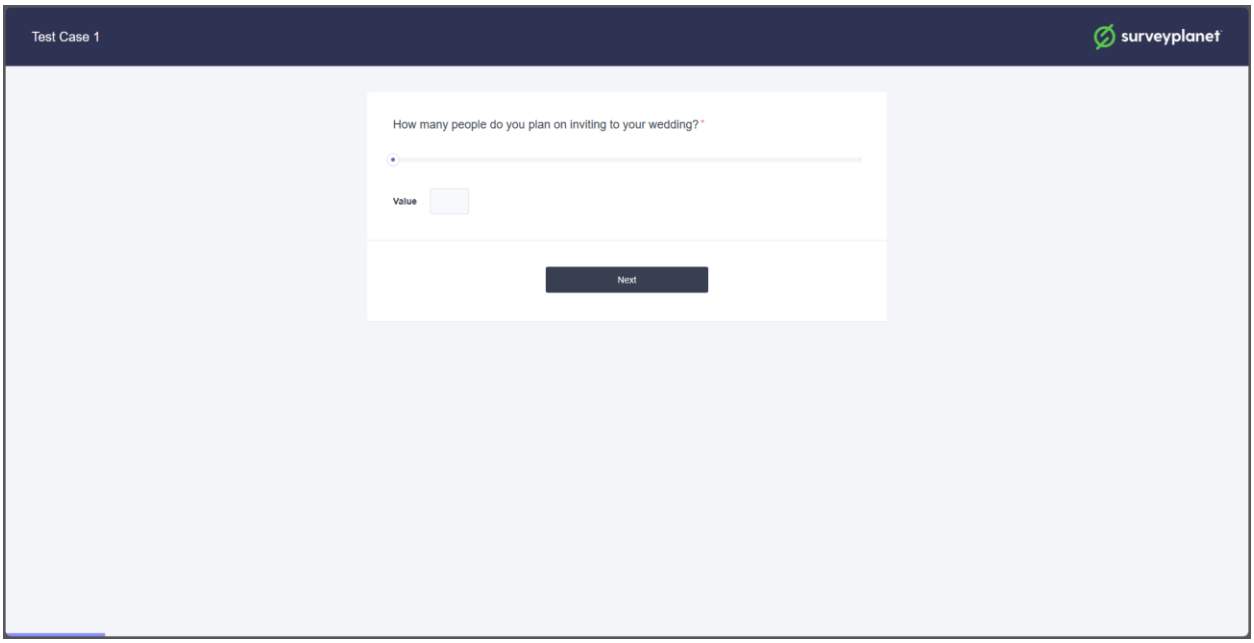

Fig 2.2.13 Test survey Page

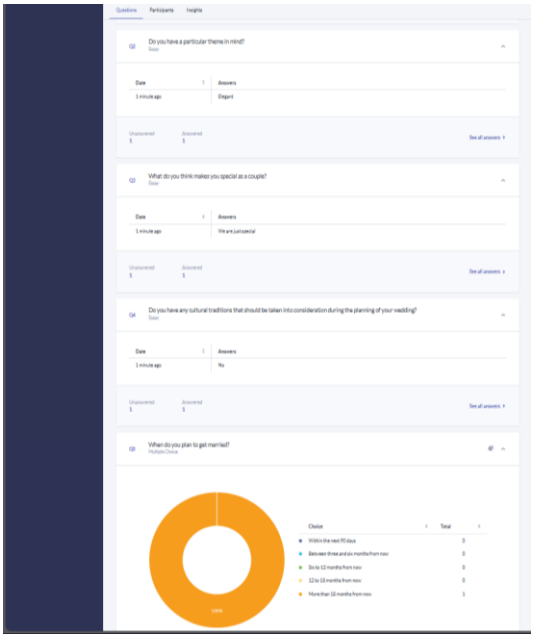

Fig.2.2.14 Results Page

My system plans to be a Survey creation website as well, however unlike these current systems there will not be a paywall to access. It will also improve the account creation process by allowing users to use

external accounts (Google, Facebook, and LinkedIn). Survey creation would also be easier and less tedious to do. Results will be in a graphical format that will be easy to read.

Fig 2.2.15 Table showing all Pros and cons of each system.

SurveyNuts		**SurveyPlanet**		**MyForms/Forms.app**	
Pro	**Con**	**Pro**	**Con**	**Pro**	**Con**
User Interface is easy to use	Questions are tedious to type/No autofill or template functionality	Easy to Understand UI	Visual customization is tedious, and most options are locked behind paywall	Large amounts of customization	User interface can be confusing
Results are presented in an understandable format	Cannot use external account	Large selection of pre-formatted surveys	Better data analysis locked behind paywall	Ai feature to generate questions	Responses limited to 100/month and can only scale up to 100000/month
	Content Locked behind steep paywall	Surveys are easy to navigate	Question creation can be tedious even when using a template	Variety in form creation	Only allowed 5 forms before payment is required
	Navigation can be annoying	Results and statistics are shown in			Media is stored locally and not on a web server

		graphical format			
	Cannot export results				Variety can be overwhelming

2.3 Choice of Approach

My solution is to introduce a survey app to integrate both the customer experience and the feedback necessary to improve it. The survey app would allow the companies to have closer knit relationship as the surveys would come directly from them rather than a third-party application like the aforementioned services. The app would provide web-based interface for the customers to create accounts to interact with surveys and complete them as well as companies to create the surveys. The surveys, the results and the account information would be stored in a cloud-based database with the security being handled by the third-party service used to create the database. Customers would also be able to win prizes from surveys as an incentive to complete them.

2.4 Summary

In summary, this chapter discussed how the brands feel disconnected from their consumer base and how this can be prevented. We viewed similar systems to the Survey program and compared them against each other as well as the one being created, and we further discussed how the survey app would solve the problem of the disconnect and lack of information between brand and customer. In the next chapter we will discuss the methodology of how the survey application would be implemented and discuss the major components of the system.

Chapter 3 – Methodology

The approach taken is to design a web-based application to fulfill the needs of the survey app. The consumers would be able to interact with forms to create accounts and answer surveys. The companies would also be able to interact with the forms to also create accounts and create these surveys and edit them. There would be a database for all relevant data to be stored.

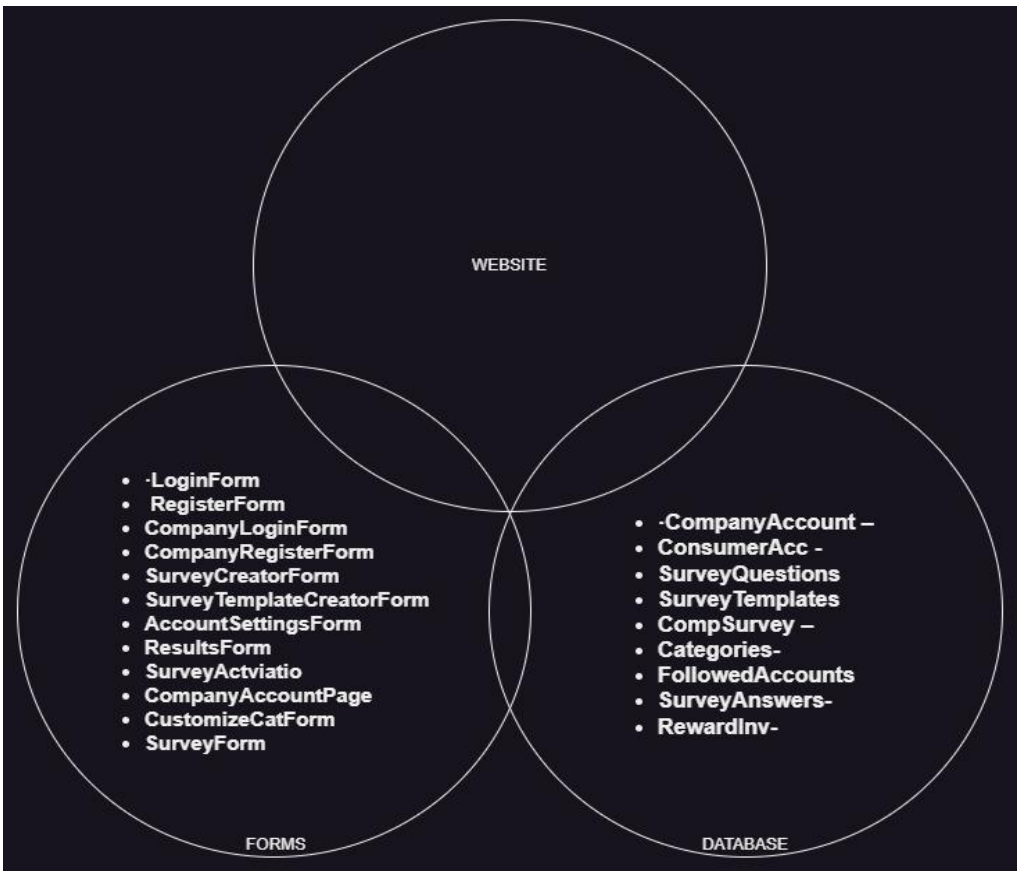

Fig 3.1 showing a simple diagram of how the system is connected

3.1 Project major Components

3.1.1 Database

3.1.1.1 Functional Requirements

The functional requirements of the system:

- Must be able to store all customer and company data.
- Must be able to store survey data.
- Must be able to handle large amounts of data.
- Data must be securely kept and protected.

The database chosen is a cloud-based system. The database would need to store the Company account data as well as Customer account data. It would also have to store the survey data and templates created and data from answered surveys.

the tables needed:

- CompanyAccount – Stores company account data
- ConsumerAcc - Stores customer account data
- SurveyQuestions
- SurveyTemplates Stores templates of survey questions and survey styles
- CompSurvey – Stores created surveys.
- Categories- stores categories that surveys can vary from
- FollowedAccounts
- SurveyAnswers- stores survey answers
- RewardInv- stores the reward inventory of the customer.

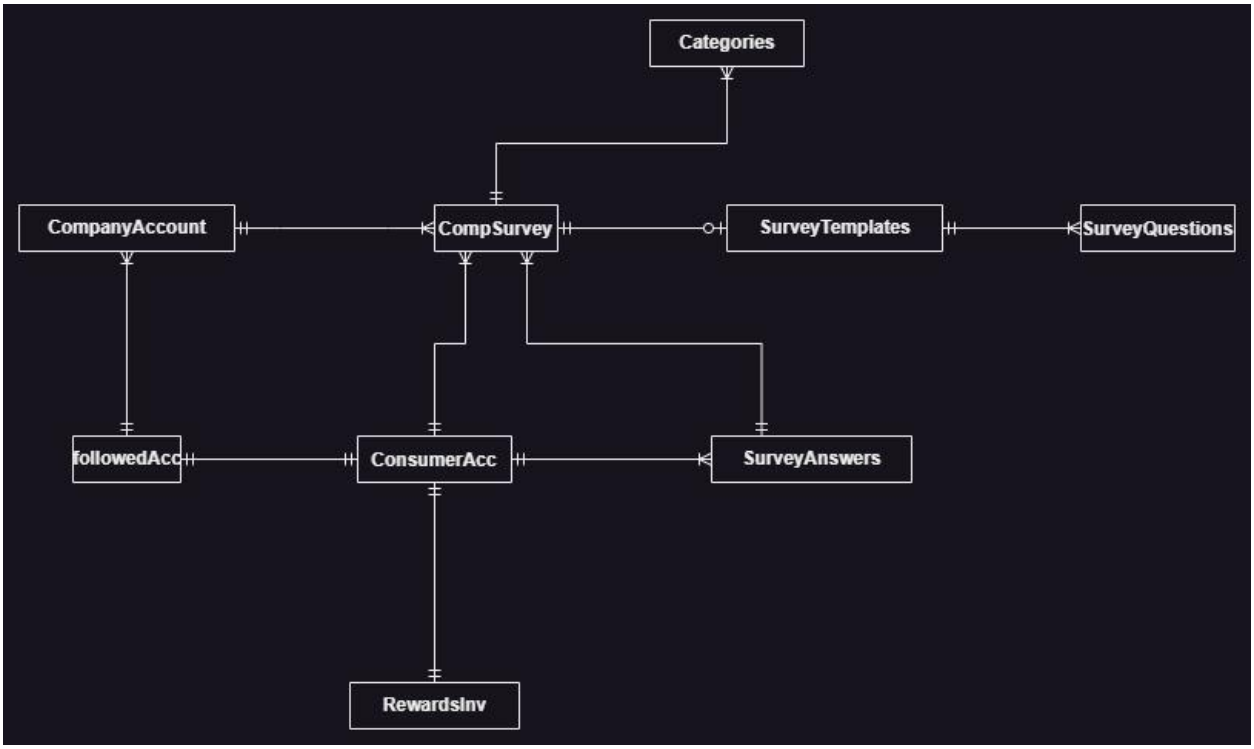

Fig 3.1.1.1 showing a simple ERD of the database system.

3.1.2 Forms

3.1.2.1 Functional Requirements

The functional requirements are:

- Must be able to facilitate data entry for both consumers and companies/brands.
- Must be able to edit data using forms as well.
- Must be easy to understand and navigate.
- Forms must be able to send and receive data between them.

The forms would be:

- LoginForm – For the customer to login
- RegisterForm – Customer to register for the first time.
- CompanyLoginForm – Company Login
- CompanyRegisterForm – Company to register.
- SurveyCreatorForm – Survey Creator
- SurveyTemplateCreatorForm – Template for survey types
- AccountSettingsForm – Where consumers can change their account settings such as username, password and change categories.
- ResultsForm – Results from surveys
- SurveyActviation – Companies can see all surveys created here and choose to activate or deactivate them.
- CompanyAccountPage – company can edit their name and description page.

- CustomizeCatForm – consumers can select categories they are interested in.
- SurveyForm – Survey to answer.

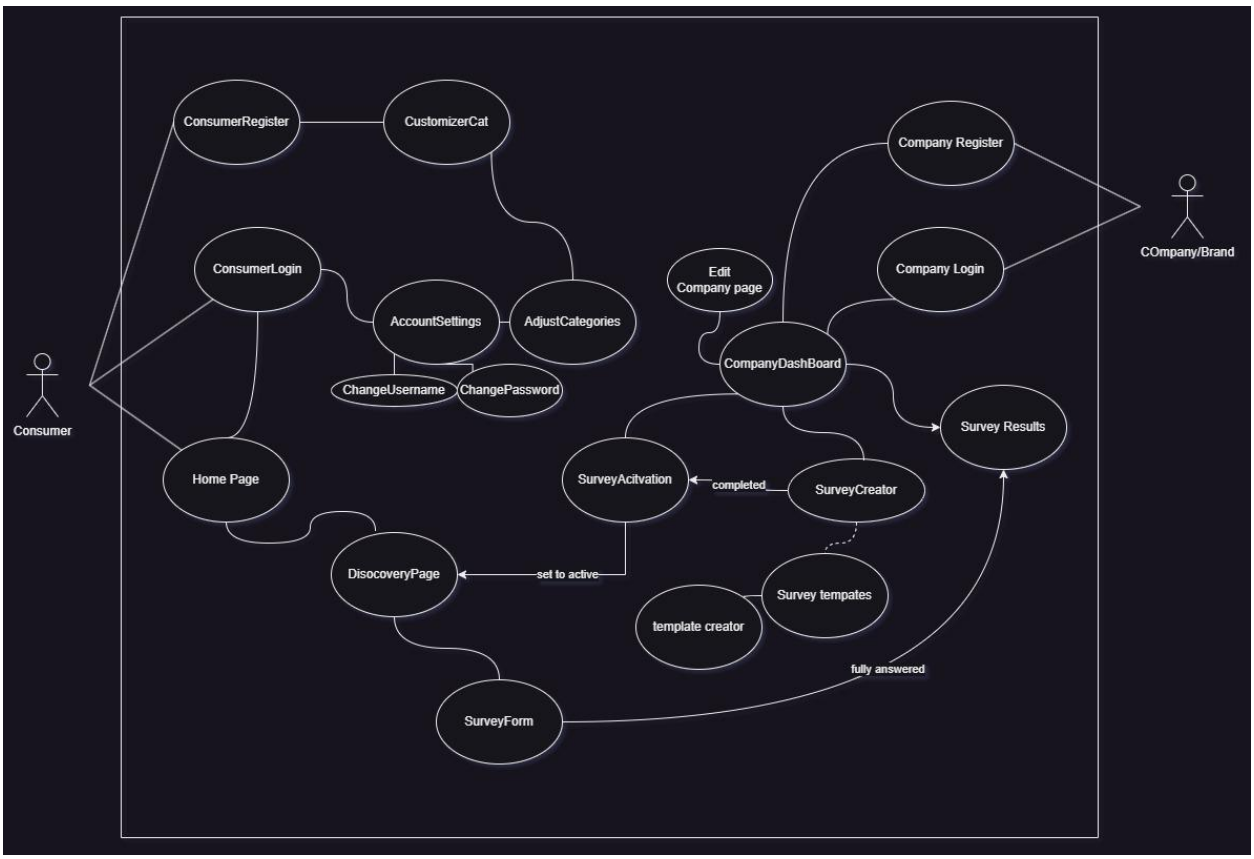

Fig 3.1.2.1 Use case diagram showing the entire system.

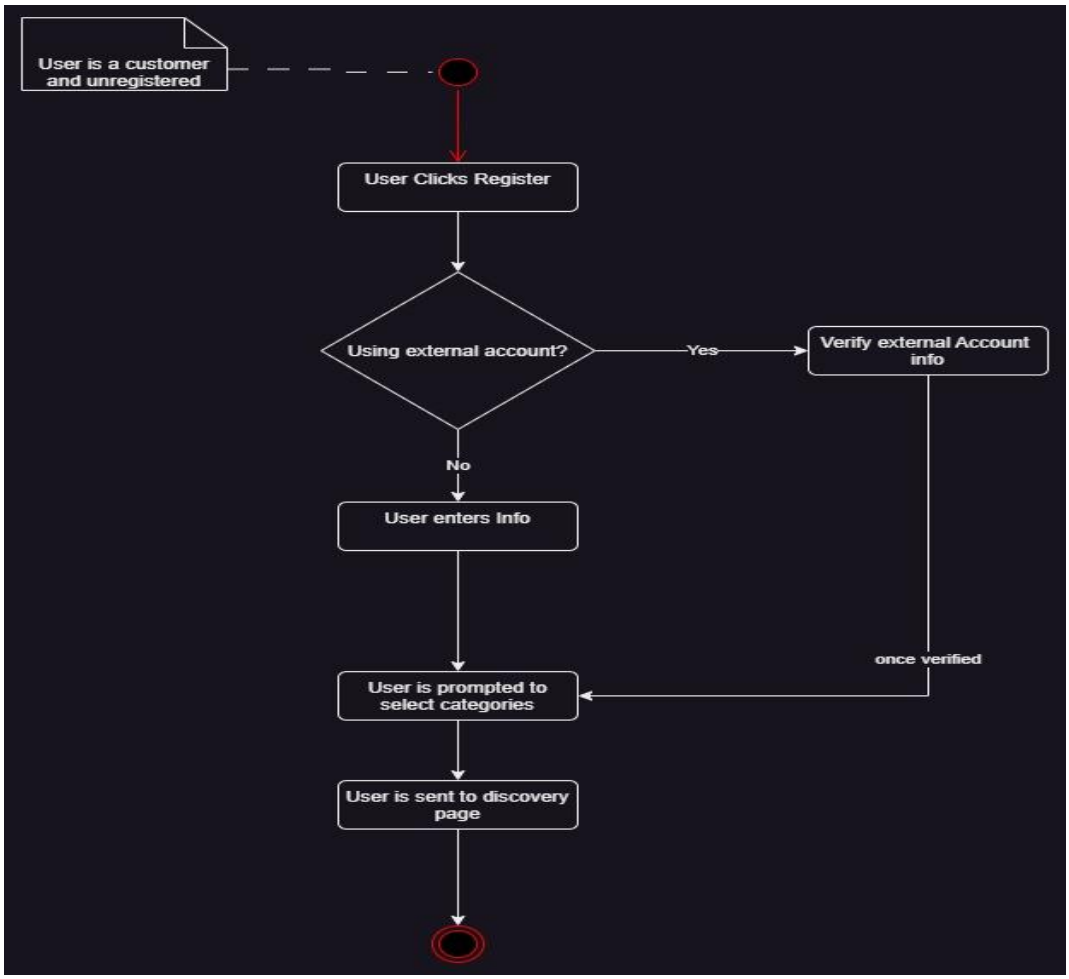

Fig 3.1.2.2 showing Activity diagram of the registration process of a Consumer.

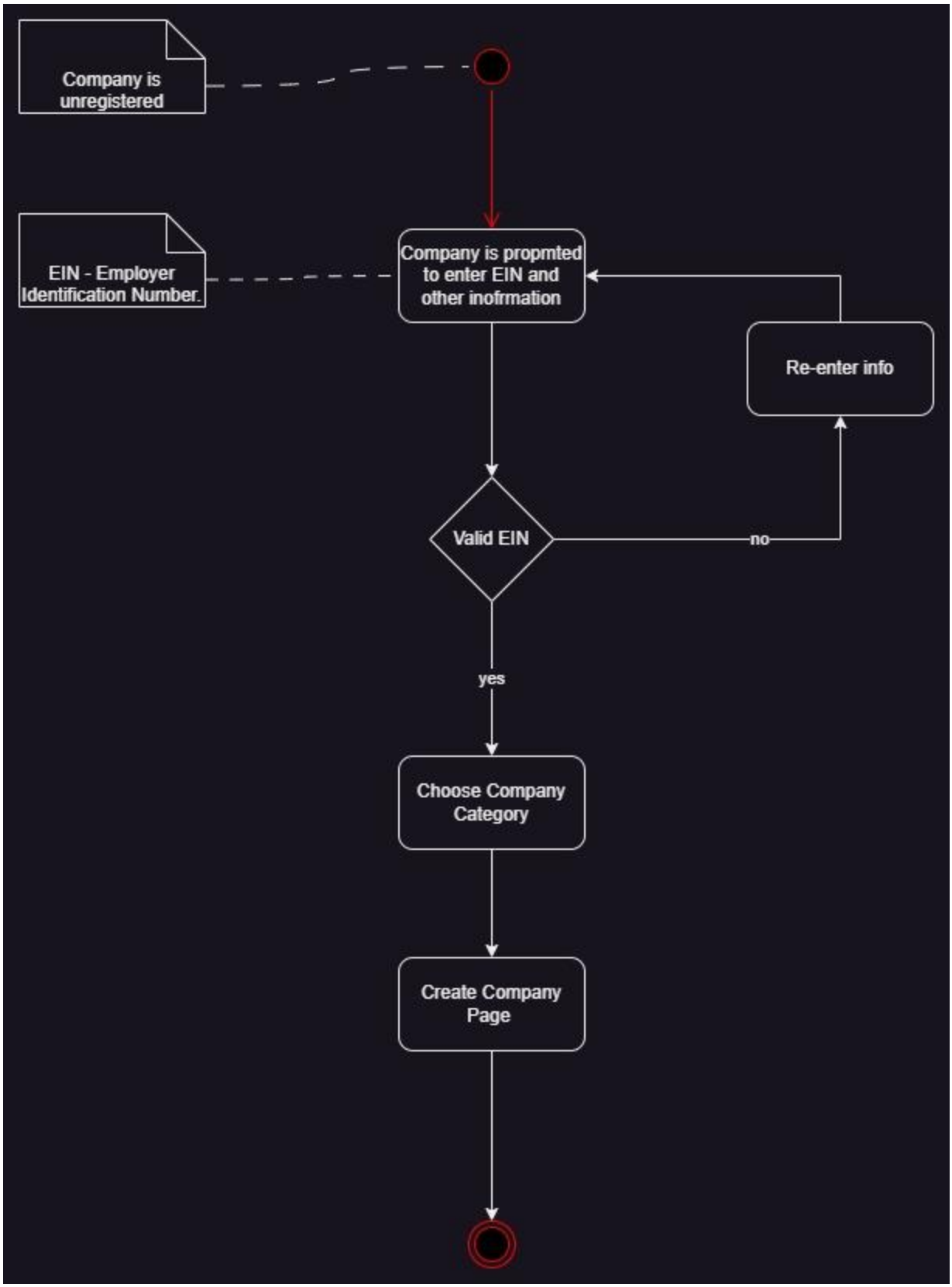

Fig 3.1.2.3 Activity diagram of the registration process of a Company.

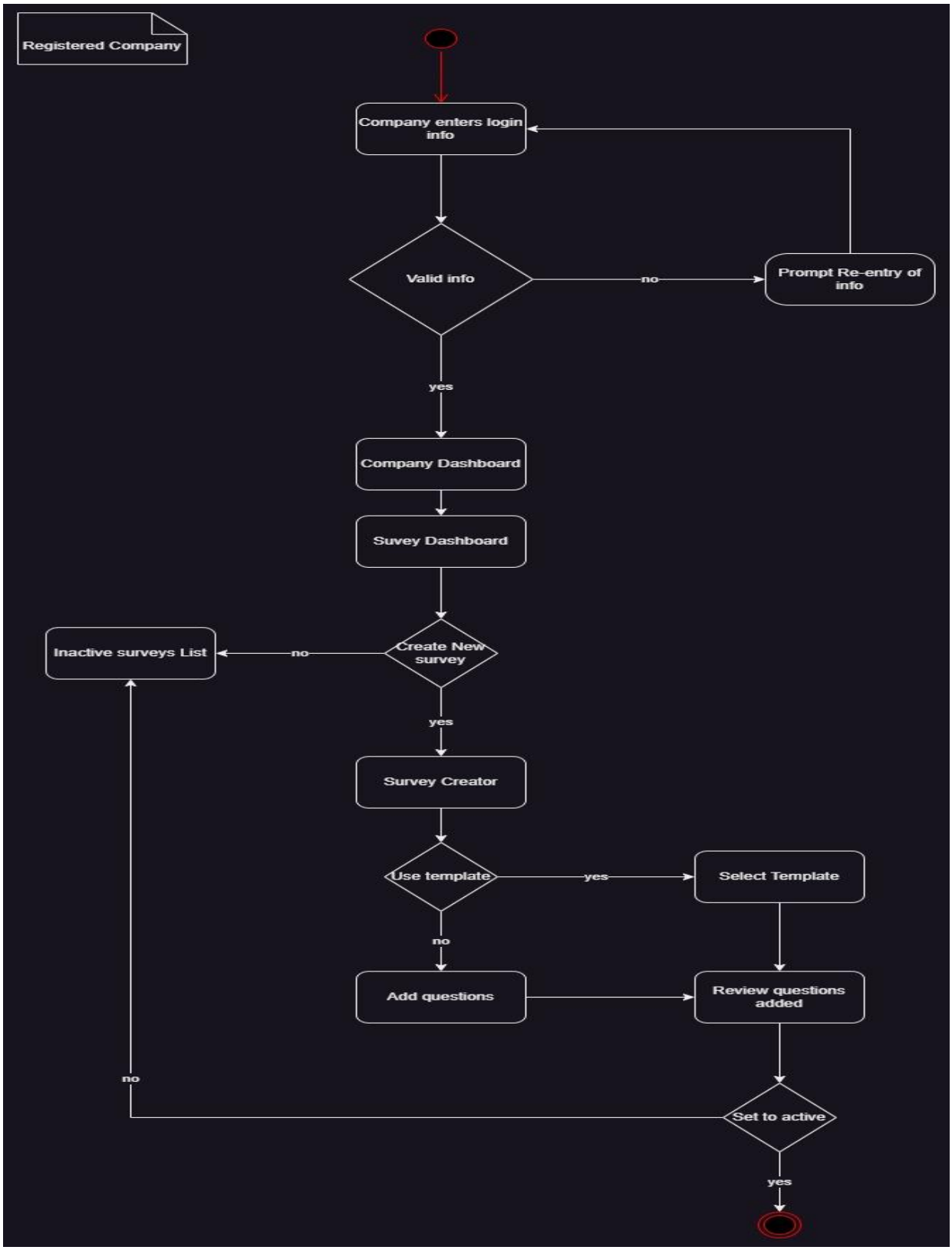

Fig 3.1.2.4 showing log-in of company and creating a survey and setting the status

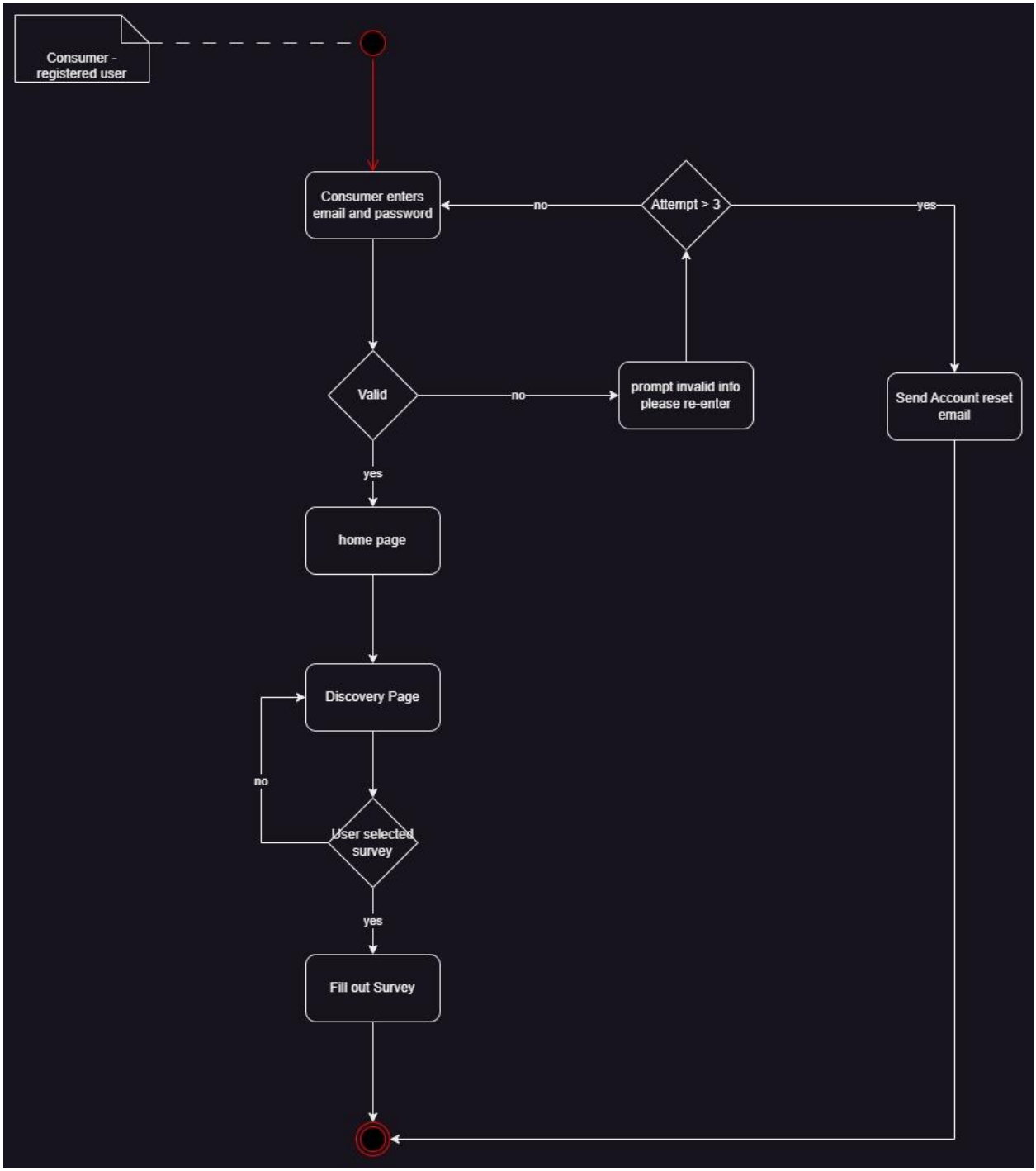

Fig 3.1.2.4 showing log-in of consumer and selecting and filling out survey.

3.1.3 Web Interface

4.1.3.1 Functional Requirements

The functional requirements:

- Webpages must be easy to read and understand.
- Webpages must easily transition into one another.

Along with the forms to facilitate viewing and entering data, there are additional pages to interact with. These pages are:

- Home Page – home page of the survey website
- Recommended feed- shows recommended surveys to customers logged in
- Discovery feed – shows surveys to customers not in categories subscribed to
- New deals and Surveys – show new surveys and deals by brands and companies.

Chapter 4 – implementation, testing and analysis

In this chapter, the architecture and languages used to implement the survey app would be discussed. The components implemented would then be tested independently of each other then they would be tested together and finally by users. And lastly in the summary we would discuss over all that was completed as well as discussing what was fulfilled in comparison to the requirements in the previous section.

4.1 Implementation and component testing

4.1.1 Forms

The main functionality of this component would be to accept data from the users as well as display data for the user to see. Additionally the forms would display interactive elements for the users to complete. To complete this the forms and pages were chosen to be coded in PHP and HTML. PHP was chosen due to its ease of learning and synergy with html as well as its compatibility with other aspects of the project like the database and chosen platform.

Component	Test	procedure	Expected outcome	Received outcome
Index	Navigation and display	Test the hyperlinks of the homepage to ensure navigation and content is accurately displayed	Navigation works all content is displayed	Navigation works. Style has issues displaying
Customer Login	Accepting data	Entering a email – admin@admin.com and password – admin to the form. These variables have	Is able to accept local data, validate them with the variables and proceed to next page	Correctly validates the data entered and proceeds to next page

		been added to code for testing purposes		
Customer register	Accepting data	Entering a email - admin@admin.com name – admin and password – admin	Is able to accept local data entered and proceed to redirect to login	accepts local data that is entered and redirects to login
Company Login	Accepting data	Entering a ein – 123456789 and password – admin to the form. These variables have been added to code for testing purposes	Is able to accept local data validate them with the variables and proceed to next page	Correctly validates the data entered and proceeds to next page
Company register	Accepting data	Entering a ein – 123456789 , company name – admin, email- admin@admin.com and password – admin to the form.	Is able to accept local data entered and proceed to Company login	accepts local data entered and proceeds to Company login
Dashboard	Navigation	The company dashboard is is able show the correct hyperlinks and redirect accordingly	Navigates to correct pages	Navigates to the correct pages
Survey Creator	Accepting data	Data entered into the creator is show to the user in an area under the	Accepts data in the correct areas. Echo's	Data is correctly accepted and echoed for the user to see

		page using the echo function. All fields are to be entered as 'test' and the start date -06/02/2023 and end- 06/23/2023	the data in an area under the user	
Question creator	Accepting data	A question and options of test, t1,t2,t3,t4 are added to see if it would accepted then echoed to the user	The options are accepted and appropriately echoed	The options are accepted and appropriately echoed

Fig 4.1.1.1 showing a table containing all test cases for the forms

As stated above all forms are working and function as intended. All expected outcomes were met. In terms of the functional requirements all have been fulfilled, additionally all forms stated in the methodology were able to be implemented with the exception of template creator form as it proved difficult for me at the time.

4.1.2 Database.

The database would serve to store all relevant data. This would range from the account data of customers and companies, surveys and questions created by the various companies and the results of the surveys when answered by the customer. MySQL was chosen to be the database management system due to its ease of use and my prior experience using it. Additionally, it would easily communicate with the forms due to the platform chosen as well as creating the various requests within the webpage would be easy using PHP.

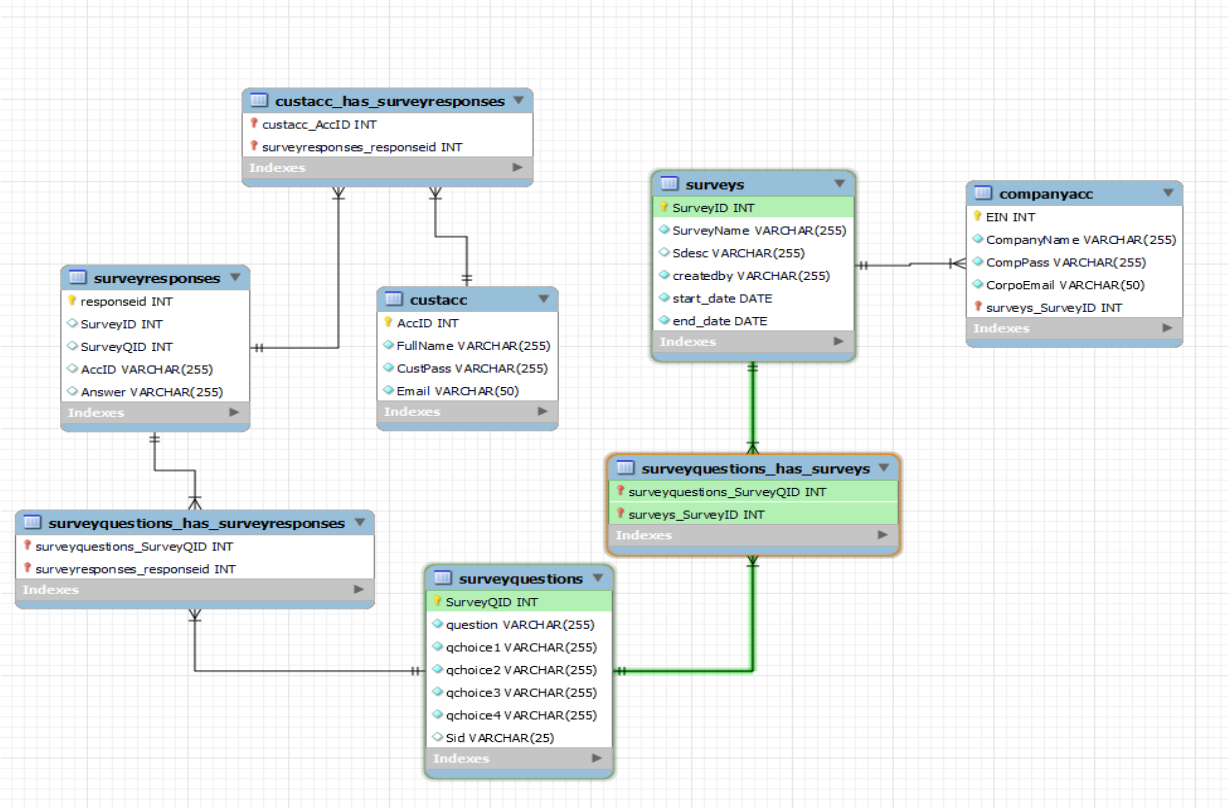

Fig 4.1.2.1 showing the ERD generated by MySQL of the implemented database

Table Name	Test	Expected	Received outcome
CompanyAcc	Create table	Table created successfully	Table created successful
CompanyAcc	Update records	Record updated correctly	Record updated correctly
CompanyAcc	Insert into table	Insert data correctly into table	Data inserted successfully
CustAcc	Create table	Table created successfully	Table created successful
CustAcc	Update records	Record updated correctly	Record updated correctly

CustAcc	Insert into table	Insert data correctly into table	Data inserted successfully
Surveyquestions	Create table	Table created successfully	Table created successful
Surveyquestions	Update records	Record updated correctly	Record updated correctly
Surveyquestions	Insert into table	Insert data correctly into table	Data inserted successfully
Surveys	Create table	Table created successfully	Table created successful
Surveys	Update records	Record updated correctly	Record updated correctly
Surveys	Insert into table	Insert data correctly into table	Data inserted successfully
Surveyresponses	Create table	Table created successfully	Table created successful
Surveyresponses	Update records	Record updated correctly	Record updated correctly
Surveyresponses	Insert into table	Insert data correctly into table	Data inserted successfully

Fig 4.1.2.2 showing the various tests done on the tables.

All tables were able to be created, updated and have records inserted into them. All requirements would be met. However, the SurveyTemplates, FollowedAccounts and rewardsinv tables were not created

due to implementation constraints and lack of time to properly develop the functionality for them so they were omitted.

4.1.3 Platform

The platform chosen would be XAMPP. This is due to the chosen database being MySQL and chosen development language chosen to be PHP, XAMPP provides a platform where connectivity for MySQL can be easily facilitated using PHP. It would also provide an easy interface for everything to be viewed.

4.2 System Testing

In this section the major components of the system would be tested in tandem with each other to show how each functions with respect to each other.

4.2.1 Forms and Database testing

Component	Test	input	Output	Expected outcome	Received outcome
Customer Register	Accepting Correct data and registering a user	Name – admin ,emai- admin@admin.com, password - admin	None – redirect to Login	User is successfully registered	User is Successfully registered
Customer register	Error handling – invalid email	Name – admin ,email- adminadmin.com, password – admin	Error invalid email	Error message is displayed	Error message is displayed
Customer register	Error handling – invalid password	Name – admin ,emai-	Error invalid password	Error message is displayed	Error message is displayed

		admin@admin.com, password -			
Customer Register	Error handling – invalid user found/duplicate entry	Name – admin ,emai- admin@admin.com, password - admin	Error email exists	Error message is displayed	Error message is displayed
Company Register	Accepting Correct data and registering a user	EIN – 123456789 Email-kfc@kfc.com Name-kfc Password-kfc123	None – redirect to company login	User is successfully registered	User is Successfully registered
Company Register	Error handling – invalid user found/duplicate entry	EIN – 123456789 Email-kfc@kfc.com Name-kfc Password-kfc123	Error ein exists	Error message is displayed	Error message is displayed
Company Register	Error handling – invalid ein	EIN – 12456789 Email-kfc@kfc.com Name-kfc Password-kfc123	Error invalid email	Error message is displayed	Error message is displayed
Company register	Error handling – invalid password	EIN – 123456789 Email-kfc@kfc.com Name-kfc Password-	Error invalid password	Error message is displayed	Error message is displayed

Company login	Accepting data	EIN – 123456789 Password-kfc123	None- redirect to dashboard	User is able to login	Successful login
Company login	Error handling – invalid EIN	EIN – 123456789 Password-kfc123	Error – invalid EIN	Display error	Error displayed
Company login	Error handling – invalid password	EIN – 123456789 Password-kfc123	Error – invalid password	Display error	Error displayed
Customer login	Accepting data	Email- admin@admin.com Password – admin123	None – redirect to customer dashboard	User is able to login	Successful login
Customer login	Error handling – invalid email	Email- adminadmin.com Password – admin123	Error- invalid email	Display error	Error displayed
Customer login	Error handling – invalid password	Email- admin@admin.com Password – admqwe23	Error – invalid password	Display error	Error displayed

Fig 4.2.1.1 showing the tests done between the forms and the database

The above tests shows the various testing done between the forms and the database. These show that the forms and the database are able to communicate and send and receive data between them. They are also able to display the error messages for inaccurate data.

4.2.2 Total system testing

Component	Test	Input/procedure	Output	Expected outcome	Actual outcome
Company Survey Creator	Create a survey	User logs in. selects. Survey creator. All fields are to be entered as 'test' and the start date - 06/02/2023 and end- 06/23/2023	Successfully saved echoed on screen upon success	Survey will be created	Survey is created
Question creator	Choose a survey and add questions to it	User logs in, selects Question creator and results. User selects a survey they created then clicks add question. User adds 'test',t1,t2,t3,t4.	Successfully creates question	Questions are added successfully	Questions are added successfully
Question creator	Edit chosen question	User logs in, selects Question creator and results. User selects a survey they created then clicks add question. The	Successful update and redirect to question addition page	Question is edited correctly and updated version is saved	Updated version is saved

		user selects a question they have created previously, edits t2 to t8			
Question creator	Edit chosen question	User logs in, selects Question creator and results. User selects a survey they created then clicks add question. The user selects a question they have created previously and deletes it	Successful delete , question list updated	Question is deleted	Question is successfully deleted
Question creator	View Results	User logs in, selects Question creator and results. User selects a survey they created then clicks view results	Redirects to results page and shows results for chosen survey	Results are displayed	Results are successfully displayed
Edit Account details	Edit the details of a chosen account	User logs in, selects Account on Nav bar, then clicks edit account. Changes	Successfully updates and	The user would be able to edit their account details and the	The user was unable to update their account details and

		email to admin2@admin.com	displays updated!	updated version would save	the update did not occur
Customer Dashboard	View surveys	User logs in, Shows all surveys currently active to the user	Displays all surveys on the homepage	Displays all the surveys	Successfully displays all the surveys
Customer Survey	Start Survey and complete survey	User logs in, Shows all surveys currently active to the use and selects start survey and answers all questions	Shows the thank you page on submission	Customer is able to start and answer surveys. With data being stored	Customer started the survey and answered questions. Response was stored

Fig 4.2.2.1 showing all the tests of the total system testing

In the above tests all have passed with the exception of the edit user account function.

4.3 User Testing

In this section we will discuss how 3 different users complete the task of Creating an account to Logging in to selecting a survey and completing the survey. Of the users selected we have a low-level ,mid-level and expert-level survey.

User level	Time taken to complete	Tasks to complete	Expected result	Actual result
Low-level user	2 min 40 s	Create account-login-select a survey-complete survey	User would be able to complete all tasks	User completed all tasks

mid-level user	1 min 36 s	Create account-login-select a survey-complete survey	User would be able to complete all tasks	User completed all tasks
High/Expert-level user	1 min 29 s	Create account-login-select a survey-complete survey	User would be able to complete all tasks	User completed all tasks

Fig 4.3.1 showing the user testing times and results.

The above table shows the results from the user testing. From this we can see that low-level user took 2 minutes and 40 seconds to complete the full test, further analyzing this it can be assumed that the low level would take an avg time of 40 seconds to complete each task in the test. The mid level and high level user would have taken 24 and 22 seconds to complete each task respectively. Upon further calculations the average time would be 28 seconds from this it can be said that the website is easy to navigate and understand amongst the differing user levels.

4.4 Summary

In this chapter, the implementation of the survey website was discussed, stating that the forms were developed using PHP and HTML, the database was developed using MySQL and the platform to host everything was XAMPP. Furthermore each of these components were tested both individually and together. These components were then tested by 3 users of differing skill levels and from these tests it was determined that the website is both easy to navigate and understand.

Chapter 5 – report summary and conclusions.

In this report the system presented was a survey creation system for users to answer surveys created by different companies. The system is comprised of 3 main components : forms, database and website. This chapter will summarize my findings from my implementation as well as discuss what can be done in the future. We will discuss the results of the individual component tests followed by the system and user testing and conclude with what can be done in the future.

5.1 Summary of the design of the system

The proposed solution to the problem was to create a survey app that would allow the companies to get survey data that would help their understanding of the customer base.

Forms –

The forms allow the user create their accounts whether it be customer or company. The forms also allow the companies to create their surveys and questions. They also display the results for the surveys they create.

Database –

The database stores the account data of the customer and company, the surveys created by the companies, the questions for the surveys as well as the results of each survey once a customer completes them.

Platform –

The platform exists to host the website and it's various pages. It also provides the connection between the forms and the database.

The software method utilized was Spiral architecture. This was due to its ability to consistently test and improve throughout the length of the project.

5.2 Summary of implementation and testing of the individual components

5.2.1 – Forms

The purpose of this component was to allow customers to allow them to sign up, log-in and complete surveys. It would also allow companies to create accounts and log-in as well as create surveys and add questions to them and view results once customers complete them. In chapter 4.1.1 you can find further information about the individual testing and implementation using PHP and html. To test the forms, each function was tested, by sending data to determine whether data validation and data acceptance functions were working properly. From testing, all forms were able to accept data as well as display any errors that may present itself. Some initial issues occurred when setting the submissions for the forms as I was using buttons but I switched to using an <input> field of type 'submit' and the fields were able to properly send data. In the future, further validation can be done for the questions entered as well as offering more types of questions to be entered.

5.2.2 – Database

This component's purpose is to store the data from the forms as well as all relevant data obtained from the website. To see more information about the individual tests and implementation of the MySQL database see chapter 4.1.2. Each table was tested to see if they can be properly created and have attributes of the table updated. Furthermore, records were able to be inserted into the respective tables as well as these records could be updated. From these tests, the database was determined to be fully functional. Any issues discovered were easily resolved. In future I would like to move to NoSQL database system or have a NoSQL system exist in tandem with the current database system to further improve the type of data that can be stored.

5.2.3 – platform

This component's purpose was to facilitate the connection of the forms and the database between each other. For more information about the XAMPP platform and why it was chosen see chapter 4.1.3.

5.3 Summary of design, implementation and testing of the entire system

The functionality of the survey system was achieved by linking the components of forms – website – database, more details and tests are shown chapter 4.2. The tests for this system were done by interacting with both the forms and database by inputting various different forms of data to the forms to check if they would be appropriately validated and then either display the error or store to the database. Furthermore, tests done using all components such as functions to display data were also completed. From these tests we can say that the system is functional and is ready for use. Additionally, from testing with 3 users of varying skill levels the time of each respective tests were low because of this we can say that the web program is also easy to use and understand. One main issue discovered is that, when connecting the database the SQL connection would connect to MySQL workbench and not the PhpMyAdmin SQL. Upon realization of this attempts were made to attempt to change to the PhpMyAdmin SQL but to no avail. MySQL was used in the end and everything was able to function as intended.

5.4 summary of user testing

In our user testing 3 users of varying skill levels were given tasks to complete for more information see chapter 4.3. in the testing procedure the participants were asked to complete the tasks in one sitting. From these tests the average time was found to be 28 seconds, this would indicate that server is both easy to use and easy to understand. Improvements can however be made, the time for lower-level users were higher by a slightly significant margin so there can be adjustments made for both readability and simplicity for users who may not be as skilled compared to others.

5.5 Final thoughts

In this chapter all findings were briefly discussed, reiterating what was determined from the implementation of system as well as testing each individual component and the entire system together. The results show that a survey application can be created using XAMPP, PHP and MySQL with this application being relatively easy to use and comprehend. However, not all the initial objectives were achieved, there is not a category function for surveys to be sorted, a reward system has not been implemented and results are not in a graphical format. In the future, I would like to add these functions in. Additionally I would like to incorporate a full form builder like FormBuilderJS so that form creation can be easier. I would also like to move this project to newer architectures like ReactJS.

Appendix

D:\Downloads\Project Proposal Form_2023.docx

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