

Survey Application

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Table of Contents

| | |
|--|----|
| Declaration | 4 |
| Abstract | 5 |
| Chapter 1 - Introduction..... | 6 |
| Chapter 3 – Background and Literature review | 8 |
| 3.1 Background information | 8 |
| 2.2 Comparison of Existing Systems | 9 |
| 3.3 Choice of Approach | 19 |
| 2.4 Summary | 20 |
| Chapter 4 – Methodology | 21 |
| 4.1 Project major Components..... | 22 |
| 4.1.1 Database | 22 |
| 4.1.2 Forms | 24 |
| 4.1.3 Web Interface | 30 |
| 4.2 Software Method Utilized..... | 36 |
| 4.3 Summary | 37 |
| Chapter 5 - Status Report..... | 38 |
| 5.1 Project Development timeline..... | 38 |
| 5.2 Anticipated Risks | 38 |
| 5.3 Supervision | 39 |

| | |
|-------------------|----|
| 5.4 Summary | 39 |
| Appendix | 40 |
| Works Cited..... | 41 |

Declaration

This report is my own work and all works referenced were appropriately cited.

Abstract

This report goes over the development of the Survey application. The introduction briefly explains the problem whilst also stating the proposed solutions. Chapter 1 discusses the background literature, which is how the problem came to be and why. It also compares similar systems to the solution being build and contrasts them by showing the pros and cons of each and finishing with the choice of approach on how this would be solves. Chapter 2 discusses the background research of the problem and its solution. It also compares systems like the one being developed and discusses my choice of approach comparatively. Chapter 3 discusses the methodology, which goes over the Project's major components, the reason they are chosen and the diagrams to represent them. It also covers the software method utilized and the reason for the choice. Chapter 4 discusses the status report. This goes over the Gantt chart of the project timeline where the current progress was and the estimated date of completion. Additionally, it goes over the meetings and experience with my chosen supervisor and anticipated risks of 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.

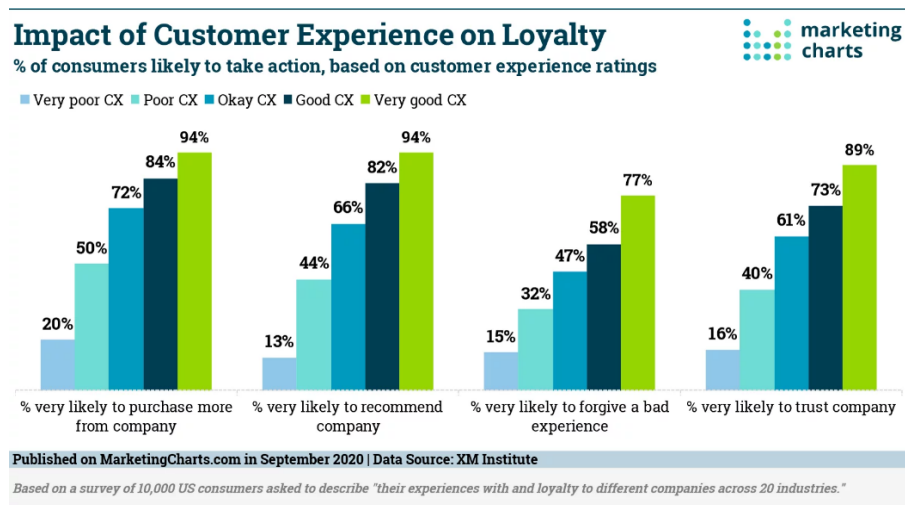


fig 1.0

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 complete 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

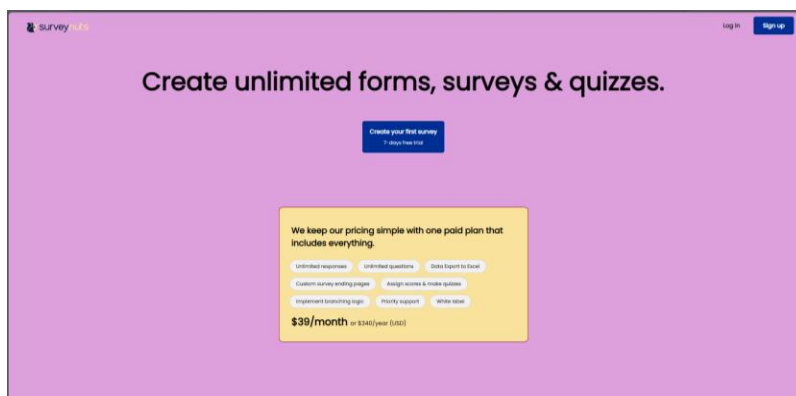


Fig 2.2.2 – Home Page

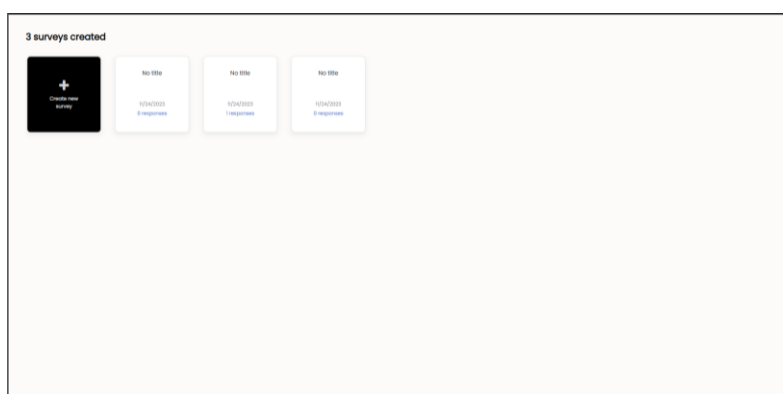


Fig 2.2.3 – Survey Dashboard

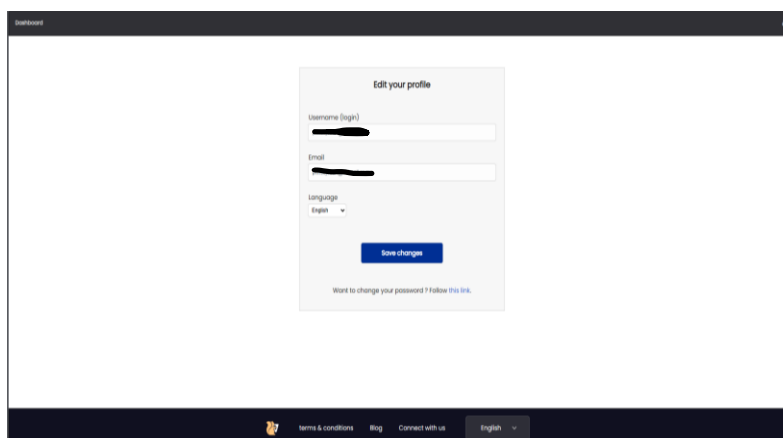


Fig 2.2.4 Account settings

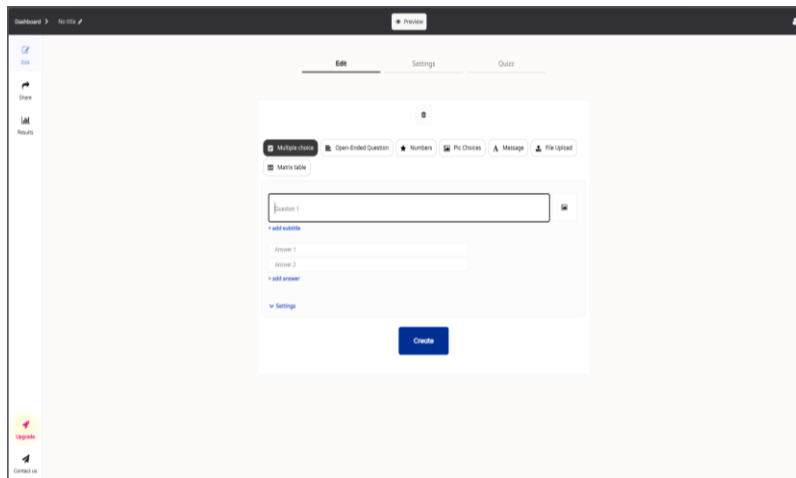


Fig 2.2.5 – Survey Question creator

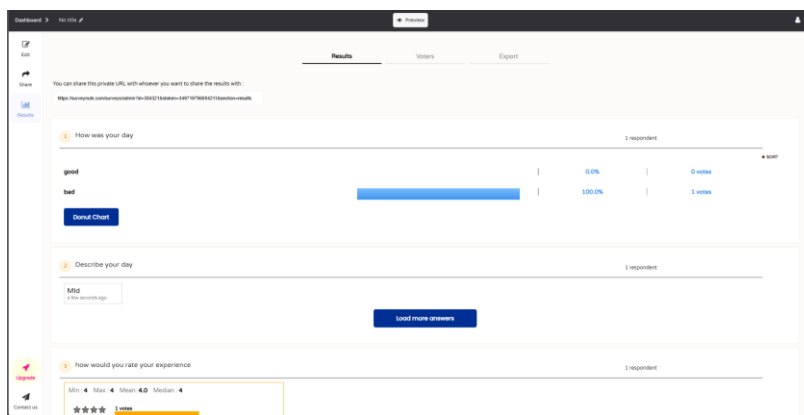


Fig 2.2.6 Results Hub

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

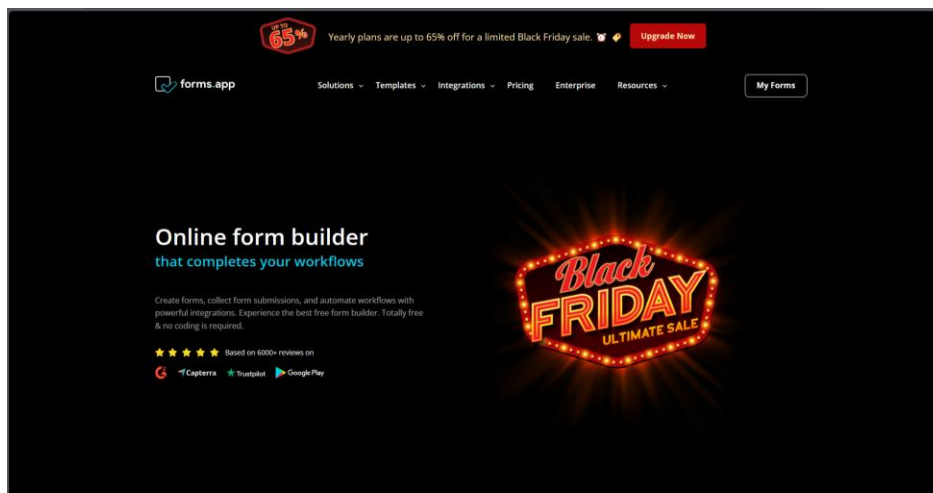


Fig 2.2.8 – Home Page

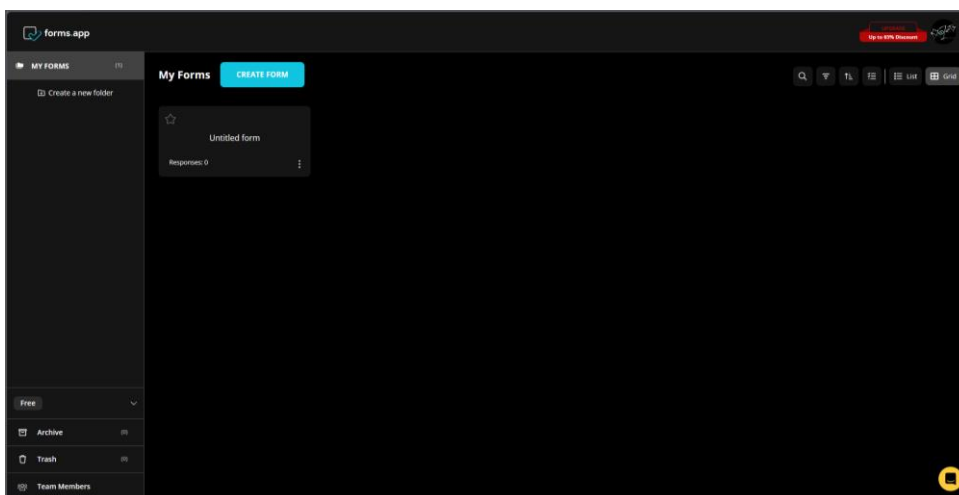


Fig 2.2.9 – Survey Dashboard

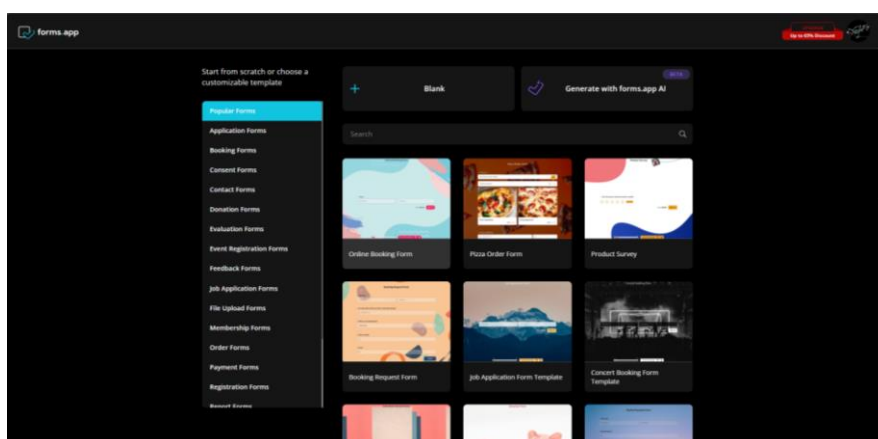


Fig 2.2.10 – Survey creator

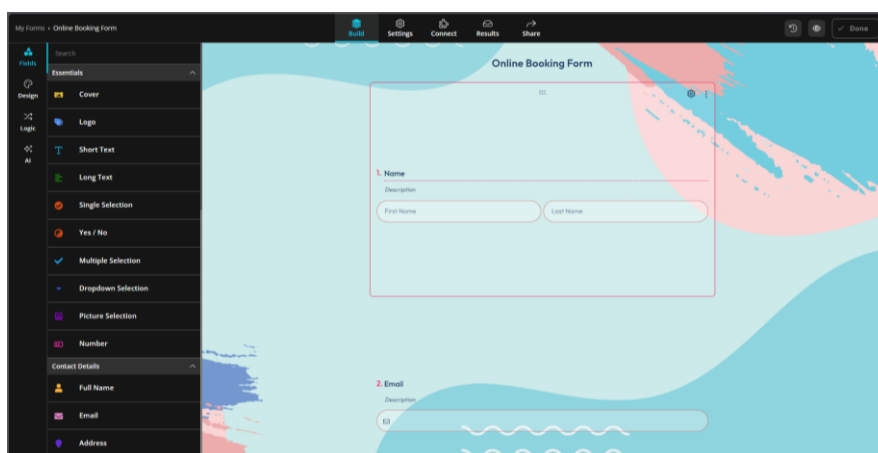


Fig 2.2.11- survey editor

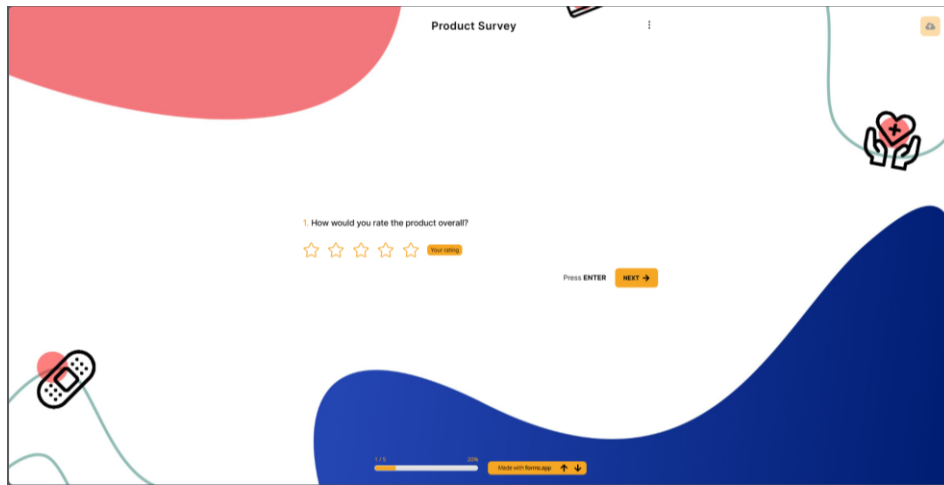


Fig 2.2.12 – example of a survey

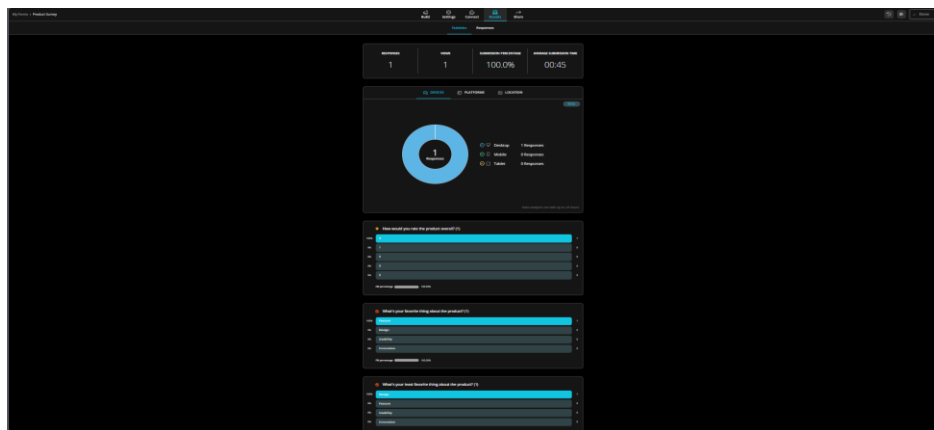


Fig 2.2.13 – results page

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

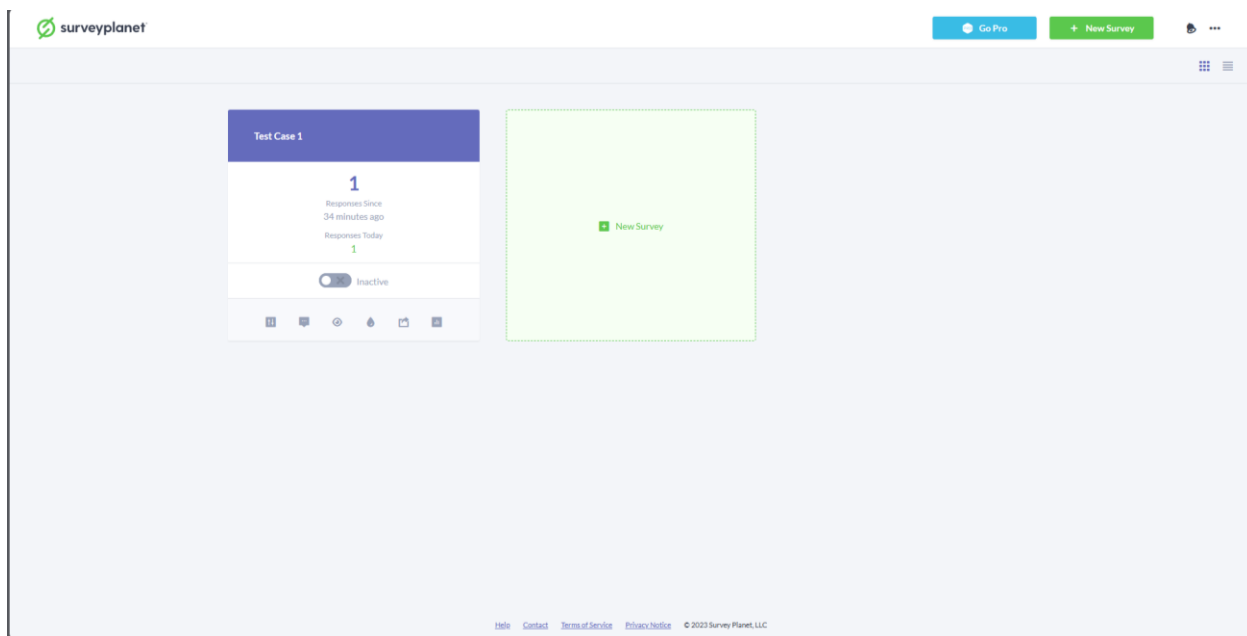


Fig 2.2.11 Survey Creation Page

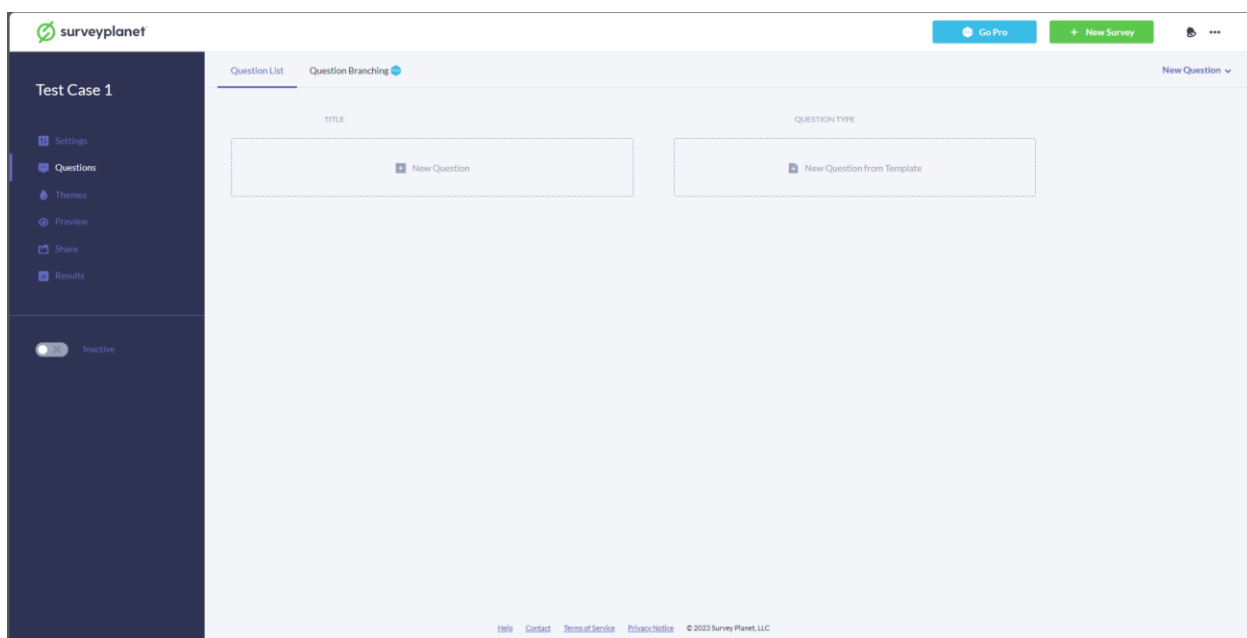


Fig 2.2.12 Survey editor Page

Test Case 1

surveyplanet

How many people do you plan on inviting to your wedding? *

Value

Next

Fig 2.2.13 Test survey Page

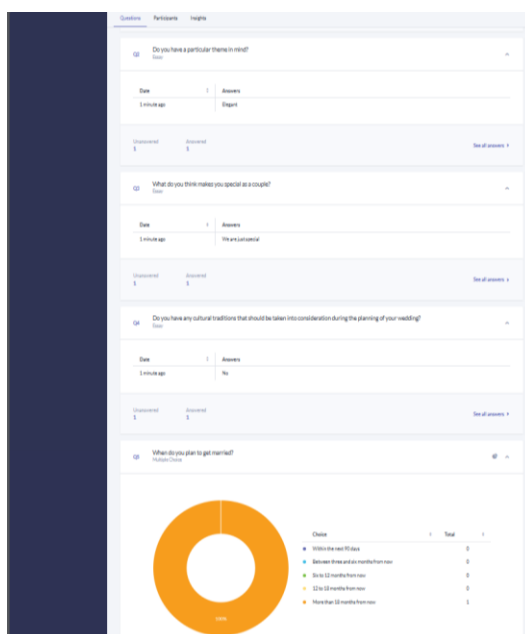


Fig.2.2.14 Results Page

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 graphical format | | | Media is stored locally and not on a web server |
| | 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 use a web-based application to fulfill the needs of the survey app. There would be a web-based interface for customers to interact with, there would be forms for customers to create accounts and choose brands and categories that interest them. Once an account is created the customer will then be able to fill out surveys and share surveys. Companies can also create accounts and surveys. There would be a database for all data to be stored. This would be cloud-based database system so security would also be handled.

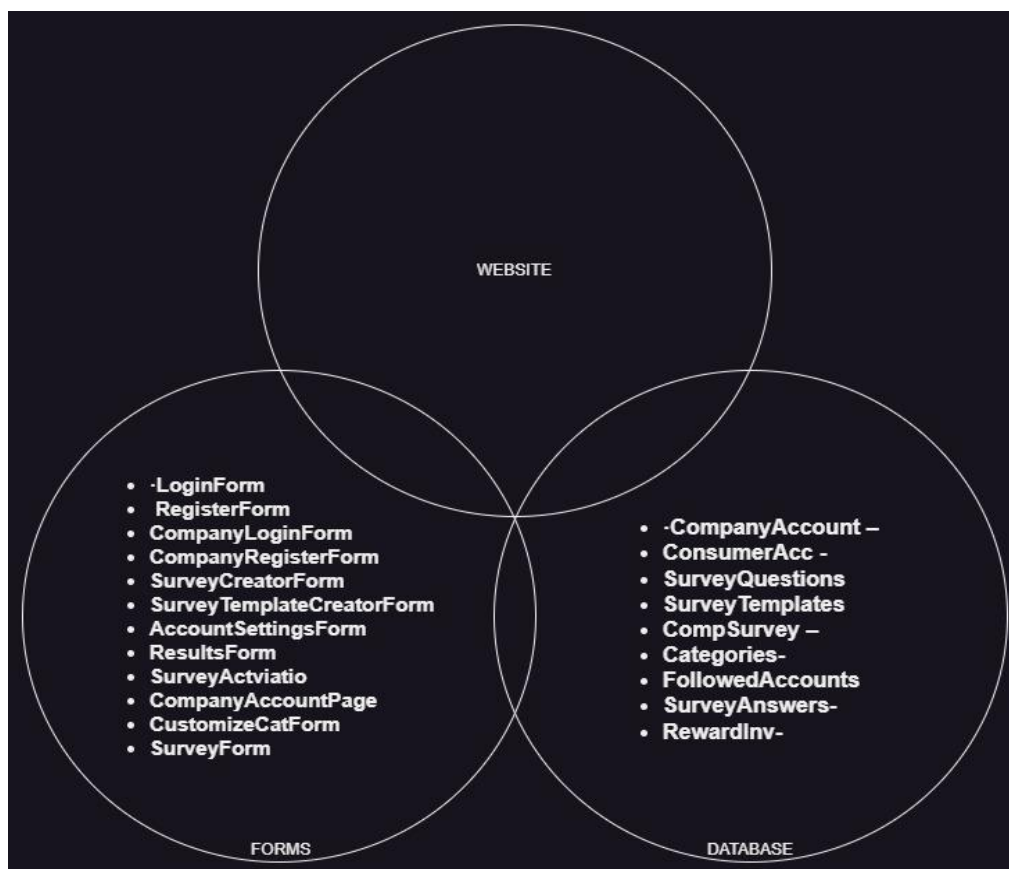


Fig 3.1 showing a simple diagram of how the system is connected

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.

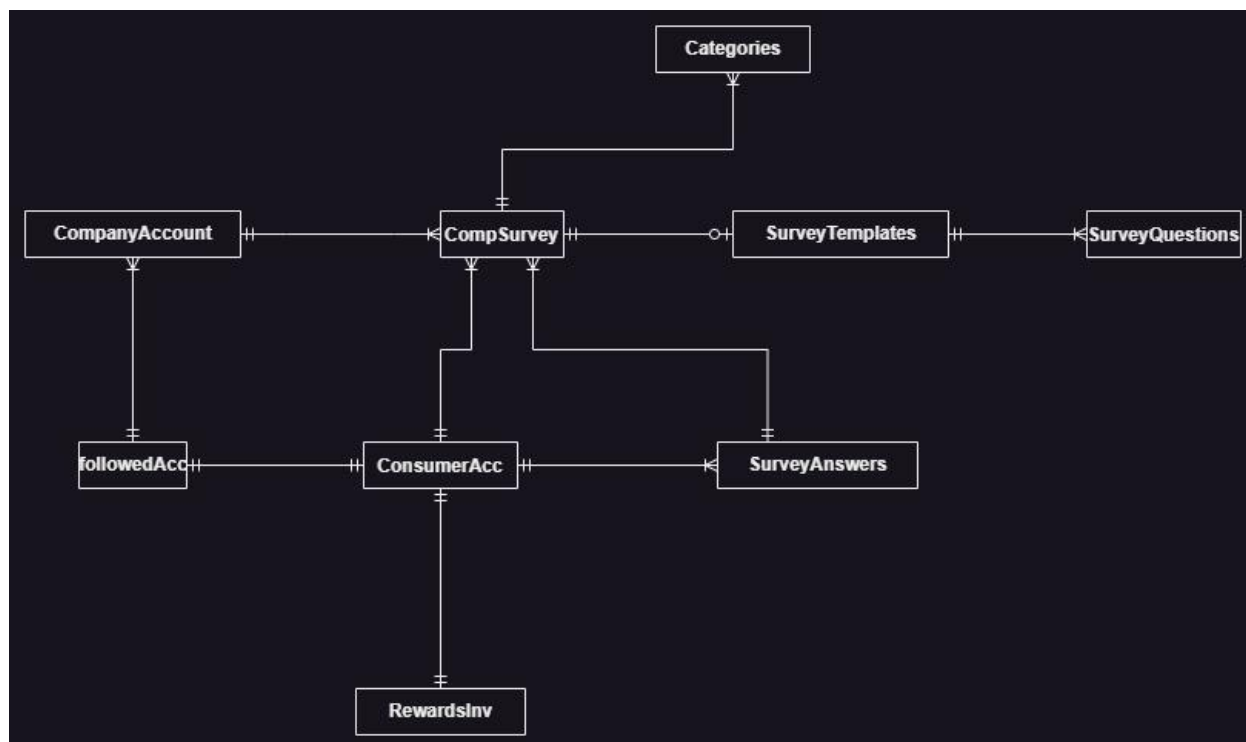


Fig 3.1.1.1 showing a simple ERD of the database system.

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
- SurveyActivation – 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.

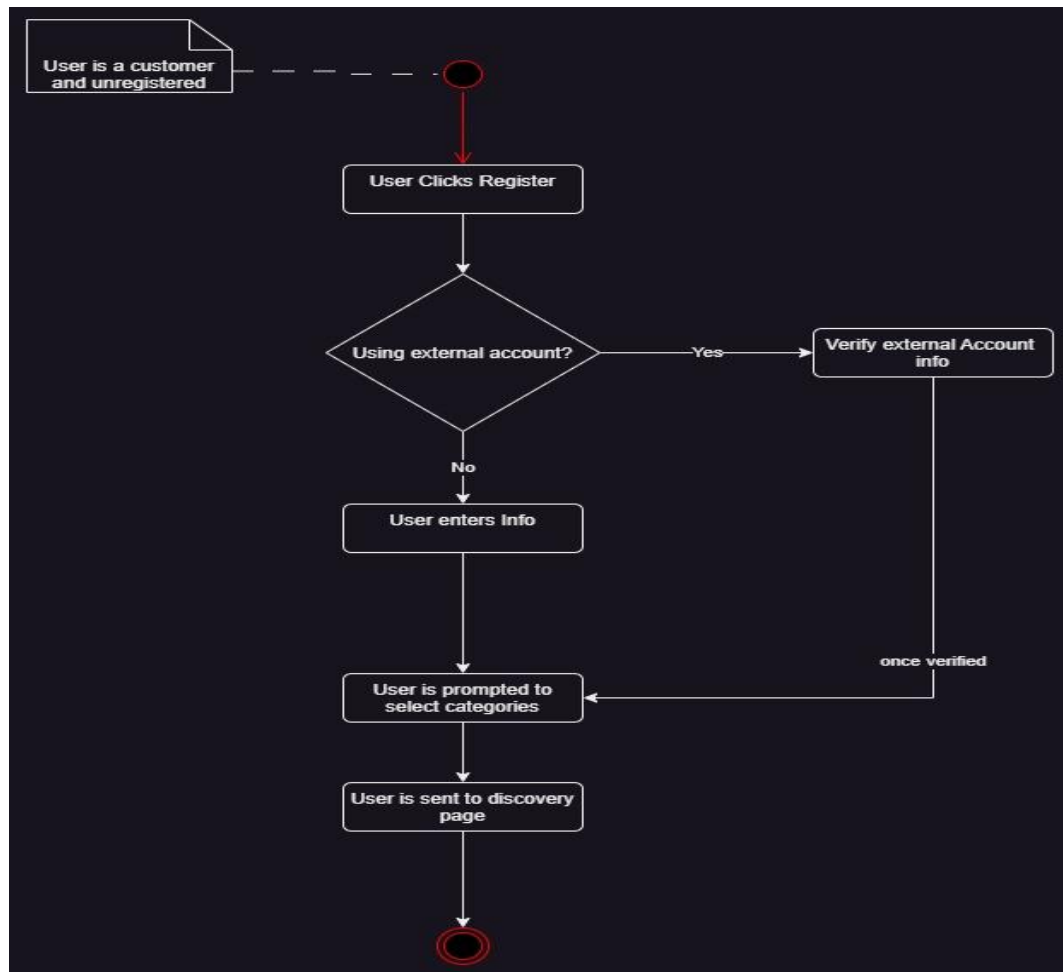


Fig 3.1.2.2 showing Activity diagram of the registration process of a Consumer.

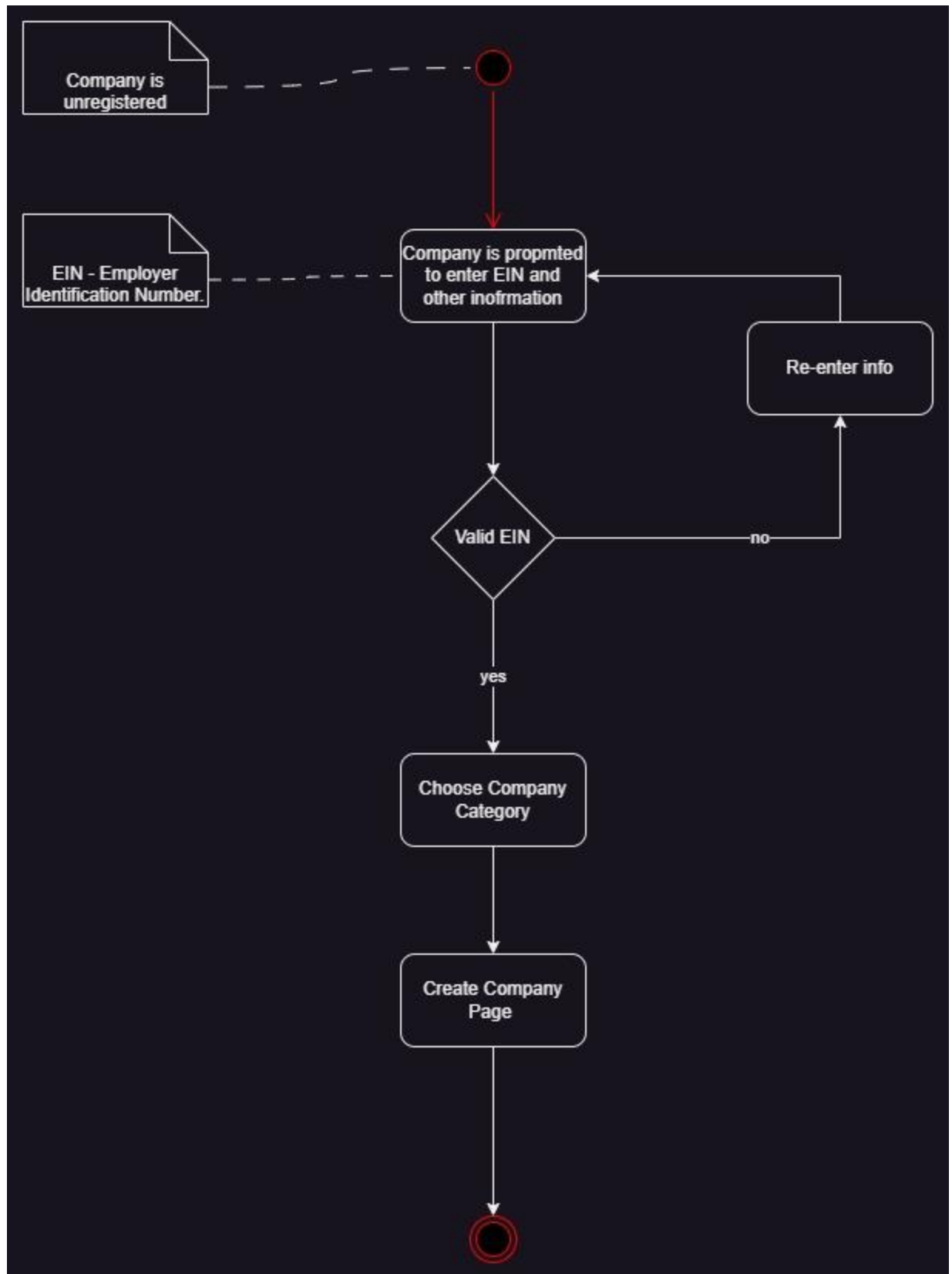


Fig 3.1.2.3 Activity diagram of the registration process of a Company.

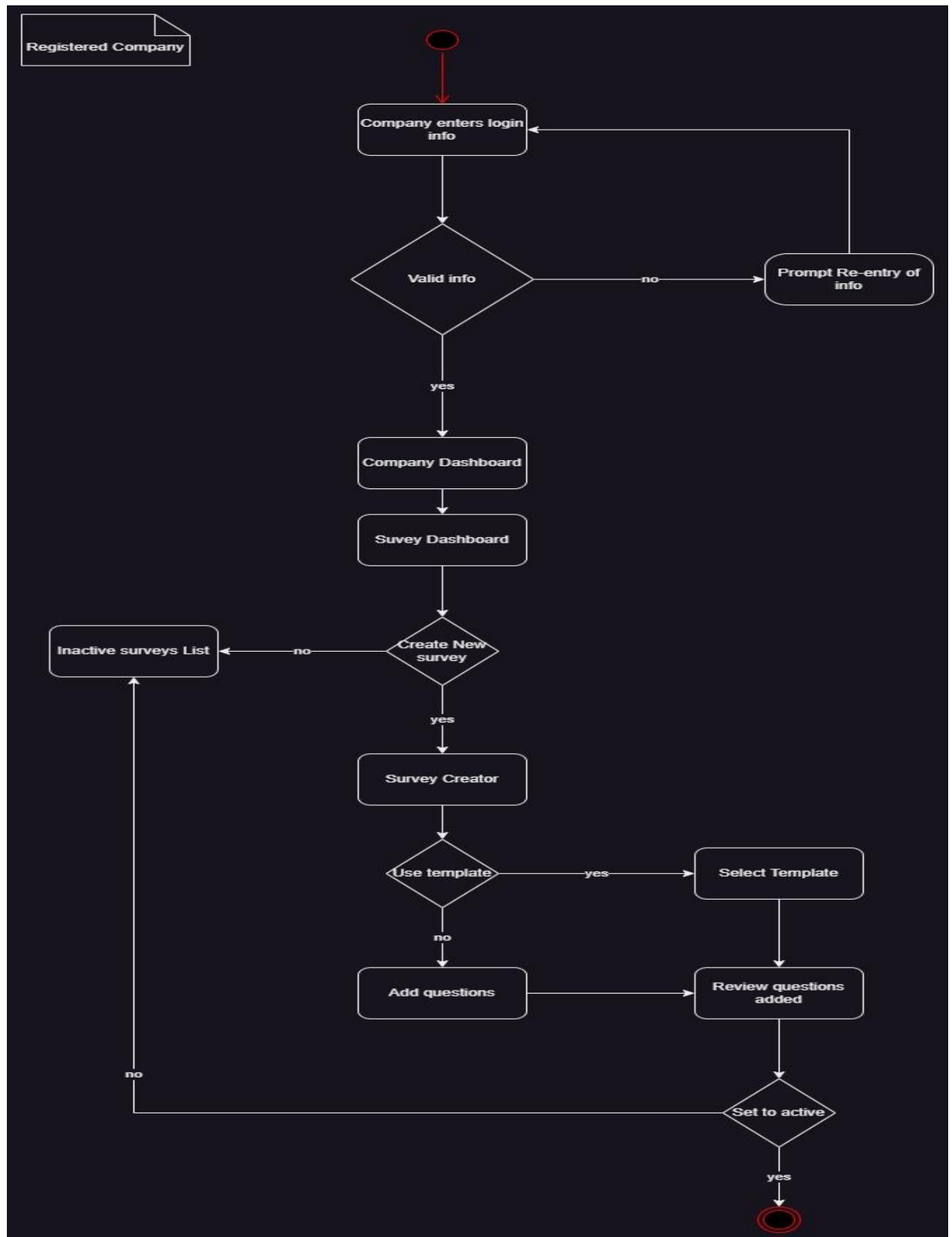


Fig 3.1.2.4 showing log-in of company and creating a survey and setting the status

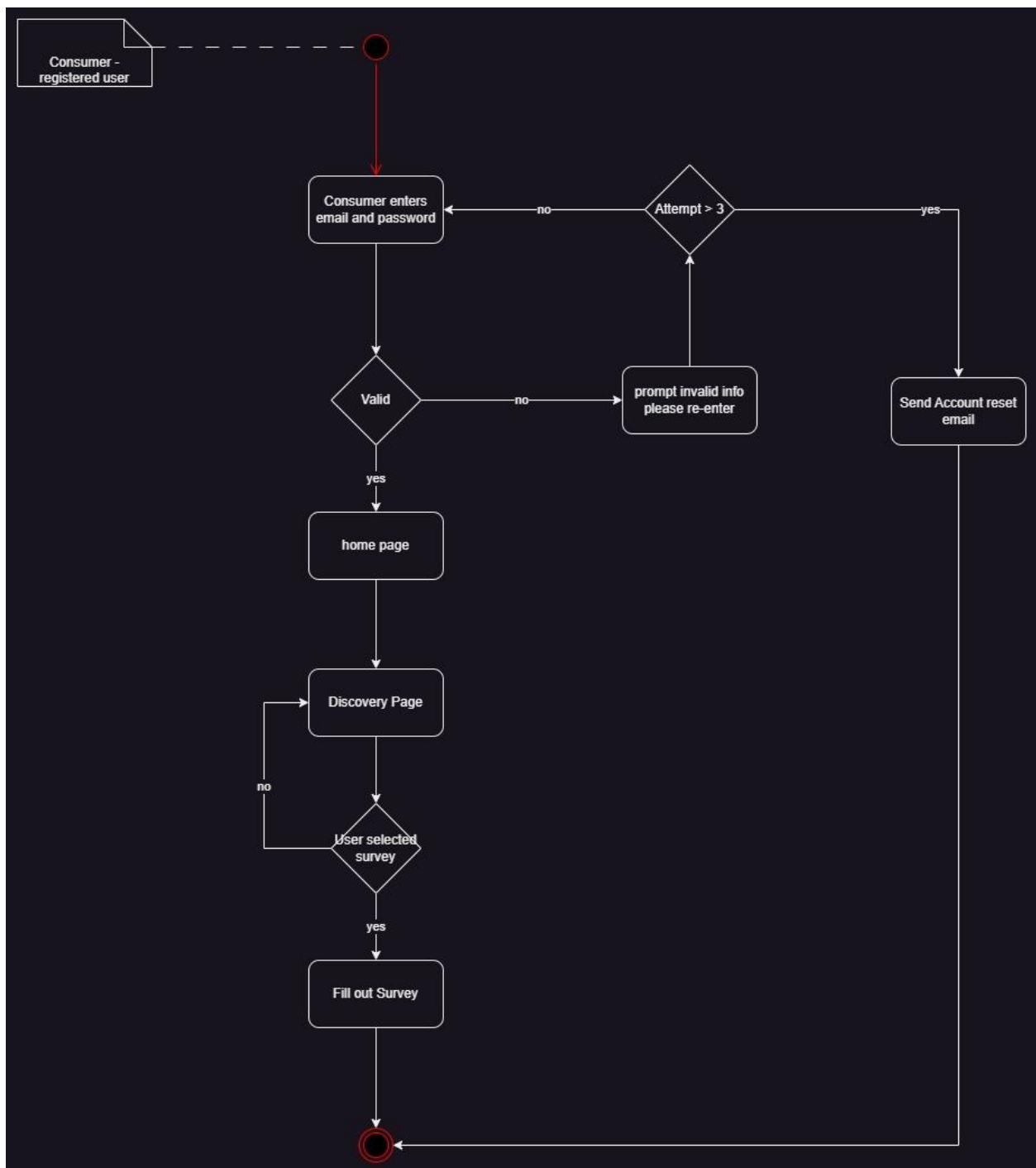


Fig 3.1.2.4 showing log-in of consumer and selecting and filling out survey.

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.

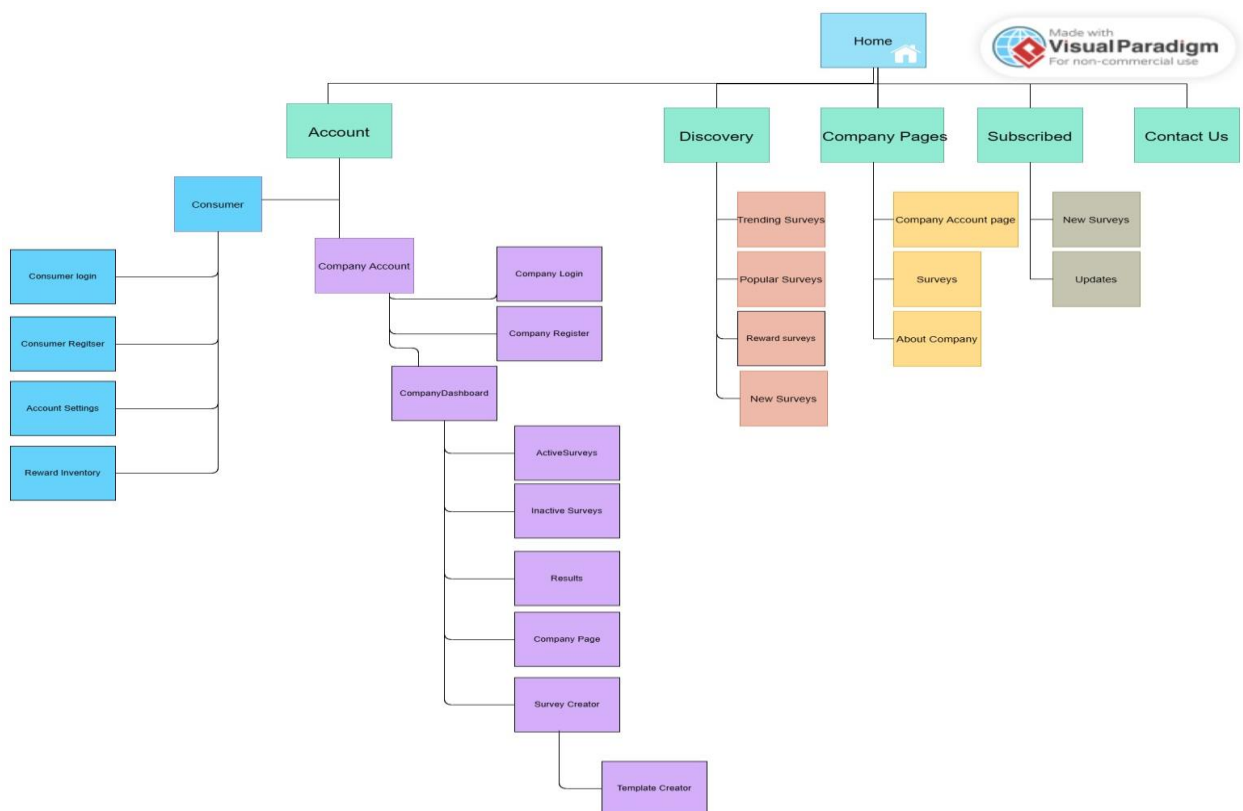
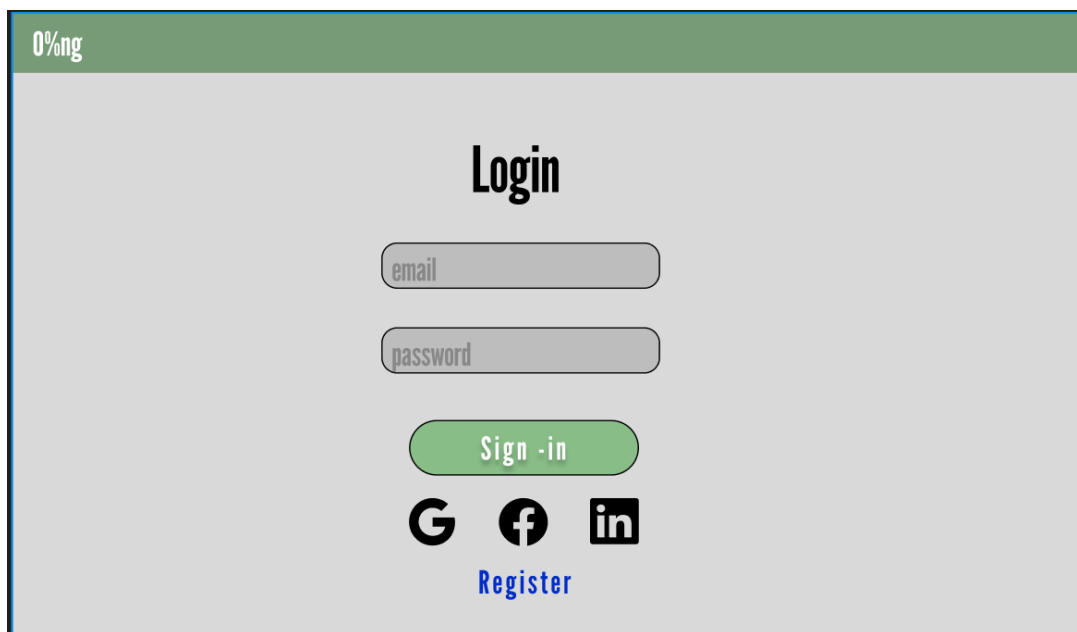


Fig 3.1.3.1 Mapping diagram of the entire system.






0%ng

Login

email

password

Sign -in

Register

Fig 3.1.3.2 Wireframe of Consumer Login



0%ng

Register


Name


email

password

confirm password

Register

 CREATE ACCOUNT USING GOOGLE

 CREATE ACCOUNT USING FACEBOOK

 CREATE ACCOUNT USING LINKEDIN

Fig 3.1.3.3 Wireframe of Consumer Register

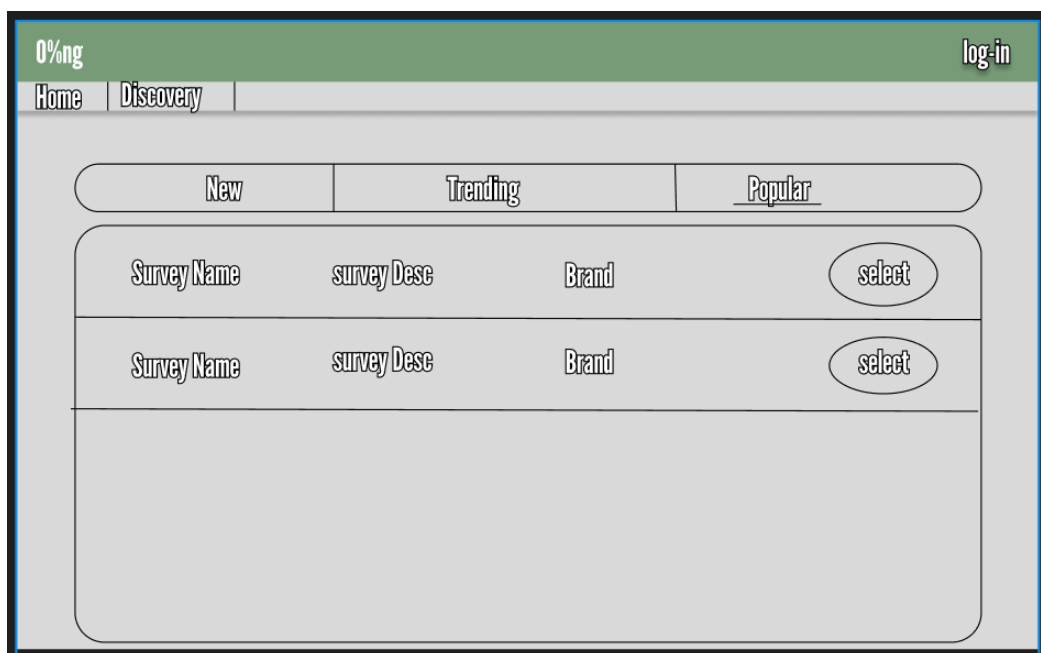


Fig 3.1.3.4 Wireframe of Discovery Page



Fig 3.1.3.5 Wireframe of Company Dashboard

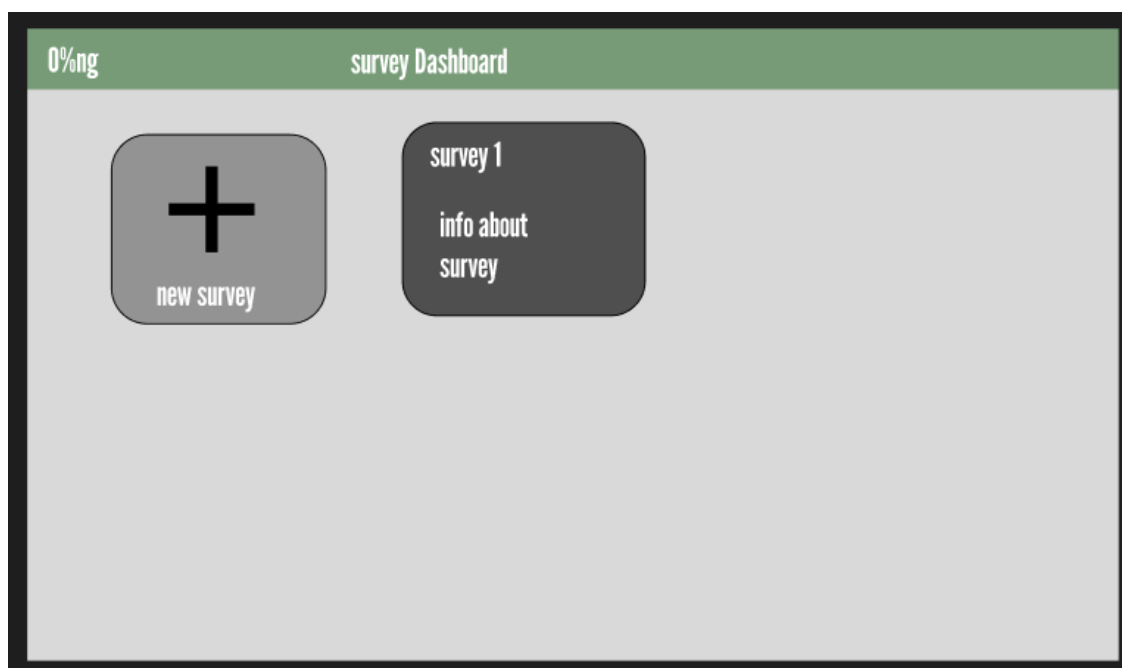


Fig 3.1.3.6 Wireframe of Survey Dashboard



Fig 3.1.3.7 Wireframe of Results

0%ng

Survey Creator

enter question

enter answers : (a)----- (b)----- (c)----- (d)-----

done

Choose template -----

template list :

template cat 1 →

template cat 2

template cat 3

template cat 4

Preview form

q1 Question ☐

q2 Question ☐

q3 Question ☐

Add entire form

Add Questions

Fig 3.1.3.8 Wireframe of Survey Creator



0%ng

Company Login

EIN

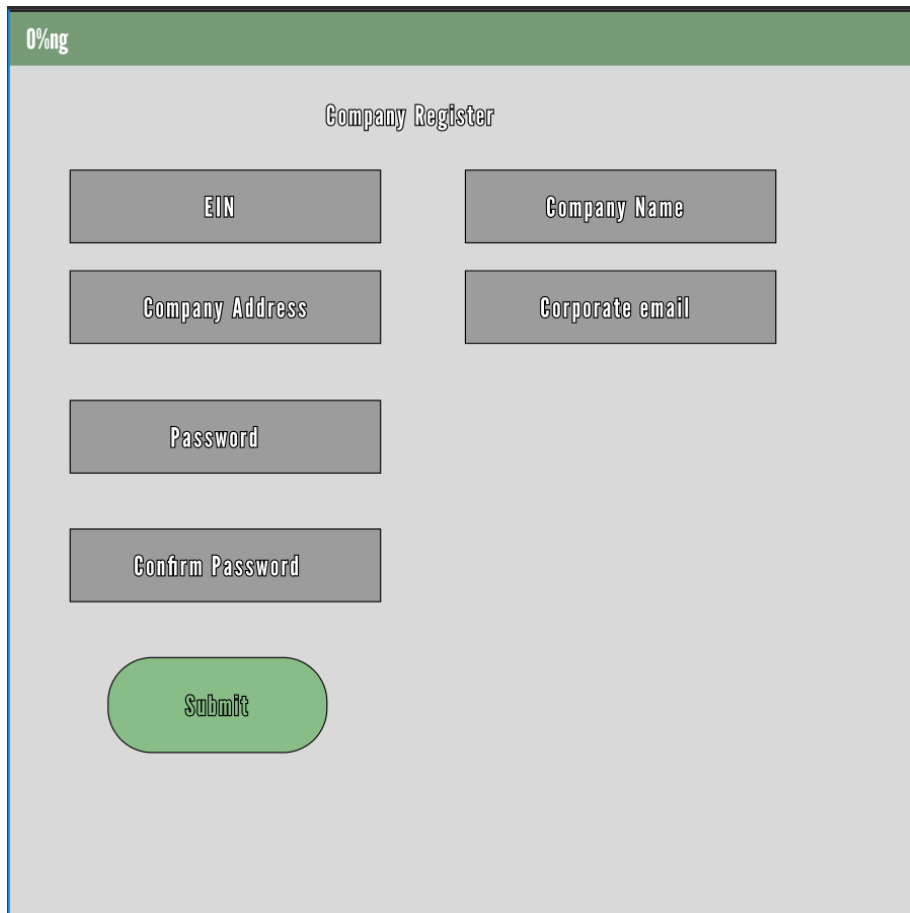
Password

Login

Register

This wireframe shows a 'Company Login' form. It features a green header bar with the text '0%ng'. Below the header, the title 'Company Login' is centered. There are two input fields: 'EIN' and 'Password'. Below these fields is a green 'Login' button and a blue 'Register' link.

Fig 3.1.3.9 Wireframe of Company Login



0%ng

Company Register

EIN

Company Name

Company Address

Corporate email

Password

Confirm Password

Submit

This wireframe shows a 'Company Register' form. It features a green header bar with the text '0%ng'. Below the header, the title 'Company Register' is centered. There are five input fields: 'EIN', 'Company Name', 'Company Address', 'Corporate email', and 'Password'. Below these fields is a 'Confirm Password' field and a green 'Submit' button.

Fig 3.1.3.10 Wireframe of Company Register

3.2 Software Method Utilized

The software method I utilized is the Spiral Architecture which consists of 4 main steps which are: Identification which is identifying the requirements needed as well as strengths and weaknesses, Design which is where the concepts and drafts of the project are created and analyzed, Implementation which is where the designs are actually created and implemented into the project and Evaluation which analyzes the risks and final product after implementation. The customer provides feedback during the evaluation phase and that is used to create the second version of the project where the 4 steps are then repeated to ensure fluidity and a working end project. The reason I chose to use the spiral design is so that I found it would be an easier process to create and implement each phase of the project as requirements can be addressed and adjusted as it progresses and changes to the system itself can happen earlier than in other SDLC models. This SDLC model can especially be useful in designing the survey implementation of the application as the overall creation and completion of surveys can be streamlined as prototypes can be made and improved on. Additionally, as further improvements are made some things would need to be removed or added in and the spiral method can make this easy.

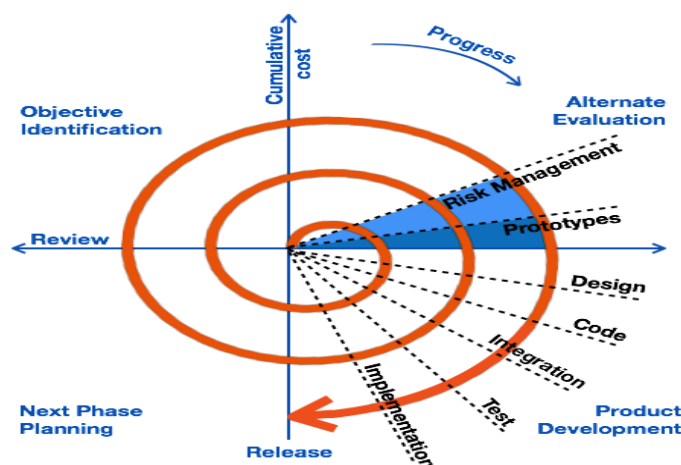


Fig 3.2.1 Spiral SDLC model^[5]

3.3 Summary

In this chapter the general approach of how the problem should be solved was discussed and the major components of the system were discussed, the database, forms, and website. These major components were explained, and functional requirements were discussed. Additionally, we discussed the reason why the Spiral method was chosen as our software development method. In the next chapter, a timeline of how the project was conducted as well as risks and assumptions will be discussed.

Chapter 4 - Status Report

In this chapter the project timeline would be discussed as to where the current progress is as well as when the estimated finish date is. The anticipated risks would also be discussed to give more light on what is to be expected during development.

4.1 Project Development timeline

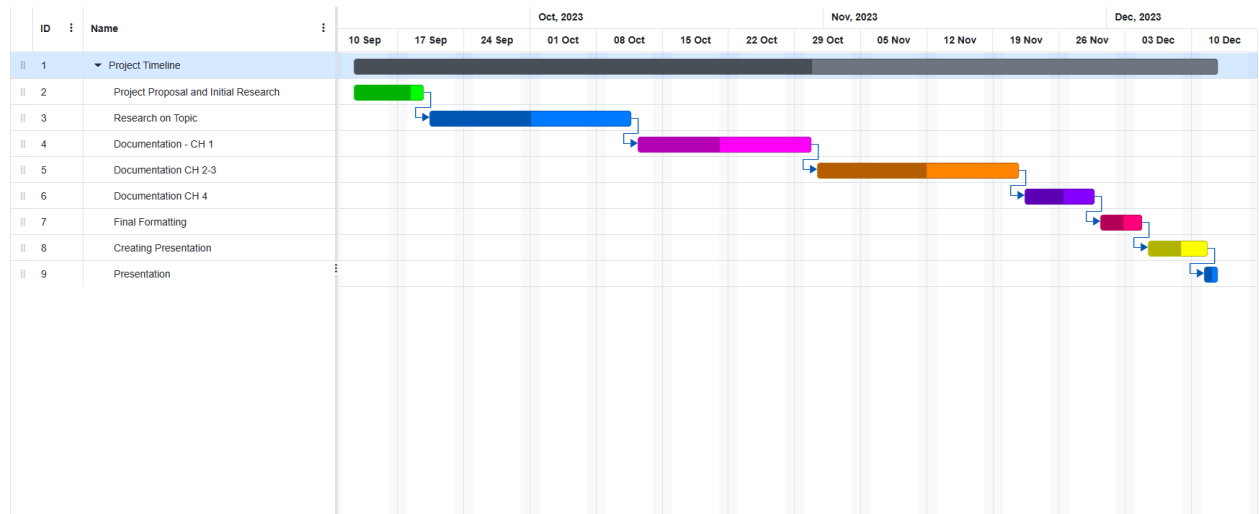


Fig 4.1.1 Gantt Chart showing the project development timeline.

The current phase is phase 7-8 as the final formatting of the document is being conducted as well as the project's presentation is being formatted and the project is estimated to be completed by the 12th of December.

4.2 Anticipated Risks

Some anticipated risks are with the spiral cycle of documentation as project progresses more requirements may be added and documentation of said additional requirements may be difficult to keep track of. Time allotted to fulfill the requirements as well as additional requirements that may occur may not be enough, and some features may not be added by the estimated completion date. One other risk is the use of third-party software as I would be using a cloud-based database system as the company scales up the price of using it might increase as well as some

features I would have to use may be locked behind the paywall. Security is also based on the third party as whatever level of security they have for their cloud servers is what I would have to rely on.

4.3 Supervision

I have a good experience with my supervisor over the course for the semester. While we only had 4 meetings each one was very informative and allowed me to improve my work greatly. I plan to continue meeting with him during phase 2 regularly to continually get guidance and advice in the right direction.

| Meeting Date | Meeting topic | Location | Supervisor | Signature |
|--------------|--|----------|---------------|-----------|
| 14/09/23 | Initial Proposal and approval of Project Idea | Zoom | Ken Sooknanan | |
| 9/11/23 | Guidance on comparison of similar system | Zoom | Ken Sooknanan | |
| 23/11/23 | Review of document and guidance of changes to make | Zoom | Ken Sooknanan | |
| 28/11/23 | Review of document and guidance of changes to make | Zoom | Ken Sooknanan | |

4.4 Summary

In this chapter the project timeline was discussed pertaining to what phase we are currently in and when the estimated date of completion would be. The anticipated risks were also stated to give foresight into what is to be expected. In this project so far, it was enjoyable to research the problem chosen as well as researching the components of the system. I hope to further my knowledge in the development of similar applications as well as learning new methods to develop these applications.

Appendix

D:\Downloads\Project Proposal Form_2023.docx

Works Cited

- [1] Barrett, E. (2023, 08 16). *PRWeek*. Retrieved from prweek.com:

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