# An Undergraduate Internship report on Forex Information System

By

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**Dissertation submitted in partial fulfillment for the degree of Bachelor of Science in Computer Engineering**

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# Attestation

This is to confirm that the report has been completed by me, Md Nafiu Ibne Mazhar Siam (ID:1631256), and that it has been submitted in partial fulfillment of the requirements for the degree of Computer Engineering from Independent University, Bangladesh (IUB). It was completed under Sheikh Abujar's supervision. I also attest to the fact that all of my work is authentic, as I discovered during my internship. All information sources used in this project and report have been properly acknowledged.

Signature

Date 05/09/2021

Md Nafiu Ibne Mazhar Siam

Name

# Acknowledgement

The success of this Internship report is contingent on the contributions of a variety of people, particularly those who take the time to offer thoughtful advice and suggestions for improving it. Apart from that, they were constantly supportive of me and made me feel at ease whenever I inquired about the data I required to complete the report.

First and foremost, I'd like to express my thankfulness to Almighty Allah for giving me the patience to finish my report. Because compiling authentic information about XactIdea Ltd. and preparing a report on the "Forex Information System" regarding internship experience is a time-consuming task.

I'd want to express my gratitude to the entire XactIdea Ltd. Web Development team, as well as the company's Managing Director, Md. Rafiqul Islam sir.

I'm particularly grateful to Sheikh Abujar sir, my honorable Internship Supervisor, for his kind and unwavering support throughout the report. He provided me this incredible opportunity to write this fantastic report on the subject, which also allowed me perform a lot of analysis and taught me a lot of new things.

Thanks and appreciations also go out to XactIdea Ltd. for their work on the project and to the people who have volunteered to aid me with their skills throughout my survey and internship.

# Letter of Transmittal

September 5, 2021
Sheikh Abujar
Lecturer
Department of Computer Science and Engineering Independent University, Bangladesh.

Subject: Internship Report submission Summer, 2021.

Dear Sir, It is my pleasure to submit the Internship report entitled "Forex Information System" at Xactidea Ltd. for the completion of the course CEN499 during the summer semester of 2021 as a prerequisite of the B.Sc. in Computer Engineering undergraduate program. I have put out my best effort in order to meet the report's objectives, and I am confident that my efforts will be successful. I did my best to follow your instructions and incorporate all of the pertinent concerns from my internship program while producing my report. Working at Xactidea Ltd. for three months was both inspirational and educational. I'm hoping that having this information will help me a lot in my future job.

I'd appreciate it if you could share your thoughts and opinions on the report with me. I would also be happy to answer any questions you may have about any area of my report. Once again, I appreciate your patience and support.

Sincerely,
Md Nafiu Ibne Mazhar Siam, 1631256

# Evaluation Committee

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Signature

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Supervisor

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Internal Examiner

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External Examiner

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Convener

# Abstract

This study was written to explore and relate several functional, operational, and technical needs of a dedicated website for Forex Signal distribution services for Xactidea Ltd, known as the "Forex Information System." This System will facilitate the functioning of web-based Forex Signal services of a financial company in Australia. This system's goal is to provide a website for those interested in trading on the foreign exchange market. Members receive real-time trade alerts by email or text messages when to enter or quit a trade, allowing them to maximize profit on each trade. The project was designed with a distributed architecture in mind, as well as data serialization. All of the user interfaces were created using MY-SQL Server structures and HTML, CSS, PHP, JQUERY, JAVASCRIPT, and BOOTSTRAP. The "SQL Connection" methodology is used to plan database connectivity. Security and data protection requirements have been given a wide range of options for proper application.

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# Chapter 1

# Introduction

## 1.1 Overview/Background of the Work

The main goal of the Forex Information System (FIS) web application is foreign exchange trading. The purpose of this system is to develop a website for the people who want to trade on the foreign exchange market. The system provides real-time trade alerts to members via email or text messages when to enter or exit a trade, maximizing profit for a particular trade.

It is an online system through which members can view available services, register, log in and contact to receive the services. This application can extract information from members by filling in their details. The proposed system is fully integrated online systems. It automates the process in an effective and efficient manner. A member can receive multiple notification options from emails to SMS text messages. The system provides consistent forex signals and instant availability of trading results at the close of trading.

## 1.2 Objectives

When trading Forex, it is very important to have the information you need. Our team understands this fact very well. With this application, members can get the information they need as quickly as possible to stay one step ahead.

Through this web-based system application we can provide members with our insights, trades and analysis based on what we are doing with our money.

For those who are new to Forex trading, the company has a team of experienced fund management experts, Forex trading and financial experts. They use their experience and knowledge to invest members' money intelligently. By using this application, newbies or no time to trade can make profits every time.

## 1.3 Scopes

- Consistent Forex Signals: Give forex signals to members with over 90 percent accuracy.
- Inbox Forex Signals: Send the latest forex trends in emails and SMS to the phone number to stay up to date. The system can also update a member dashboard with the latest trades.
- Risk Management Control: Signals always include an entry price, stop loss and take profit with 3 different levels. This will help a member to minimize losses and optimize profit as much as possible.
- Real-Time Forex Update: The system constantly updates the data a member needs to make informed and quick decisions. These updates are cross-checked before delivery to members.
- Fund Management: This is where members invest the money. There is a team of experienced fund management professionals and Forex trading financial experts. They invest the money smartly to make profits every time.
- Forex Training: Basically the training focus on teaching the members to become competent in trading using price action strategies.
- Pricing: Can offer different level of subscriptions. Trial period, Standard package Professional package.
- Signals: Can access by the members only.
- Blog: Members can read articles and news here. Those are Forex related.
- History: Current situation of rates(XAU/USD) with date, entry point and result will appear here. Members can check previous records also.

# Chapter 2

# Literature Review

## 2.1 Relationship with Undergraduate Studies

Internships are designed to help develop work habits that lead to success. It is the hands-on experience with the courses a student has taken in their undergraduate career. My project is directly and indirectly related to few courses I took. Like CEN 203, CEN 305, CEN 401, CEN 405  CEN 455.

Data Structure (CEN 203), It is a very important course. In one way or another I have to deal with data. By this course I got learn different data structures such as Arrays, Stacks, Queues, Linked Lists, Trees, Graphs, Hash Tables and so on.

Object-Oriented Programming (CEN 305), This course taught me about objects, classes, methods, inheritance, polymorphism and so on. By this course I learned how to reduce time of developing because we can reuse codes. Framework also addresses common problems in different languages. This makes a software development smoother because the code is clean.

Database Management (CEN 401), This course taught me how to work in a project with real-time data. I have learned php, XAMPP and MySQL while building a project in this course. I also learned about some basic and popular planning strategies such as ERD, Rich picture, Six Element Analysis, Process Diagram, Normalization and many other topics.

System Analysis and Design (CEN 405), In this course I learned how to use information systems and technologies to solve problems in business and communications.

Web Application and Internet (CEN 455), This course covered many important topics related to practical works. In this course I have learned client-server architecture concepts. I have learned HTML, CSS, Scripts like JavaScript with jQuery library. I also learn how design dynamic websites using php with MySQL. These topics directly relate with my project.

## 2.2 Related works

There are plenty of forex signal providers out there. The most popular such as 1000pip-builder, buysideglobal, trade-ideas and many more.

They usually provide daily forex signals via emails or SMS or skype or other kinds of related apps.

The trading signals ecosystem has also created fully functional dedicated trading environments.

# Chapter 3

# Project Management & Financing

## 3.1 Work Breakdown Structure

A WBS is an important project deliverable that divides the team's work into manageable sections. A work breakdown structure item can be a product, data, service, or any combination of these. A WBS also provides the necessary framework for detailed cost estimating and control along with providing guidance for developing and controlling schedules.

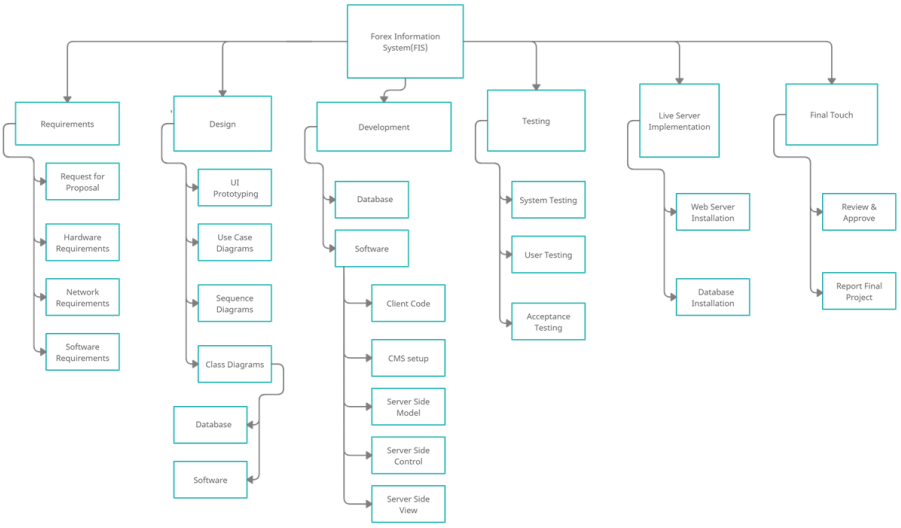


Figure 3.1: WBS of FIS

## 3.2 Process/Activity wise Time Distribution

We have allocated time separately for each section of the WBS of our project for the convenience of work. Explained in the table below-

| Task | Days | Work Percentage |
|---|---|---|
| Requirements | 10 | 18 |
| Design | 10 | 18 |
| Development | 20 | 34 |
| Testing | 5 | 10 |
| Live Server Implementation | 5 | 10 |
| Final Touch | 5 | 10 |
| Total | 55 | 100 |

Table 3.1: task wise time allocation

## 3.3 Gantt Chart

We have used the Gantt chart to plan and schedule all the activities that were needed to be done to complete the project successfully.

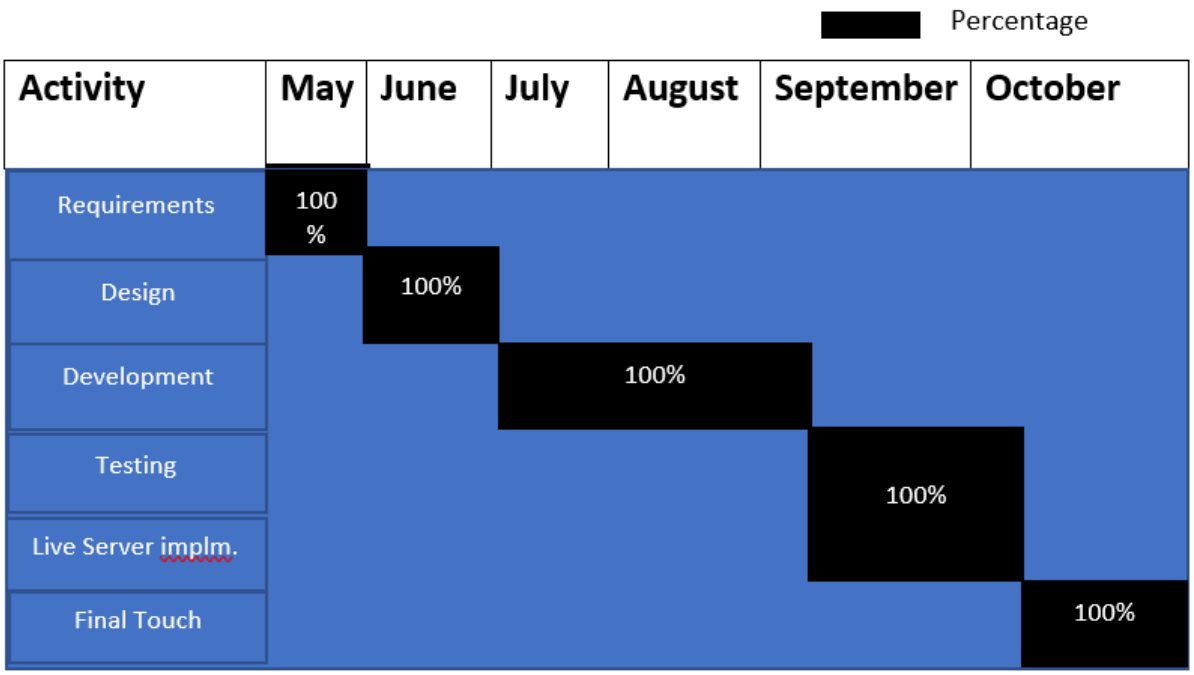


Figure 3.2: FIS Gantt Chart Project Planner

## 3.4 Estimated Costing

| Purpose | Costing |
|---|---|
| Analysis | $200 |
| PSD Template Design | $150 |
| Domain | $60 |
| Hosting Server | $9 per month |
| Logo Design | $100 |
| Graphical Content Design | $250 |
| Development | $750 |
| Maintenance 1 year | $500 |
| Total | $2000 approximately |

Table 3.2: Estimated Costing

# Chapter 4

# Methodology

Each software development methodology framework serves as a foundation for the application of specific approaches to software development and maintenance. Several approaches to software development have been used since the beginning of information technology. We choose agile process as the methodology for this project.

Agile is a structured and iterative approach to project management and product development. Flexible project management methods (Scrum, Kanban, XP and others) are built on this system of approaches. Agile methods are an alternative to waterfall or traditional sequential development. It is a time-focused philosophy that allows a project to be created incrementally and broken down into small parts. Our Company XactIdea first thought a project about forex signals. They started to design the view of future product. Then we started to develop, then we added services and new features. Then it will go for test by our testing team. If everything goes fine finally the product can go live. The whole development consists of iterations, iterations by iterations.

Most of companies relies on agile methodology because of some reasons. Such as give importance to people and cooperation rather than processes and tools; Working product gets higher importance than documentation and most importantly if anything needs to change, it will change rather that stick on the original plan. That's why it is more effective approach [**?**]

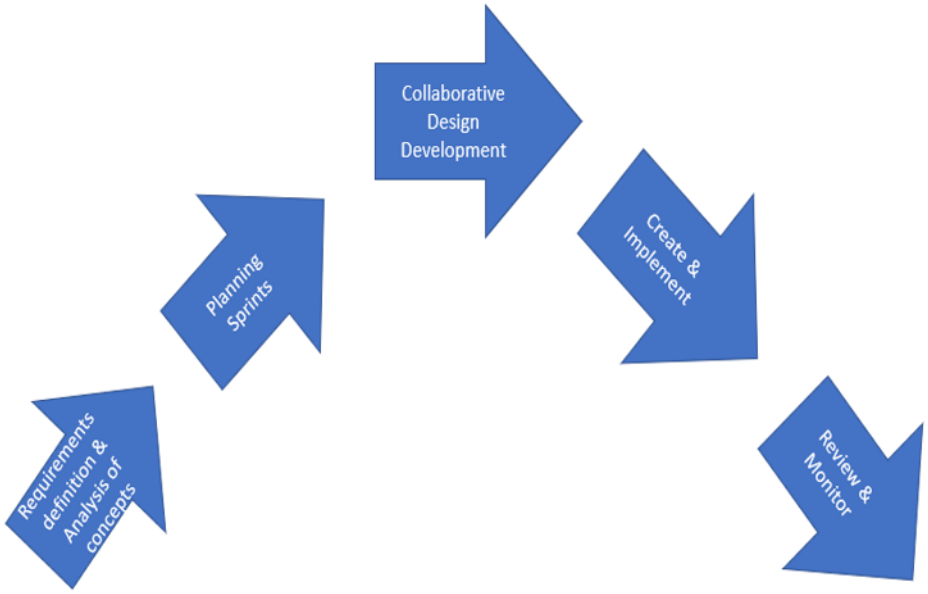


Figure 4.1: FIS Methodology

# Chapter 5

# Body of the Project

## 5.1 Work Description

This project is a web application system for Forex Signal Delivery. It is an online system through which members can view services, register, log in, avail services. This application can extract information from customers by using their details. The proposed system is fully integrated online systems.

It automates the manual process in an effective and efficient way. The purpose of this system is to develop a website for those who want to trade in the Forex market.

The system provides members with real-time trade alerts via email or text messages when entering or exiting a trade in order to maximize profit for a particular trade. A member can receive multiple notification options from emails to SMS text messages.

The system provides consistent forex signals and instant availability of trading results at the close of trading. This web application is created with CSS, html, php, bootstrap, JavaScript and MySQL database server.

## 5.2 System Analysis

### 5.2.1 Six Element Analysis

| Process | System roles | | | | | |
|---|---|---|---|---|---|---|
| | Human | Non-Computer Hardware | Computing Hardware | Software | Database | Communication and Network |
| Login | All Users | N/A | Pc, Laptop, Smartphone and Tabs | All browsers | MySQL | WAN |
| Register | All Users | N/A | Pc, Laptop, Smartphone and Tabs | All browsers | MySQL | WAN |
| Contact | All Users | N/A | Pc, Laptop, Smartphone and Tabs | All browsers | MySQL | WAN |
| Get In Touch | All Users | N/A | Pc, Laptop, Smartphone and Tabs | All browsers | MySQL | WAN |
| Admin Panel | Users who have access | N/A | Pc, Laptop, Smartphone and Tabs | All browsers | MySQL | WAN |

Table 5.1: Six Element Analysis of FIS

### 5.2.2 Feasibility Analysis

When we plan to develop the Forex Information System (FIS) web application, it is important that we first analyze what things can affect the project and what different

feasibility types we can perform to determine this.

• **Financial Feasibility:** Since FIS is a web application, hosting costs are incurred. Since the system consists of no multimedia data transmission, required bandwidth for the operation of This application is very low. Also our company charges comparatively less amount than others. So we can say that out project FIS is financially feasible.

• **Technical Feasibility :** Project FIS is a complete web-based application. The main technologies and tools that are associated with FIS are..

1. HTML
2. CSS
3. PHP
4. Bootstrap
5. JavaScript
6. MySQL
7. Visio
8. Lucid Chart

Each of the technologies is freely available and the required technical skills are manageable. Base on these we can say FIS is technically feasible.

### 5.2.3 Problem Solution Analysis

This system possesses nothing, but if it is able to reach its intended audience, it will undoubtedly provide benefits. Benefits, on the other hand, will be dependent on how they are used.

• **Internet**

As soon as the system is operational, it will necessitate a reliable internet connection. As a result, visitors may experience difficulties while visiting this site if they do not have access to the internet.

• **Load shedding**

Users using desktop computers and wireless routers may experience difficulties when attempting to use this system due to load shedding.

**Solutions:** Even when there is an issue, there is also a solution to it. The solutions to the challenges described above will be discussed in greater detail later on.

- Solution to the internet problem: In today's world, internet data is not so expensive that we are unable to buy it. In addition, our system will not consume a large amount of data.
- Load shedding solution: Because this system can be operated from a laptop or a mobile device that does not require a continual energy connection, consumers will find it incredibly convenient to use.

## 5.3 System Design

### 5.3.1 Rich Picture

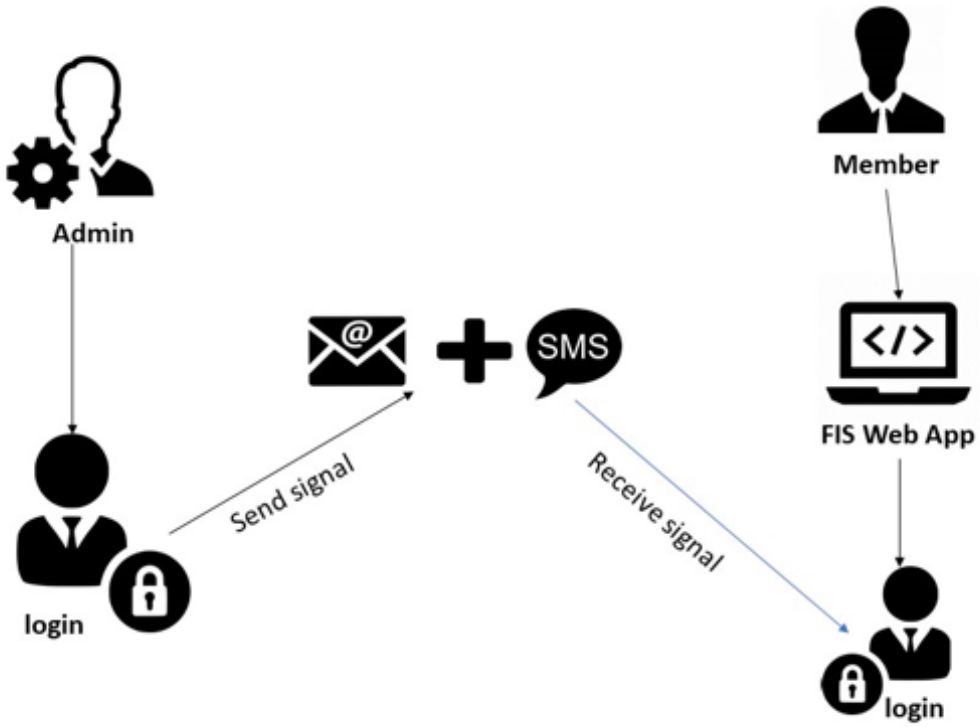


Figure 5.1: Partial FIS Rich Picture

### 5.3.2 UML Sequence Diagrams

The order in which messages are transmitted from one object to the next is depicted in a sequence diagram. The control mechanisms that exist between items can also be depicted using sequence diagrams.

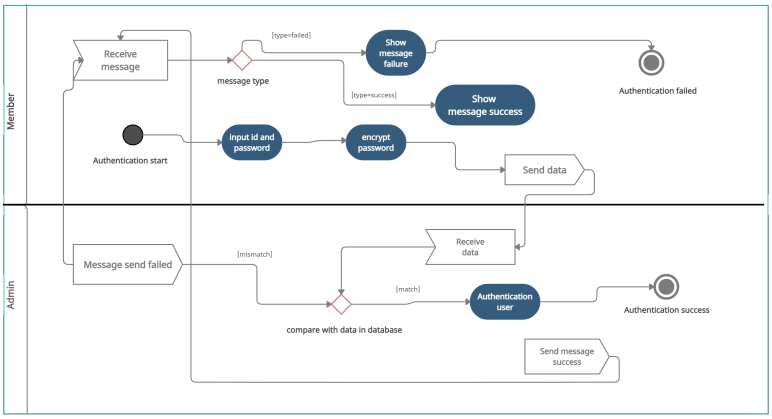


Figure 5.2: FIS UML Sequence diagram

### 5.3.3 Use-case Diagram

Users and actors in use-case diagrams show what the system does and how they interact with it, but they do not define how the system operates on a fundamental level.

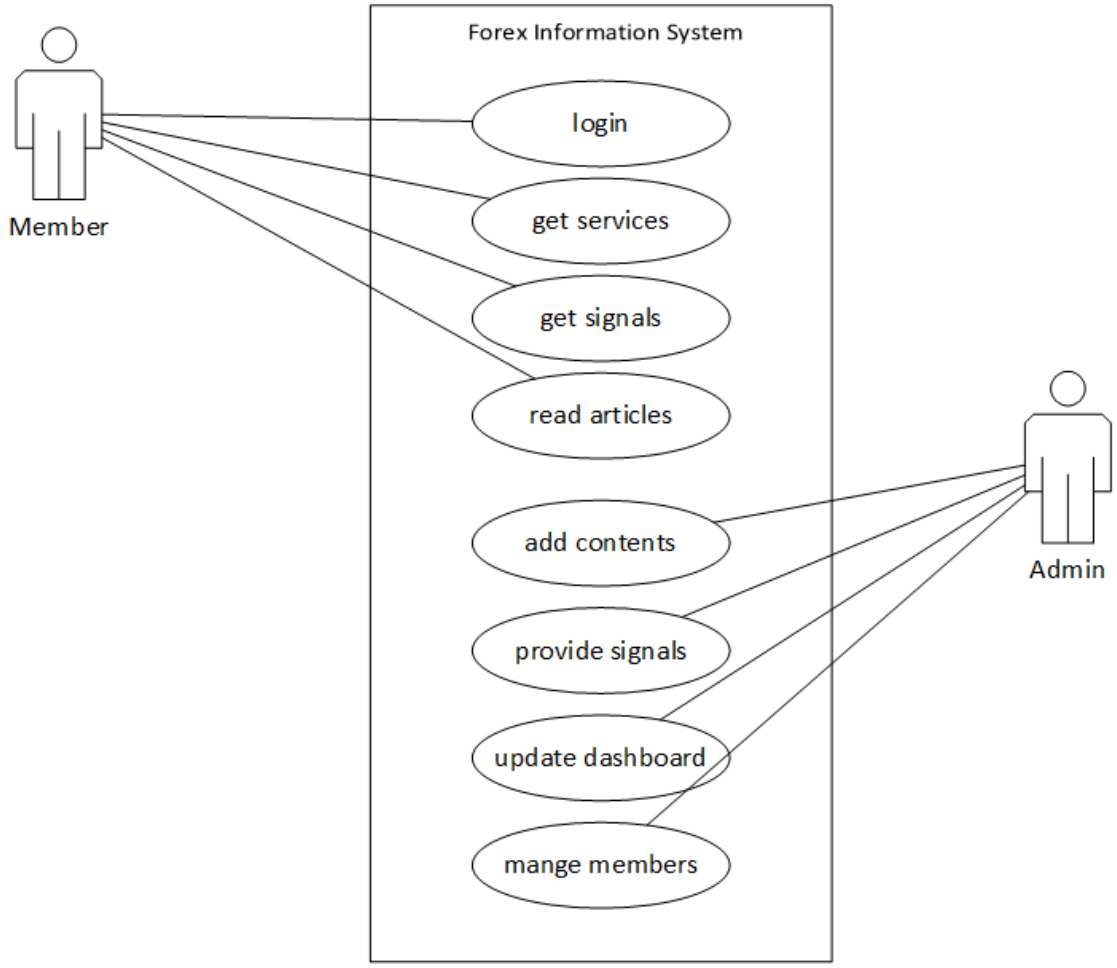


Figure 5.3: FIS Use-case Diagram

### 5.3.4 Process flow diagram

PFDs (Process Flow Diagrams) are graphical representations of a process, its constituent jobs, and the order in which they are performed in a given time frame. A PFDcan aid in the brainstorming and communication phases of the process design process.

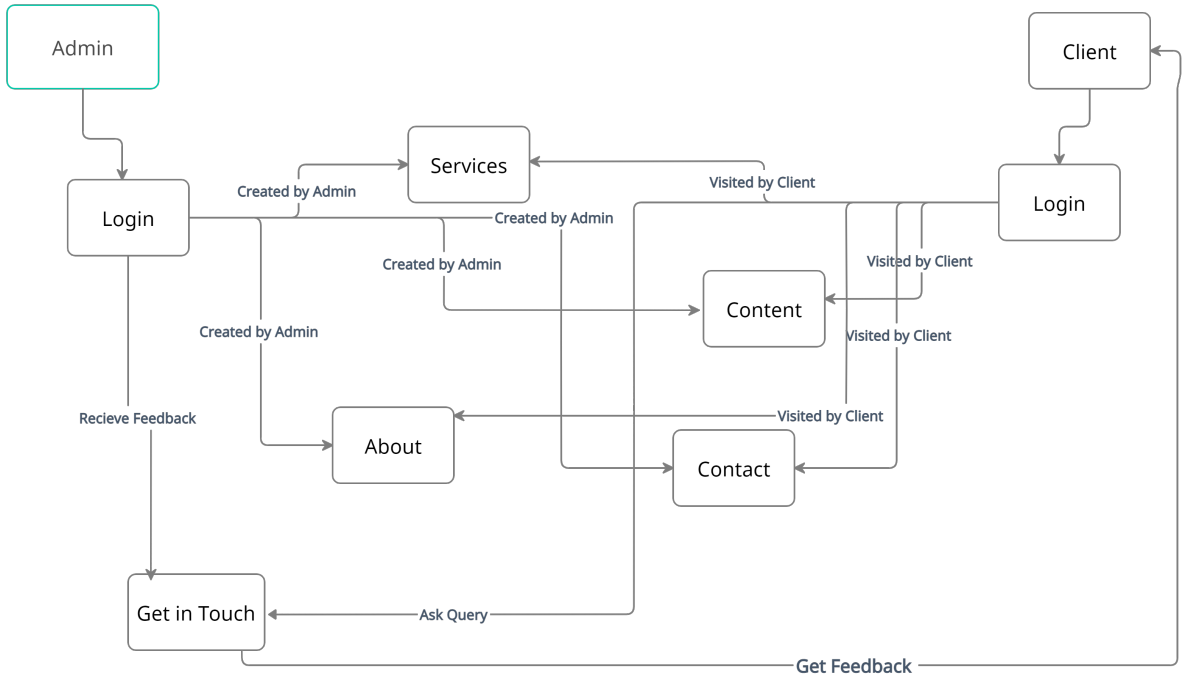


Figure 5.4: FIS Process flow diagram

### 5.3.5 Functional and Non-Functional Requirements

**Functional Requirements:**

1. The system allows users to log in to their account by entering their email address and password.
2. The system allows users to log in with their Google accounts.
3. The system allows users to reset their password by clicking "I forgot my password" and receiving a link to their verified email address.
4. The system sends users signals by email SMS.
5. The system sends verification code to user's phone number or email account to verify.
6. The system able to add or remove users.

**Non-functional requirements**

1. Performance : It is important to minimize load and response times and add additional features to hide latency by making the experience as available and interactive as quickly as possible, while loading the longer parts of the experience asynchronously.

2. Scalability : The system has the ability to handle workload.
3. Valid data: All information updated in the system must be accurate and consistent in order for users to take appropriate action.
4. Security : The system will follow SOA web service security rules when building. It will not accept any invalid URLs and overlong input data.

## 5.4 Product Features

- Log in
- Web-based signal platform
- User-friendly dashboard
- 1 Click Payment System
- Buy/sell forex trading signal
- Export trading signal history
- Real-time trade updates
- SMS and email notifications

### 5.4.1 Architecture

For our project we have used three tier system architecture. Because they separate the layers of the user interface, business logic, and data storage, three-tier architectures have a number of advantages in both production and development environments. This gives development teams greater flexibility by allowing them to update a small section of a program without affecting the remainder of the application. [**?**].

Figure 5.5: three-tier architecture

# Chapter 6

# Results & Analysis

All of the functions were successful. It was given to the company for user acceptance testing after final testing by the XactIdea Ltd testing team. FIS representatives evaluate the web app and provide feedback. Their feedback is taken into account, and a deliverable end product is created. Another XactIdea Ltd development team is still working on the project's primary software, which will be linked to this website soon. Some of our works shown below :-

- Log in

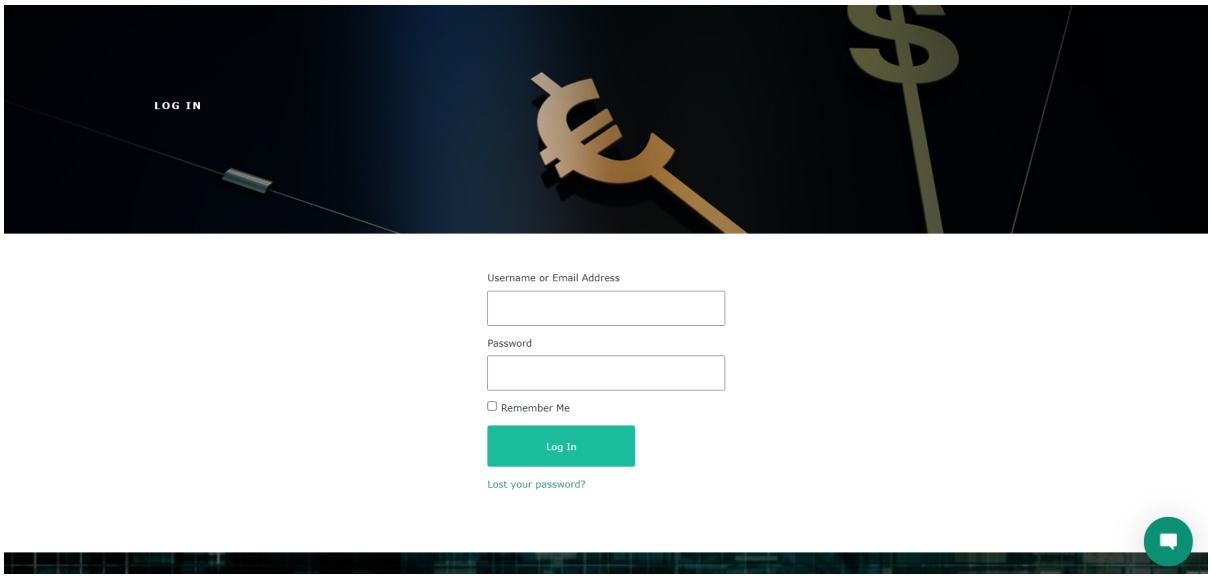


Figure 6.1: User Log in

- History

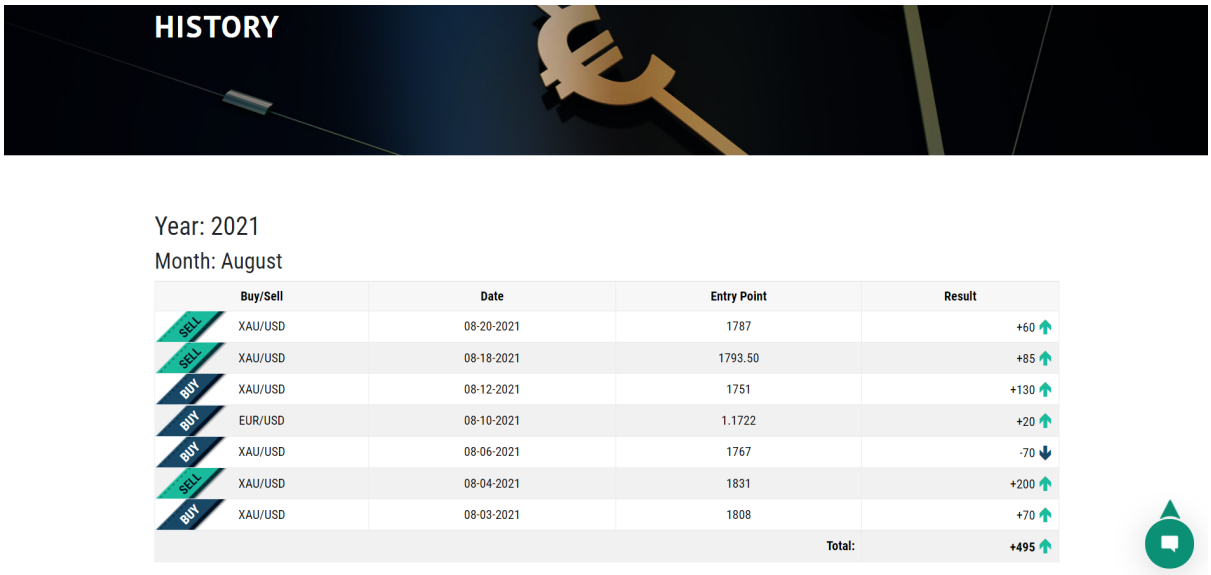


Figure 6.2: Check Records

- Blog

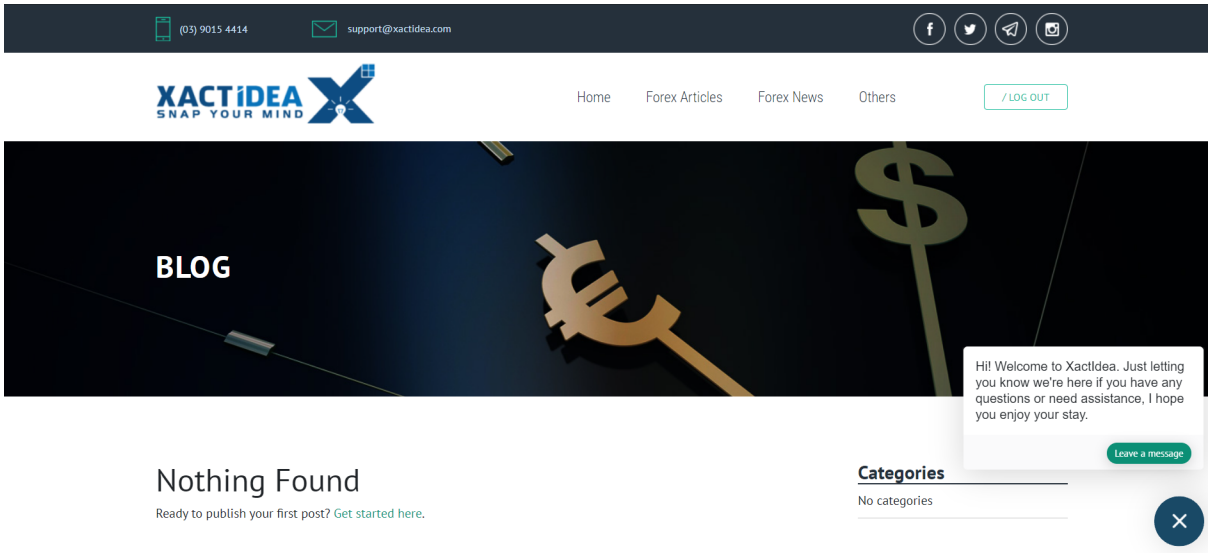


Figure 6.3: Blog Section

- Forex Signal :- To keep up with the newest FX trends system sends emails and SMS to the phone number. The technology can also keep a member's dashboard up to date with the most recent trades.

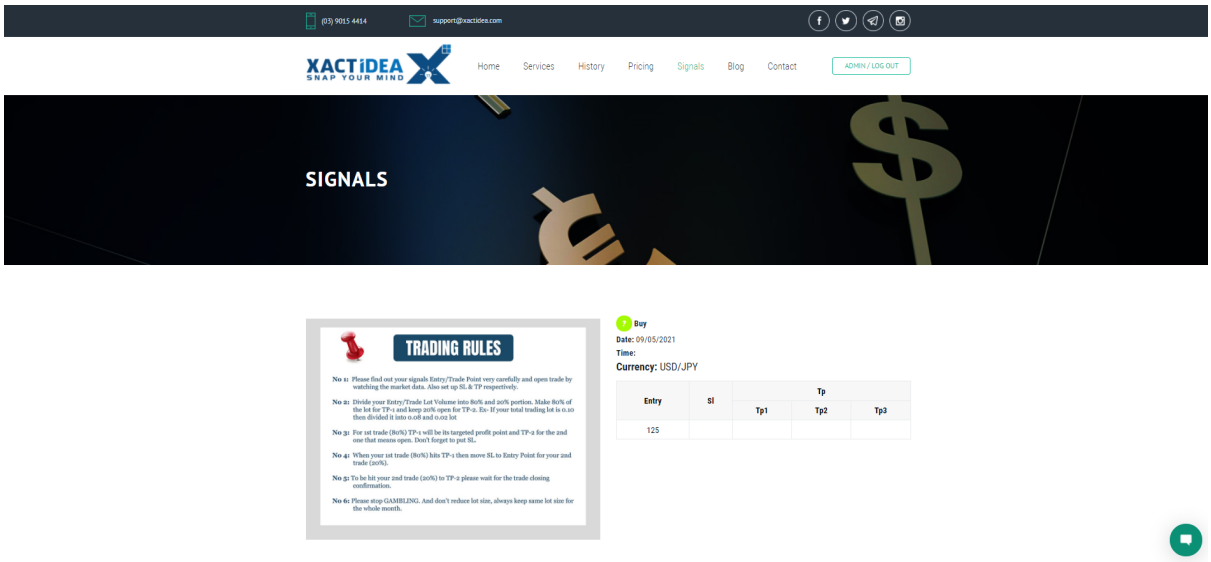


Figure 6.4: User recieve signal to trade(Buy)

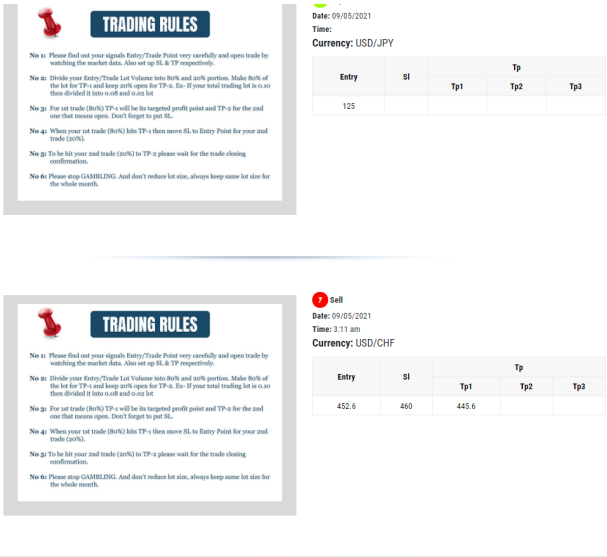


Figure 6.5: User recieve signal to trade(Buy and sell)

- Fund Management :- This is where the money is invested by the members.There is a staff of skilled fund managers and Forex traders and financialspecialists on hand. They invest the money wisely in order to createconsistent returns.

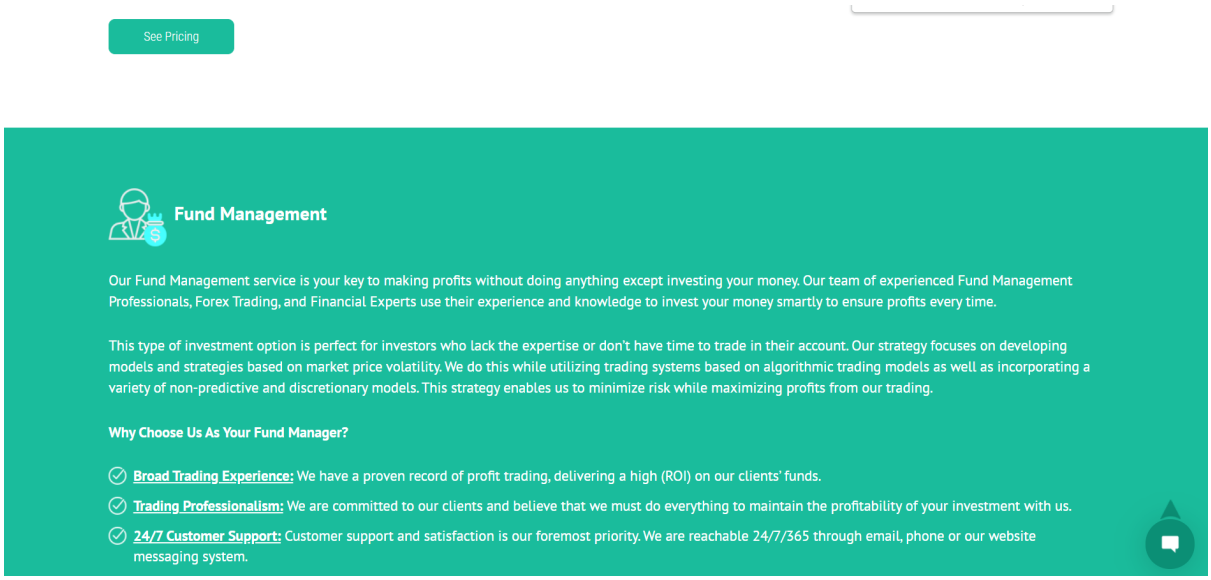


Figure 6.6: User Invest Money

- Forex Training :- Essentially, the training focuses on teaching members how to trade using price action tactics.

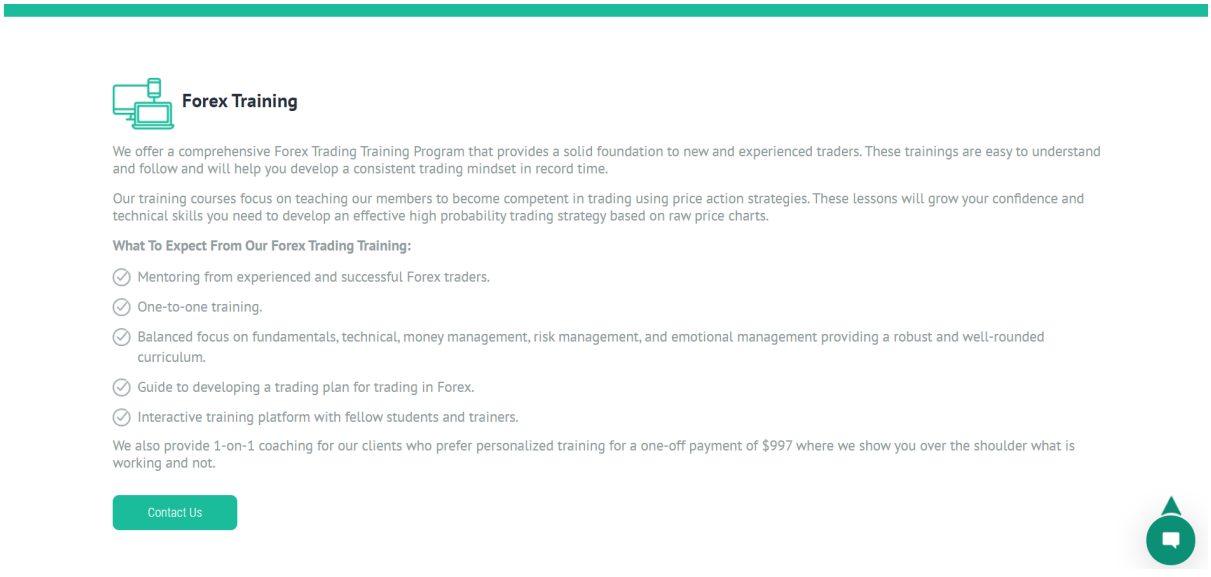


Figure 6.7: Forex Training

- Contact

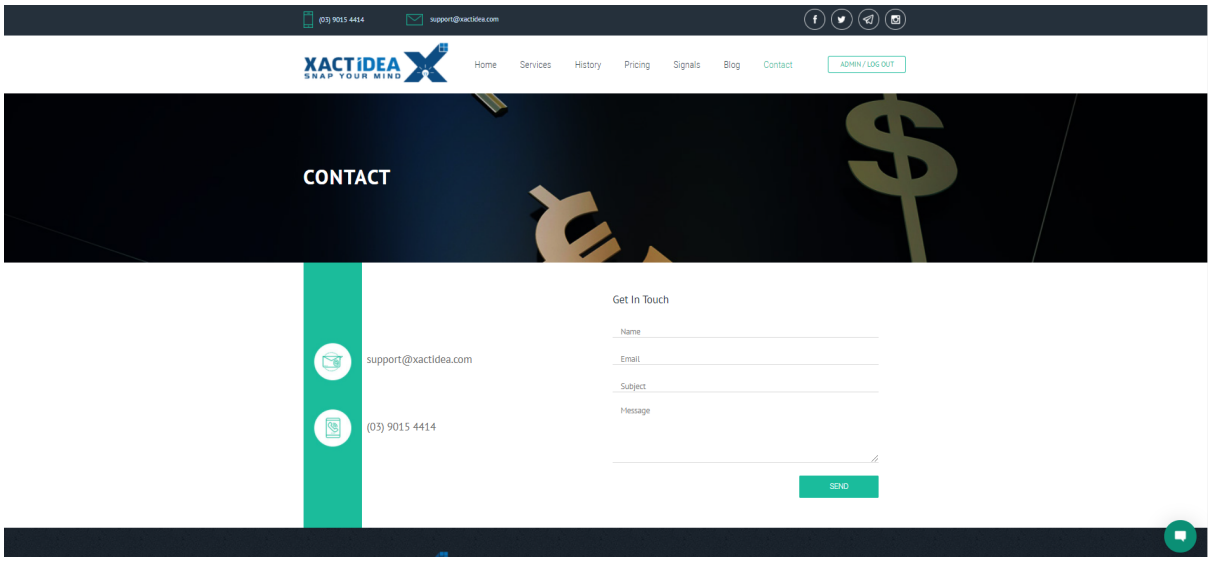


Figure 6.8: Get in Touch

# Chapter 7

# Project as Engineering Problem Analysis

## 7.1 Sustainability of the Project/Work

We must have a clear understanding of what "sustainable" means in regards to the project. It is a skill to keep and improve the system in a timely manner. Maintenance and updates are required for all software and websites.Whether we're building a website or an app, performance is critical.

Caching has been implemented at every level of this system. Browser, page, server, database, and so on. Because the server will perform more efficiently, the website will load faster.

## 7.2 Social and Environmental Effects and Analysis

Almost all of the worldwide effects come from the trade sector, and that's expected to get even worse. It is now possible to highlight the many supply-chain relationships between different production environments, each with differing social and environmental impacts, as well as the consumption environments with differing resources. The system sends emails and SMS updates to keep clients updated with the newest currency signals and trends. Using this approach, even newcomers may easily put money into the market and not worry about any difficulties. The specialists utilize their investment wisely in order to gain a profit on every occasion.

The features we put in place increase the social and environmental sustainability of our web app.

# Chapter 8

# Lesson Learned

We had to work from home because the lockdown began at the beginning of the semester. As a result, putting things to use was quite difficult for me. My coworkers, on the other hand, were really polite to me. They provide tutorials that were quite beneficial to me. Aside from the internship, I have two more classes to complete. It was quite difficult for me to manage all of the tasks, but it taught me a valuable lesson about how to complete tasks on time.

I discovered how to address a problem.

How to program with real-world data.

During the assignment, I was able to resolve my php issues as well.

# Chapter 9

# Future Work & Conclusion

## 9.1 Future Works

This concept holds a great deal of potential. We believe that the project will be successful when implemented online in the future. Because it is relatively simple to grow, the project can be upgraded fast if the need arises. Another Forex Signal automation tool is now in development, and it will be added to the website by another XactIdea Ltd. software development team in the near future. Once this website has been established, it will give clients with automated and structured help. Logging in with their ID and password will allow them to access their personal accounts, which will allow them to get services and make payments online.

## 9.2 Conclusion

My internship has been both fascinating and successful during my time here. I've met and spoken with a number of people that I believe will be of assistance to me in the future, and I have every confidence that they will. During my internship, I gained valuable experience in two important areas: time management and self-motivation.

Working at XactIdea Ltd. was a very unforgettable experience for me, and I can say that without reservation. Apart from gaining knowledge on how to be more effective, I also had the opportunity to meet a varied spectrum of interesting people. Despite the fact that I was anxious at first, I felt at ease because the atmosphere at the office was so informal.

I've also made a positive contribution to the organization by working on initiatives and providing support to others in my division. Being here and getting to learn all of the technology skills is a fantastic opportunity that I would not have had if it weren't for this internship opportunity. Despite the fact that I will need time to learn these abilities, I am confident that I will be able to apply them to my various responsibilities.

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