

## Internship Report

Course code: SWE 4790

## **Submitted by**

Fatema-tuz-Zohora Sananda 180042124

# Performed at DreamOnline Limited

House #1, Road #2/E, Baridhara J Block, Dhaka 1212

**Duration:** 09 May 2022 - 09 September 2022

### LETTER OF TRANSMITTAL

October 17, 2022,

Md. Jubair Ibna Mostafa

Assistant Professor,

Islamic University of Technology (IUT)

Subject: Submission of Internship Report

Dear Sir,

With due respect, I am happy to submit my internship report at DreamOnline Limited under the BSc program of the Islamic University of Technology.

I have learned about the field of Software development from a business perspective, as well as the methods involved in integrating technology solutions into real-world problems, during my 4 months internship period.

I am grateful for the supervision our Islamic University of Technology internship supervisors have given us.

I sincerely hope that you will accept this report and that it meets the goals and requirements of my internship.

Sincerely,

Fatema-tuz-Zohora Sananda 180042124 CSE ( SWE) Islamic University of Technology

## Acknowledgment:

I want to start by thanking IUT and our internship supervisor, Md. Jubair Ibna Mostafa sir, for giving me the opportunity to have these 4 months of an amazing experience that will greatly improve my abilities as a software engineer in the future.

I aslo want to thank our Managing Director of DreamOnline Limited, Mr. Md. Zulfiqar Ali, and other colleagues for providing a friendly and helpful work environment. I want to express my gratitude to Mr. Tarun Kumar Biswas, Senior Manager at DreamOnline Limited for his great advice. time, and encouragement.

I also want to thank my Team Leader, Mr. Al Amin Hossain, Senior Software Engineer at DreamOnline Limited for guiding me throughout the whole project work and my team members for their constant support and making the project work easier and more enjoyable,

## Introduction:

After graduation, we frequently find that it is hard to adapt to the corporate world and do not understand properly how to apply theoretical knowledge in real-world problems. This is primarily due to the wide gap between business and academia. The internship program is effective at bridging this gap. The procedure of an internship, which is especially helpful for students majoring in technical courses, is on-the-job training. It enables students to connect their academic experiences to the world of the corporate world.

The Computer Science and Engineering (CSE) department's Software Engineering (SWE) program offers its students the wonderful opportunity to do an internship as part of their bachelor's degree.

I worked at DreamOnline Limited as an intern. My internship started on May 09, 2022, and ended on September 09, 2022. I have learned how to apply the theoretical knowledge I've studied in the classroom in the real world, as well as various best practice norms and work cultures.

## Objective:

The goal of this report is to illustrate my internship-related experiences. I have used my academic knowledge for solving real-world problems, learnt about the corporate work culture and other best practices to cope with the corporate world. The key objectives that were focused on during my internship are

- 1. Getting used to the office environment.
- 2. The concepts, tools, and technologies I have learned will be helpful to me in the future.
- 3. In the future, I will benefit from knowing the working environment and culture.
- 4. Key characteristics that I need to improve in order to adapt to the job market.
- 5. Take into account the needs of the current and upcoming industries.

## Scope:

The scope of this report is to focus on the learnings and benefits that I got from my four months of internship.

- It highlights the strong communication with my team leader, my teammates, and other colleagues.
- 2. The work environment and overview of my company.
- 3. My contributions to their project.
- 4. Technical and soft learning that I earned by working there.

## **Company Overview:**

## History

DreamOnline Limited is a software & mobile app development company. The mother company is DreamOnline Incorporation, which is situated in Japan. It has three branches. Two of them are in Hiroshima, Japan, and Tokyo, Japan and the third one are in Bangladesh. This branch, DreamOnline Limited started its journey in 2019.

## **Company Mission**

DreamOnline Limited is a software & mobile app development company that focuses on AR/VR, IoT, AI/ML, Web & Windows Systems, Android & iOS, and other emerging technologies. The company uses an agile project management methodology, which lowers development costs and aids in deadline compliance. Excellent product quality is ensured by a committed QA staff. The majority of the business and sales operations are managed by DreamOnline Incorporation, while the product development operations are managed by DreamOnline Limited.

## **Company Vission**

The company is still growing but it already creates a place in Bangladesh's software industry space because of:

#### • Highly Creative & Motivated Team:

Teams of highly skilled experts come up with the most original solutions to clients' problems and address them as quickly as possible.

#### Understanding Business Needs

Researching the most current global technical requirements helps the corporation better grasp customer wants.

#### • Quality & Secure Adherence

The two most important criteria that the organization maintains with Japanese standards throughout all phases of development are quality and security..

#### • Result-Driven Approach

The work of the company is entirely outcome-driven and hardly ever experimental. Always concentrate on fine-tuning the development phases to achieve the client's goal.

#### • Co-Development Teams

Having access to a wide range of technical expertise enables the firm to build multi-talented teams that assist clients in achieving their business objectives.

#### Guaranteed Innovation

DreamOnline consistently works to innovate in all of its initiatives, which helps to deliver the most cutting-edge solutions.

#### • DevOps Enablement

DreamOnline consistently prioritizes reducing the systems development life cycle and offering continuous delivery with excellent software.

#### • Integrity & Transparency

Due to the high standards of honesty and transparency set by these companies, the company continues to cooperate with them.

#### • In-Depth Domain Knowledge

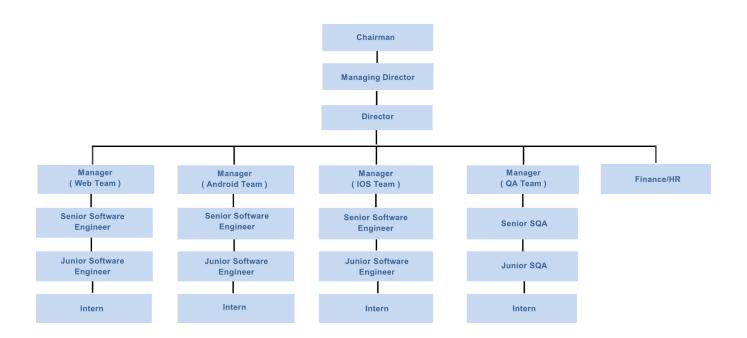
Every technology or platform that DreamOnline works with has a team of specialists who contribute to the breadth of their expertise to produce perfection.

DreamOnline Limited continuously pursues success by doing excellent work and making noteworthy contributions. Teams of expert engineers work hard to produce a powerful and impressive product. As one of the most cutting-edge outsourcing firms for IT, DreamOnline Limited scales the teams, maintains schedules, and guarantees the quality of the output.

## **Company Location:**

DreamOnline Limited is located in House #1, Road #2/E, Baridhara J Block, Dhaka 1212, Bangladesh.

## Organogram:



The company's top executives, the Chairman and Director, are both from Japan. To oversee all of DreamOnline Limited's activity in Bangladesh, a Managing Director has been designated. DreamOnline Limited consists of primarily four teams. One each for the web, Android, iOS, and quality assurance (QA). A manager oversees each of the squads. Senior engineers, young engineers, and interns all work under them.

## Tools and Technologies

The company works with a wide range of tools and technologies. It enables them to serve a variety of clients. So tools and technologies that are used by the company are

#### • Programming Languages:

Java, C, Python, C++, C#, Visual Basic, Javascript, PHP, SQL, Ruby, Objective-C, Swift, Kotlin, HTML, VBA, Dart, Go, TypeScript

#### Cross Platform:

Flutter, React Native, Unity, Xamarin, Node.js, PhoneGap, Ionic

#### Database:

Oracle, MySQL, Microsoft SQL Server, PostgreSQL, MongoDB, SQLite, Microsoft Access, MariaDB, Amazon, DynamoDB, FileMaker

#### Cloud Service:

AWS, Microsoft Azure, Google Cloud

Although the organization is relatively new, its excellent work has already demonstrated its value. They work in many different industries.

- Manufacturing
- Banking
- Healthcare
- Information Technology
- Retail
- Telecommunication
- Logistics & Transportation
- Insurance
- Public Service
- And Many More

Several well-known brands can be found in DreamOnline's client list. Because DreamOnline Limited is committed to giving its customers the greatest technological solutions for their issues, customers have confidence in the company. Some of the clients of DreamOnline Limited are -

- CocaCola
- Canon
- Sony
- SoftBank
- NTT Docomo
- Rakuten Communications

As the company works with a variety of tools and technologies, they have products that cover a wide range of industries and technologies. Some of their works are mentioned below:

#### Construction Site App

Reduce the number of personnel and on-site errors. uses a Bluetooth scanner to read the QR code connected to the pile, and you can verify the accuracy of the pile in the app.

#### Fracora

With the aid of the healing alpaca, live a sensible and healthy life. This is the official shopping app for the fracora.com website where you can buy healthy foods, diets, and cosmetics. Simply by using them, you can amass Hula money that can be used on online purchasing portals. The app features well-liked articles and videos about health and beauty.

#### • Kirin Nama-Cha AR

Take photographs with the adorable Sanrio creatures. The Nama-cha AR campaign website will be for Kirin Beverages. With Sanrio characters that have an AR decoration camera, you can take a picture after inputting the serial code and receiving the character.

#### Signadia

First STB for digital signage that supports Michibiki's reporting service for disaster and crisis management. Simply plugging in the HDMI cable will allow you to connect to the monitor. You can quickly replace the content by using a smartphone-style operation terminal without consulting a specialist.

#### Museum Application

Official Application for the Baseball Hall of Fame Museum. In addition to information, you can view exclusive photographs and videos here. You can watch movies and view images of individuals who have been inducted into the Baseball Hall of Fame by holding the camera feature, which can only be utilized inside the museum, over the display.

#### • Diet Management Application

a diet plan that works for you. Customers of the Tokyu Sports Oasis diet program Shape Navi Plus can use this specific app. By simply taking a photo of your daily meal and putting it online, you can control your eating habits. Additionally, a thorough record of the weight change is kept, and the trainer comments on the record.

## Company Work Culture:

The business is committed to the underlying premise that creative work necessitates a distinctive workplace culture. The business makes a lot of effort to foster a work environment that draws talented individuals and encourages them to deliver their best efforts. Everything from workplace organization to the values of the development teams reflects this culture. Being productive and achieving one's personal and professional goals are both aided by a positive workplace culture.

Some noteworthy workplace cultures I encountered in DreamOnline Limited are

#### Helpful and Considerate

Employees can readily ask their coworkers for assistance in the workplace. Employees encourage one another to bring out the best in one another. There will be someone available to assist you if you run into any difficulties. Such a supportive work environment fosters collaboration, boosts spirits, boosts output and efficiency, and increases employee retention.

While doing so, the business is very respectful of an employee's time and effort. They never pressure a worker to put in an extra hour or work overtime. The most crucial factor in being effective at work is having a positive outlook.

#### Comfortable Workplace

Morale is greatly boosted by inviting workspaces with amenities and benefits that matter to individuals. People have the option to join the office in person or from home. The on-site office is equipped with everything a worker may possibly require to carry out daily duties. Everything is well organized, even in the online office. With no issues, we can communicate with anyone. A productive workplace is not a place for office politics or gossip. Even if it happens in groups occasionally, it should be the exception rather than the rule.

#### • Effective communication

The most crucial aspect of functioning as a team is a communication. Secrecy or a lack of communication from the top down fosters a culture of fear and uncertainty. We can avoid information overload and reduce the amount of unimportant, non-work-related stuff by communicating effectively. DreamOnline Limited placed a high priority on fostering an environment that is conducive to successful communication at work. Whether they are working from a traditional office or a home office, coworkers can simply communicate with one another. The organization conducts frequent audits to evaluate how people are interacting with one another, accepts and values input, and creates opportunities for social interaction through open and honest communication.

#### Supportive Environment

The fact that this organization truly values your time, effort, and hard work is the main benefit I enjoy most about working here. A good workplace, in my opinion, is one where all employees are respected, supported, and encouraged regardless of their gender,

sexual orientation, or skin tone. Equal opportunities for advancement and access to all benefits and awards should be provided to every employee.

#### Events and Parties

The corporation frequently hosts events and celebrations for its employees as a way of showing appreciation for their dedication. Every victory is recognized, including the introduction of a new product or mobile app. These kinds of things inspire workers to put in even more effort and produce outstanding achievements. These activities allow workers to get to know one another better, which fosters a positive work environment.

There were three dinner parties, one lunch party, and one summer fruit festival when I worked there. Most of those I joined. I meet many wonderful and creative people by going to the party. I had such a wonderful experience. People from various teams discuss their experiences using various tools and technologies, which truly inspires me to learn more.

The company values the individuals who have a significant influence on it. The business recognizes those workers and advances them in recognition of their dedication. For their outstanding efforts, some employees get the Employee of the Year award each year. This kind of culture inspires others to push their boundaries and advance their skills, in addition to those employees who received prizes. People receive additional rewards from the company even when they put in more time or work on the weekend.

I was treated like a normal employee even though I was an intern. They consistently valued my thoughts and offered criticism of my work. I was required to go to every official gathering. Usually, the company gives the intern a mentor and adequate time to educate themselves on

the codebase and required technologies. When an intern first starts working for the organization, their preferred technologies are typically given first consideration. According to business policy, recent graduates are not directly hired as interns. Potential applicants are first offered internships, and if they do well, they are then given the chance to work for the company full-time.

## Company Workflow:

One of the leading providers of IT outsourcing services is DreamOnline Limited. They have clients from all around the world. Additionally, the business offers a few internal products that cater to a sizable customer base. When creating the products, they adhere to agile approaches. An excellent product is consistently delivered by a group of highly qualified engineers who are experts in their respective industries and work tirelessly to suit the needs of the client.

The firm's offshore software development services are designed to produce the kind of outcomes one would anticipate from a Japanese IT outsourcing firm. In addition to providing software development and maintenance services, DreamOnline Limited also provides clients with a finished product that will help in the growth of their business. The company offers the following services:

#### • Mobile Application Development

DreamOnline has produced more than 800 mobile apps to far and has a wealth of experience in the field. They have created apps for a variety of markets and platforms, including AR, VR, AI, and ML..

#### • Web Application Development

A dedicated team of professionals with over 10 years of industry expertise develops web applications. For numerous industries, they have produced a wide range of goods. They have already made a reputation for themselves as a top software provider of excellent web services.

#### Windows/Linux/Mac Application Development

Based on the various business requirements of its clients and in order to offer them creative solutions to their issues, DreamOnline has created a variety of platforms using the Win/Mac/Linux operating systems.

#### AR/VR Applications

The company has already produced a sizable number of AR/VR-based applications.

They support a variety of platforms, including those used on-site and for playing games at events.

#### IoT Applications

DreamOnline created hardware-compatible desktop and mobile applications. They have some excellent IoT solutions that address a wide range of everyday issues.

#### ML/Al Applications

The business is also skilled in creating ML/AR apps. The company primarily uses Google's ML Kit and Apple's Core ML to create its apps.

The development of numerous goods employing various techniques and technology is ongoing. Depending on the needs, the company develops its products using both team-oriented and project-oriented methodologies.

## Team Involvement

## Role: Frontend Developer & UI/UX Designer

In the internship my role was Frontend developer and UI/UX designer. So I worked with both the web development team and the design team.

The web development team consisted of 10 engineers. 3 engineers from the frontend team, 3 engineers from the backend team, 2 engineers from the design team and 2 team leader.

The design team consisted of 3 Designers.

## Contribution as a Frontend Developer:

Learning Phase: My learning phase was about 1 week. I was assigned
under a web project "eBidyaloy" and it took 1 week to understand the whole
project, the existing codebase of the project. I also reviewed the whole prototype
of the project for both mobile and web version to understand the dataflow of the
project.

For the technologies, they used Next.js and tailwindcss. I had previous experience working with these technologies. For this reason, it did not took long time to have a clear idea on the technologies to start my work. So from the 2nd

week of my internship, I started coding in production. After that, whenever a new thing came to implement, at first I learnt that and then implemented it.

• Working Phase: I was assigned to the project "eBidyaloy". It is an educational platform. This application has three versions available. The Android version, the IOS version, and the Web version. I worked with the web development team. As a frontend developer, I developed the User Interface in a responsive way. I also implemented many features like Facebook Authentication, CRUD for Student, Sections and Holiday, Searching filter, Pagination, and so on. For some features, I had to do some research and learn new things to work on those features. For example, the Facebook authentication system may sound simple and you may find some React packages also, but actually, those packages are deprecated and do not work properly. So I had to implement it by learning the NextAuth. I had to go through the whole NextAuth Documentation and Also learn the requirements of the Meta for developers to integrate the Facebook authentication in the project.

Another example is Highlighting the mandatory input field. It is really simple to work if you add a label to the input field. But according to the UI design, I was asked to highlight the placeholder text. It took a long time to find an efficient solution to this problem. But I could not find any solution for the dropdown fields because the dropdown fields do not accept any kind of sign like ( asterisk sign \* ).

I also worked on fixing bugs reported by the QA team. Sometimes I helped my

team members to fix their bugs and shared their work to meet the deadline.

Project link: eBidyaloy

Contribution as a UI/UX Designer:

• **Learning Phase:** As I had previous experience working in UI/UX, there was

no specific learning phase for it.

• Working Phase: I worked on two projects as a UI/UX designer. One of them

is the project "eBidyaloy" and the other one is the project "SmartTax".

eBidyaloy:

1. In this project, I reviewed the whole UI design of both mobile version and

the web version and found out the design problems. Documented the

problems and discussed with my team lead.

2. I aslo worked on designing the mobile pages for uploading in the

playstore along with the application.

3. I designed the web UI for responsive views.

smartTax:

1. For this application, I did some research on similar types of existing

applications to understand our competitors.

2. I was given the client's requirements, and based on those requirements I

designed the whole application for both mobile view and web view.

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## Learning & Achievements

## **Technical Learning**

As I mainly worked as a front-end developer, the tools and languages I learned and used are primarily front-end focused.

#### JavaScript:

The project that I have worked on use JavaScript.

#### Next.js:

This react-based framework is intended for use in production applications. The eBidyloy project's client side or frontend is built using Next.js.

#### • Tailwind CSS:

This CSS framework for styling User Interfaces puts utility first. While working on the eBidyaloy project, I used Tailwind CSS a lot.

#### Swagger:

To test the APIs that the backend team provided, Swagger is frequently used. I had to test the APIs before utilizing them on the client side, and if anything goes wrong or if I discover any bugs, I have to notify them to the backend team.

#### Backlog:

Backlog is used by the company for managing version control, tracking bugs, and managing projects. I used this product extensively in my day-to-day work while I was doing my internship with the company.

## Soft Skills Learning:

Working in the company not only made me a better developer, but it also helps me to grow as a better person.

#### Teamwork:

Working in a team was the most significant lesson I learned from this internship. Even though I have collaborated with a team to build numerous projects in college, working with a team in the workplace is very different than doing so for an academic project. In the team, I served as a front-end developer. But at the same time, I had to stay in constant contact with the backend team for any API-related problems and with the design team for any client-requested changes or UI components that needed to be adjusted. Additionally, while resolving urgent issues or putting any new functionality into place, I must consult with my team members. I am a better team player as a whole because of all these things.

#### Timeliness:

The workplace has certain tight rules on time management. The administration promotes rigorous time management among the employees. We must join the meeting at a specified time in order to avoid being recorded as absent, just like

during our morning scrum meeting. We occasionally had to put in extra time and even work on the weekends during the product release period to reach the deadline.

#### Problem Solving:

As a result of my internship experience working on a production-level program, I need to handle each problem I have in the project in the most effective and efficient way I can to improve the user experience. Likewise, my implementation should be reusable and simple to comprehend so that if I or my team members need to use the same implementation or feature somewhere else, they can do so without any problems. I consider myself a better developer now than I ever was before because I've dealt with many actual business logics.

#### Responsibility:

If I implement a functionality or develop a UI and if it breaks or something goes wrong in production, then it's my responsibility to come forward, accept my mistake, and solve that mistake. I just can't push the mistake to my superior to solve this for me. I think it makes me more diligent in my work.

#### Patience:

Throughout the course of my internship, I have had to devote a significant amount of time to finding the best solutions for both bugs and business challenges. Naturally, the process was not simple. I had to overcome many difficulties and patiently accept them in order to come up with a solution.

## Additional Learning:

I technologies that have been used in the projects I already knew these. So my mentor asked me to learn some additional topics which are not directly related to my work, but some of the things that I should know as a software developer.

#### Database Design:

My mentor showed me the Ebidaloy project's database design during the last month of my internship. I've already read about database design up to this point. But watching developers create a production-level program gave me a better understanding of database design.

#### Docker:

A software platform called Docker makes it simple to develop, test, and deploy applications. Even though I didn't work with Docker directly, I just read about it and saw how the team used it in the project.

#### Nginx:

The open-source Nginx web server software functions as a reverse proxy, HTTP load balancer, and email proxy for IMAP, POP3, and SMTP. The business used Nginx as the project's web server. Similar to docker, I simply read about how Nginx functions; I haven't actually used it.

## My contributions to eBidyaloy Project:

- The application, eBidyaloy, essentially includes three modules. Three separate ones—one each for the teachers, the students, and administration. I and my team completed the development of all user interfaces and the implementation of all management module capabilities, including the authentication and authorisation procedure, which contains more than 100 pages, during my internship with the company..
- Some of the functionalities I developed include full CRUD operation of a student management system, full CRUD operation of the shift-section system, holiday system as well as authentication system, etc.
- My manager and the QA team assigned me a lot of bugs and problems to fix. I
  had a lot of challenges during this and had to come up with creative solutions.
  However, resolving these problems and faults gave me more self-assurance as a
  developer.
- I must regularly evaluate the user interfaces and functionality that my team members created. I have to offer them comments on their work and let them know about any problems I find if any.
- For implementing some of the functionalities, I had to go through a research and development process. For example,, the facebook authentication system may sound simple and you may find some React packages also, but actually, those packages are deprecated and does not work properly. So I had to implement it by learning the NextAuth. I had to go through the whole NextAuth Docmentation and

 Also learn the requirements of the Meta for developers to integrate the Facebook authentication in the project.

The Ebidyloy project has taken up the most of my attention. Working on a production-level application taught me a lot. I've found that working through many actual business issues has helped me to increase my knowledge and develop my front-end abilities.

**Used Technologies:** For the frontend development I have used Next.js and Tailwind CSS. For API documentation and API testing before fetching it on the front end I used Swagger. And for the Version control system and project management, I used Backlog.

## Conclusion

The four months of the internship were a great experience for me because I got the opportunity to learn from the corporate world and work on a real-world project. I am really grateful that they allowed me to explore the field that I am interested in and got the chance to utilize the whole time in my career goal.