



SHAHJALAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

Institute of Information and Communication
Technology

SWE 420 **Report of Internship**

Submitted By:

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Performed At:

Kaz Software

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Letter of Transmittal

July 16, 2022
The Director
Institute of Information and Communication Technology
Shahjalal University of Science and Technology
Sylhet, Bangladesh

Dear Sir,

I am very much delighted to submit a report as a part of my internship program. I am so thankful to the Institute of Information and Communication Technology, SUST for giving me the opportunity to connect my academic knowledge with the latest software development trends in a renowned software industry and to gather great industry experience.

I have been working as an intern at Kaz Software as a part of our course SWE 420, starting from September 1, 2021, to February 28, 2022. This report is based on my learning and experience during my internship time period. And this report covers the technical skills I developed during my internship program as well as my project participation, skill acquisition, and other improvements and issues.

I believe this report will be able to summarize the overall outcome of my internship course. I will be grateful if you accept my report, and your consideration will be highly appreciated.

Sincerely yours,



Shakirul Hasan Khan
Registration No: 2017831034
Department of Software Engineering
Institute of Information and Communication Technology
Shahjalal University of Science and Technology

Letter of Endorsement

To whom it may concern

Subject: Approval of the report

This is to certify that all the information mentioned in the report is accurate and not confidential to the company. Shakirul Hasan Khan had direct involvement in the projects mentioned in the report.

I personally went through and examined every page of the report, and I was unable to locate any information that contravened the organization's privacy policies.

I therefore declare the report to be true and give Shakirul Hasan Khan my best wishes for a prosperous future.

Shawal Siddique Shaon
Chief Technology Officer
Kaz Software

Md. Hannan Hossain
Principal Software Engineer
Kaz Software

Acknowledgement

I am excited to share this report about my internship experience at Kaz Software. I want to express my sincere gratitude to the Institute of Information and Communication Technology, SUST, for providing an opportunity for my internship. I also want to express my regards to Kaz Software for the support and the opportunity to work with a great team.

I'd like to offer my heartfelt appreciation to **Prof M. Jahirul Islam**, Director, Institute of Information and Communication Technology, SUST as well as to my honorable teachers.

I would like to thank **Shawal Siddique Shaon**, CTO of Kaz Software, for his guidance and support throughout the internship period. I would also like to thank my mentors, **Md. Hannan Hossain** (Principal Software Engineer) and **Biswajit Panday** (Senior Software Engineer), who trained and guided me in my internship journey.

I want to take this opportunity to thank **Ibrahim Khan Arshad** (currently working as a software engineer at Cefalo Bangladesh Ltd.) for his kind assistance and support. Finally, I want to express my gratitude to my team members, my fellow interns, and every member of Kaz Software for making my internship experience a memorable one.

Executive Summary

This report serves up the purpose of a summary of the work that I undertook as well as my experience during my internship period which was conducted on Kaz Software.

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Chapter 1

Introduction

An internship is a professional learning experience that offers meaningful, practical work related to a student's field of study or career interest. An internship gives a student the opportunity for career exploration and development, and to learn new skills. It offers the employer the opportunity to bring new ideas and energy into the workplace, develop talent and potentially build a pipeline for future full-time employees. Internships are usually offered part-time if it is during a university semester, or full-time if it is during a vacation. And in most of the cases, the internship is paid.

Institute of Information and Communication Technology, SUST always emphasizes industry knowledge on academic study. And to give students actual industry experience, IICT provides the opportunity to their students of Department of Software Engineering to work as an intern for six-months in a renowned software company as a part of their academic curriculum in the 7th semester. This opportunity helps to add a great value to personal qualification and experiences of their students.

The company I was sent to for my internship is Kaz Software. It is one of the most experienced software company in Bangladesh. Kaz Software have been successfully operating for more than 18 years.

1.1 Objective

This report is prepared as a requirement of the course SWE 420 at the Department of Software Engineering, Institute of Information and Communication Technology, SUST.

My accomplishments, learning, professional development, achievements, and overall industrial experience from my internship are all included in this document.

If permitted, this paper will also be accessible to other students who will later serve as interns. in order for them to determine whether Kaz Software is a good fit for them.

1.2 Scope

The main scopes of this document are:

1. Work environment and culture of Kaz Software
2. Experiences I faced as an intern of Kaz Software
3. Projects I have worked on during my internship
4. The training and guidance I received
5. My professional and technical growth
6. Description of the technologies I used during my internship
7. And my opinion on this internship

Everything is discussed in this document without violating the confidentiality of the company.

1.3 Sources of Information

All of the information reported in this document is true and authentic. Executives of Kaz Software confirm the accuracy and privacy of the company-related information.

This document contains both technical and theoretical information. Because of this, some information has been pulled from different sources; the URLs to those websites are provided at the end of this report so that the reader can manually verify any external information if they have any doubt.

1.4 Limitations

There are some drawbacks to this report. It's not possible to publicly discuss everything I did while I was an intern. This document was checked numerous times by an executive from my company before being submitted. Additionally, certain information was left out of those reviews because it belongs to Kaz Software and is private. This means that this document is not flawless.

Chapter 2

Company Profile

This chapter describes the customs and culture of Kaz Software. Each section describes the overview of Kaz Software, the way it operates, what services they provide, technology used here, key features, location and what people here does for recreation.

2.1 Company Overview

Kaz Software is one of the best and most experienced software company in Bangladesh. It started as a start-up software outsourcing company in 2004 and became a limited company in 2005 and continued to develop year after year. Typically Kaz Software builds software for the clients, but sometime they would be doing something completely different like researching business data or setting up their firewall. Kaz Software has some really talented engineers, designers, and content specialists to give it's clients a well built software.



2.2 Leadership

An organization will not be able to operate for more than 18 years, if it does not have experienced and passionate people in the leadership roles.

2.2.1 Wahid Choudhury (Founder and CEO)

Wahid has more than 20 years of experience in software development. He is the founder and leader of several software companies in diverse industries

such as regulatory compliance, eCommerce, legal services and computer games. Wahid has an exceptional technical background, as well as the advantage of having worked with dozens of start-ups during all stages of their technical and business development. He founded his first software company, Kaz Software, in 2004.

2.2.2 Shawal Siddique (CTO)

Shawal is a technology leader and has more than 15 years of experience in software development space. His strength in technical project is over a wide range of projects in device drivers, enterprise web applications and mobile apps using technologies such as Asp.NET, Asp.NET Core, .NET Core, Xamarin, Angular, Aurelia, Angular JS, Knockout JS, Node JS, Azure and AWS.

2.2.3 Hafiz Choudhury (Adviser)

Hafiz is an international tax consultant and entrepreneur. He works with major multinationals on tax policy and business strategy issues; he also advises governments on tax policy and administration through his consulting firm, The M Group, Inc.

2.3 Services

Kaz Software offers software development and content management services to international customers across multiple industries. Kaz understands the challenges that its customers face within and across these industries. Kaz provides practical, pragmatic and powerful solutions to address those challenges.



The services of Kaz Software covers every step of software development, from ideation to delivery.

2.3.1 Ideation, Graphics and Interaction Design

The design team in Kaz software helps the clients through the digital design and strategy maze. They work through every stages of a project with the client and keep brainstorming and create mockups, demos and presentations. And during interaction design, Kaz Software always prefer to create the simplest solution.

2.3.2 Software Development

Teams at Kaz Software help our customers build customized software - everything from web to desktop to enterprise to mobile and beyond. They have been building softwares for various industries since 2004 and worked with many

technology platforms and have collaborated with many teams over these years.

Kazians have worked on web applications, created desktop applications, and built numerous mobile applications. Some of things that they have built:

1. Social app with localization
2. Desktop based tax optimization tool
3. Corporate data management application
4. Document repository
5. Database driven file system
6. Content rich web application
7. LDAP management tool
8. iPhone/Android/Windows mobile applications
9. Online holiday management tool
10. Location content service
11. Location based social app platform
12. Flex based visio like diagramming tool
13. Desktop based diagramming and layouting tool.
14. Symbian application
15. VoIP billing solution
16. Mobile content solution
17. Stock trading portal
18. International trade research and management tool

Kazians don't specialize in particular technologies, but they are definitely proficient in a wide array of tools and systems. Every product is unique, and they try to fit the right skills for that particular product.

2.3.3 Quality Assurance

Integrated quality assurance approach of Kaz Software incorporates aspects of agile and lean development with the stability and reliability of traditional SQA process. They believe software quality assurance is only possible with a mixed set of procedures which should involve all members of the team collaborating with a dedicated team of SQA professionals. Because of their involvement with all kinds of projects their SQA teams are exposed to a variety of technology and business domains. Types of testing services Kaz Software provides:

1. Product testing
2. Performance and Load testing
3. Content Validation Testing

2.3.4 Data, Content and Research

Kazian research teams have researched, compiled and maintained content in diverse fields and for a variety of applications. The research team is supported by our data specialists who leverage technology to optimize data gathering and ensure that the data is stored and managed efficiently. Services provided on this area by Kaz Software:

Research

1. Research and compile information
2. Categorize existing content
3. Meta tag content
4. Search and collect publicly available documents
5. Professional domain based translation of information
6. Statistical and economic analysis
7. News gathering and summarizing

Create and Maintain

1. Write, edit, proof read content
2. Maintain content in blogs, CMS or other systems
3. Translate existing content
4. Create and maintain structured content like spreadsheets
5. Maintain newsletters/news services

Data Services

1. Transformation of existing data to and from various formats such as csv, xml, etc.
2. Extracting data from unstructured or structured sources
3. "Cleaning" data by removing errors, unwanted information etc.
4. Storage solutions - Databases, XML, flat file

2.4 Human Resource

Kaz has 110+ employees at this moment and they are planning to recruit more. Since the beginning, Kaz has grown in numbers of resources and production every year. Kaz doesn't hire developers, designers or QA engineers. Kaz hires people who solve problems. And it hires only the best. Kaz runs regular training and review sessions to keep it on the top.

2.5 Facilities for Employees

Kaz Software always keeps the happiness of their employees at the top priority. As a result they provide a lot of facilities to keep the Kazians happy.

2.5.1 Friendly Environment

Kaz Software is like one big Family. Work is fun here. The work environment here is friendly, informal, fun and knowledge oriented. Chain of command is not followed here. Employees consider the company to be their own responsibility.

2.5.2 Vacation and Optional WFH

Kaz Software provides 17 days of paid vacation per year. A Kazian can take a full day or half day leave anytime, until it exceeds total of 17 days per year.

Another great initiative by Kaz Software is an employee can either go to office or work from home, it's up to them. And any kind of technical support will be provided no matter where you are, home or office. Although working from office is more fun because of the friendly environment.

2.5.3 Lunch and Snacks

Kaz Software does not provide any lunch or snacks except tea and coffee. An employee can go and make their own tea or coffee or ask a Shoinik to make them one.

2.5.4 Indoor and Outdoor Games

Almost every Kazian is a cricket lover. They play short-pitch cricket every working day after lunch, in the office premises. There is a table tennis board in the ground floor and Kazians can play anytime they want.

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2.5.5 Bonuses and Increment

Kaz Software does not provide any festival bonus. But they provide a bonus equal to the salary of a employee after every anniversary of their joining and they get a increment of 10 to 15 percent of their current salary. This may vary according to an employee's performance.

2.5.6 Seminars and Training

Kaz Software sometimes arrange seminars and training sessions for their employee when a new technology emerges or the employee ask for one. Recently a four day session and exam was taken by Shawal Siddique (CTO, Kaz Software) on Micro-services and Micro-frontend.

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2.5.7 Recreation

Kaz has different ways for recreation of employees. Release parties, picnics, 'Hudai party', and outings are part of it. Every year in December Kaz organizes their anniversary party. Which is either taking all of the employees for an international trip, or a 7 to 10 days trip inside Bangladesh. And this is fully paid by the office. In spite of being an intern, I received all these facilities and consider myself lucky.



2.6 Teams

Kaz Software has more than 10 teams. Each team work differently probably using different tools and technologies. Their clients gets a team of their own. The team adapts to the working process of the client. Each team has their own rules and regulations.

I was a member of Team Artisan. More about this team later on personal experience section.

2.7 Tools and Technologies

Kaz Software is not specialized or stuck within specific tools and technologies. They try to keep up with rapidly changing technology trend. And they always try to use technology that will be best for any particular project. Following these are some of the used tools and technologies:

.NET World	ADO.NET EF, ASP.NET MVC, WCF, Silverlight, LINQ, LINQ To SQL, PRISM, Microsoft Enterprise Library, Sorry, Nhibernate, Sprint.Net, MEF/Unity, Sharepoint, Spring.net, WPF
Java World	JSP, JSF, JPA, Hibernate, CDI, JAX-RS, RESTEasy, Spring, Seam, Maven, GWT, Wicket
Javascript World	jQuery, jQuery UI, Node.js, ReactJS, AngularJS, Ext JS, Knockout.js, Redux RequireJS, jQuery Mobile
World of Web	HTML5, CSS3, CSS2
Python World	Django, South, Celery, Tornado
Servers Etc.	JBoss AS, Tomcat, Nginx, IIS, Endeca, Jitsi
Third Party Frameworks	Selenium Webdriver, Various PDF frameworks, Various control libraries, OCR SDKs, CrystalReports, WebRTC
Cloud	Amazon AWS, S3, Rackspace, Heroku, Microsoft Azure
Mobile Space	Objective-C, Cocoa, Cocos2d, Titanium, Phonegap, jQuery Mobile, HTML5, Android, Windows Mobile
Database and NoSQL	MS SQL Server, MySQL, MongoDB, Couchbase, Neo4j

2.8 Clients

Kaz Software is a outsourcing company. Kaz has built or enhanced more than 150 software projects for more than 100 companies around the world, from startups to Fortune500, in more than 18 years. Some of the renowned clients are:

1. The World Bank
2. Unicef
3. রবি
4. Japan Tobacco International
5. Thomson Reuters
6. Aarong
7. QFC
8. Global Blue
9. Swisscontact etc.
10. World Vision

2.9 Helping The Community

Kaz is involved with many efforts in helping the community around us. One its big long term project is a partnership with an organization called “Prothom Shurjo” that helps street children in the area near us by arranging education, food and shelter for them. They also run various training programs for them to teach them skills that they can use.

2.10 Location and Office Structure

Kaz Software office is located at **35/5, Shantinagar, Dhaka**. The office consists of ground, first and third floor. There are a table tennis room, dining room, prayer room, conference room in the ground floor. Rooms in the first and third floors are given to different teams. There is a kitchen in the first floor.

2.11 Achievements

Kaz Software celebrated their 18th birthday this year. They achieved a lot over these years including Basis Outsourcing Award 2020, GoodFirms Top Web Development Company and GoodFirms Top Software Development Company etc.

Chapter 3

Personal Experience

From interview to the end of my internship and beyond, I passed a great time at Kaz Software. In this chapter, I'll go through those experiences.

3.1 Interview

I had a phone interview with Shawal Siddique (CTO, Kaz Software). It was not a formal interview. He called and asked me questions about in what technology I worked on, questions about ReactJS, how I like my work environment etc. He confirmed my internship in that call.

3.2 Team Artisan

As an intern, I joined the Team Artisan in Kaz Software. It is a team with some talented and friendly members. I worked for six months as an intern in that team, and joined as an Associate Software Engineer later.

3.2.1 Members

Team Artisan consists of some great members, who are talented, friendly and helpful at the same time. Currently there are nine members, including me, in Team Artisan.

1. Md. Hannan Hussain (Team Lead, Principle Software Engineer)
2. Biswajit Pandey (Senior Software Engineer)
3. Ashiqur Rahman Rijvy (Software Engineer)
4. Mohammed Jubayer (Software Engineer)
5. Tulshi Das (Associate Software Engineer)
6. Saikat Sen (Associate Software Engineer)
7. Souhardya Saha (Associate Software Engineer)
8. Siana Rizwan (Intern)

Four more ex-members of the team I must mention are:

1. Ibrahim Khan Arshad (currently working as a software engineer at Cefalo Bangladesh Ltd.)
2. Md. Masum (changed team)
3. Abdullah-Al Foysal (changed team after internship period)
4. Abdullah-Al Jahid (was an intern too, and his internship period is over)

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3.2.2 Office Hours

Kaz has different office hours for different teams. Team can choose office hours according to their ease. But each team should work for 8 hours, 5 days a week with one hour of lunch break at 2:00 PM. Team Artisan starts working at 11:00 AM and ends at 7:00 PM.

3.2.3 Scrum

Each working day at 11:00 AM, all of the members of Team Artisan have a scrum meeting. Every member must join the meeting unless they are on leave. In this scrum meeting members discuss:

1. What did they do the last day
2. What will they work on today
3. Issues and blockers they are facing

3.2.4 CTO Meeting

On Tuesday 3:00 PM of every first full week of a month the members of Team Artisan have a meeting with the CTO. In this meeting they discuss about the progress of the projects the team currently working on, the wellbeing of the member and the members' real life events. Every member of the team must join this meeting.

3.2.5 Fine Driven Development

FDD is a fun terminology, but it is strictly followed in Team Artisan. There is a fine if a member misses the scrum meeting or CTO meeting. There is fine for committing code with silly mistake or deploy a buggy code to the production. And there is a rule book for the team, and if a member break any rule, s/he might get a fine. There is also a fee for a Kazian when s/he joins or leave the team. The fine amount is small and the fund created from these fines are used for recreation of the team, like a party or a tour.

3.3 Pair Programming and Collaboration

Pair programming is an agile software development technique in which two programmers work together at one workstation. One, the driver, types in code while the other, the observer (or navigator), reviews each line of code as it is typed in. The two programmers switch roles frequently.

From the second day of my internship I started pair programming with Ibrahim Khan Arshad bhai and Md Masum bhai. As I was new to the Orbitax ecosystem, I always had a lot of questions. Therefore, I could clear my confusion while talking with the seniors and gain knowledge about the platform. And later when Abdullah-Al Jahid and Siana Rizwan joined Team Artisan, we started pair programming as we worked on the same project.

While working as a pair, we used to work in a way, when my partner was typing I was assisting him, giving him ideas and checking for mistakes; when I was typing my partner was giving me instructions. It is easier to find bugs and corner cases during development and write efficient code when two or more people write code together.

The best thing about Kaz Software is, people here never hesitates to ask for help. Whenever I got stuck, could not understand a legacy code or had trouble understanding what to do, I asked for help from my seniors. No matter whatever the problem was, they always helped me and this made my internship period a lot smoother.

I tried to help others too. As for using ReactJS for a long time for web development, I was able to help my fellow interns and even my seniors who had confusion about ReactJS. Although every team of Kaz Software works separately, anyone can ask for help from anyone from any team.

Chapter 4

Project Involvement

Usually interns work on a dummy or assignment project.

4.1 Electronic Visit Verification

It was the first project I worked on as an intern in Kaz Software. It has both Mobile and Web application. I worked on the web application.

4.1.1 Project Overview

4.1.2 Tools and Technologies

Tools and technologies used to develop this application are:

1. **Back-end:** C#, ASP.Net
2. **Front-end:** Typescript, ReactJS, Redux, SWR, Axios, RsuiteJS, Bootstrap
- 3.

4.2 Regulatory Analytics

4.2.1 Project Overview

4.2.2 Tools and Technologies

Chapter 5

Professional Growth

5.1 Technical Aspects

5.1.1 Typescript

5.1.2 ReactJS

5.1.3 Redux

5.1.4 Git

5.1.5 Visual Studio Code

5.1.6 Others

5.2 Non Technical Aspects

5.2.1 Code Quality

In Kaz, they always encouraged us to write beautiful and simple code. Kaz follows a great standard of pure software engineering and their product quality is very high. My seniors always reviewed my code, and suggested if it can be better. And I tried to maintain the standard of work from my side.

5.2.2 Professionalism

5.2.3 Punctuality

5.2.4 Communication

5.2.5 Planning

5.2.6 Knowledge Sharing

5.2.7 Presentation

Chapter 6

Conclusion

Appendix A

Appendix A

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Just Testing

Suspendisse vel felis. Ut lorem lorem, interdum eu, tincidunt sit amet, laoreet vitae, arcu. Aenean faucibus pede eu ante. Praesent enim elit, rutrum at, molestie non, nonummy vel, nisl. Ut lectus eros, malesuada sit amet, fermentum eu, sodales cursus, magna. Donec eu purus. Quisque vehicula, urna sed ultricies auctor, pede lorem egestas dui, et convallis elit erat sed nulla. Donec luctus. Curabitur et nunc. Aliquam dolor odio, commodo pretium, ultricies non, pharetra in, velit. Integer arcu est, nonummy in, fermentum faucibus, egestas vel, odio.