# Chapter 1:

# Introduction

This chapter depicts the preamble, origin, objective, scope, methodology, limitation and overview of the report.

## Preamble

Internship is the process of on-the-job training, which particularly beneficial for students.

It is a wonderful and effective way to connect academic experience with the professional work arena. It allows to gain valuable exposure to the workplace, provides the opportunity for skill development, and gives a competitive edge in the job search [1]. Internship is an opportunity to bridge the gap between academics and industry expectations. It provides the students an opportunity to relate their academic knowledge with the industry trend. It also helps the academic institutions to get up-to-date with the new industry trends. Industries also get the idea about the research and development fields of the academia. So, we may call it a two-way communication between academia and industry.

Institute of Information Technology (IIT), University of Dhaka provides such a delightful opportunity to their students within their bachelor program. The main purpose of internship is to get the student exposed to the job market. IIT sent students in various companies on the 7th semester. IIT introduces the internship program for the following purposes:

* To help the students to implement the knowledge gathered at IIT in professional work.
* To make students aware of the industry trends and working environment.
* To prudent the real-world experience.
* To fulfill the requirements of the Bachelor of Science in Software Engineering (BSSE) program.

As a part of the internship program, I was placed in Orion Informatics Ltd. To complete my internship. I was placed in the development department of the Orion, under the direct supervision of Shafqat Ahmed, Principal Software Architect of Orion Informatics Limited. With having a job count of zero, I started my journey of internship in Orion Informatics Ltd as an intern from 18th January, 2018. The expectations were high and now almost nearing the end of my internship I must admit that it was really an amazing experience.

## Origin

The report has been prepared as a fulfillment of the partial requirement of the internship program. The Bachelor of Science in Software Engineering (BSSE) program of Institute of Information Technology requires a 6-month internship program in the 7th semester. A student must have to be industrially attached to complete the 18 credit of internship program. As IIT provides us the opportunity to take part in the internship program, IIT expects feedback from the students regarding what they have learned in the industry and their experience.

I have tried to complete the report with full details about what I have learned, my experiences, my contribution in the company, professional and non-professional skills that I have achieved and about my self-assessment.

## Objective

This report is the documented result of my six months long internship program in Orion Informatics Limited and is prepared as a requirement for the completion of the Bachelor of Science and Software Engineering (BSSE) program of Dhaka University at IIT. The objective of the report can be classified into two parts. These are-

* Broad Objective
* Specific Objective

### 1.3.1 Broad Objective

The broad objective of this report is to fulfill the partial requirement of the internship program of BSSE degree under the Institute of Information Technology, University of Dhaka.

### 1.3.2 Specific Objective

Besides the broad objective, this report has some of the specific objectives which are given below:

* To provide a broad description about my internship journey in Orion Informatics Ltd.
* To give an overview of Orion Informatics Limited.
* To focus on the products, services, work environment and facilities provided to employees of Orion Informatics Limited.
* To discuss the Standards and Effects of Employee Satisfaction of Orion.
* To reflect my achievements, project works, professional growth and challenges during my internship.
* To enrich the knowledge of the students from upcoming batches regarding the workplace environment and other things.

## Methodology

The report is prepared in a systematic procedure starting from the very beginning. The integral challenge was to collect information from different sources. Different kinds of information are presented in this report. I divided the information into different types of category based on the source of information. These are-

* Primary Source
* Secondary Source

Information which have I collected by my inspection during intern period are defined as the information from primary sources and I mentioned those as secondary which I collected from any written document such as internet or from another person. I will describe more specifically about those sources in the following part:

### 1.4.1 Primary Source

* Observation and experience during the internship program.
* Conversation with my supervisor and other employees.
* Participation in various in-house activities.
* Observation of other’s job and work.

### 1.4.2 Secondary Source

* Website of Orion Informatics Ltd.
* Website of clients.
* Internet

## Scope

This report provides an insight of my internship journey in Orion Informatics Ltd. It also provides an overview of challenges that I have faced during my internship period. It gives an idea about how I adapted with the working environment. A brief discussion about Orion Informatics Ltd. is also given in this report so that teachers and students from upcoming batches can get an idea about the organization and working environment. A description about the working environment is also added to the report. A broad discussion about my works in the company is also provided here. Experiences that I have achieved is described more specifically in this report. It also summarizes the outcomes of the internship period.

An internship may not run as smoothly as it is expected. There may be a lot of challenges but there also a lot of learning things are available. The skills which include both technical and non-technical ones are also a vital part of this report. A comparison of my skills before and after internship is also provided which will justify my achievements. And last but not the least, some recommendations are proposed which if worked out may provide some benefits to the future interns going to Orion Informatics Ltd.

## Limitations

While preparing the report, I’ve encountered with many challenges. I’ve tried to overcome those challenges but still there are some limitations in this report.

The company has many confidential information. That’s why all contents can’t be shared with everybody.

Time is a major constraint while making the document. Busy long hours in office made it difficult to give time on the report. I’ve to prepare the report while performing my duty in the organization.

All data given in this report could not be validated. My supervisor is a busy person. He has to manage several projects. So, it was not possible for him to validate all the information that I’ve given about the company and on-going projects in this report.

I only worked on a particular project. So, it is not possible for me to provide proper justification of the firm. I analyzed the information mainly from the feedbacks from my team mates and my co-workers, so some opinions may be biased.

Collecting information from my co-workers was a difficult job because it was hard to get free time from their busy schedule. I’ve tried to collect maximum information from them in their leisure time. So, full information must not be available in this report.

## Overview

In this chapter, I have discussed about the internship program, the origin of the report, scope, limitation and objective of this report, the methodology used to prepare the report.

In the next chapter, the organization’s profile is discussed briefly. Company’s background, mission, vision, values, the services and solutions that the company provide, the methodology used in the development of the software, the ongoing projects and many more things are explained in chapter two.

Chapter three illustrates the detail information of the working environment in Orion Informatics Ltd.

Chapter four and five described my contribution and my contribution in the company respectively. These chapters illustrate a brief discussion about what I’ve done and what experiences I’ve achieved during the internship period.

Chapter six demonstrates about my professional growth. Technical, communication, management, problem solving, intra personal skills that I’ve achieved during these six months are discussed. Tools and technologies that I’ve learned also described here.

In chapter seven, various kinds of non-professional skills are presented.

Chapter eight demonstrates my self-assessment during the internship. A comparison of myself before and after the internship is presented in this section.

In the last chapter, my personal recommendation for the internship program and for the students of the upcoming batches is given shortly.

## Conclusion

In this chapter, I have discussed about the internship program in IIT, the origin of the internship report, reasons behind the preparation of the report, scope and limitation of it, objectives that worked behind the preparation of the report, the methodology used to prepare the report, a short description about different type of data source and finally a short overview of the whole report.

I have discussed about the overview of the internship experience, document purpose, and overview of this whole document which will provide a clear view to the reader of this document about the purpose of this document.

# Chapter 2: Organization’s Profile

This chapter emphasizes on the historical background of the company, overview of the company, its product, services, clients and market condition.

## 2.1 Background of Orion Informatics Ltd.

**Orion Informatics Ltd.** is a global IT solution provider with extensive experience in software development in multiple industries. They have a successful track record of delivering on-time, on-budget IT solutions encompassing a broad range of industry verticals. From single problem applications to enterprise-wide solutions, Orion offers mission-critical software services for national and international customers [2].

Orion has more than 22 years of industry experiences. It was established in 1996. Then it was named as **Onirban Informatics Ltd.** It became a registered software company of Bangladesh in January, 2006 and reformed as Orion Informatics Ltd. There is an interesting history behind its name. As most of the clients of the company were from abroad, it was difficult for them to pronounce the name “Onirban”. So, the company was renamed as “Orion Informatics Ltd.”. Though Orion had a long list of clients in home and abroad, from 2001 PCI Corporation, USA was the only respective client of Orion. Later, Wolters Kluwer Financial, USA bought PCI Corporation and became the main client of Orion. At present, Orion Informatics Ltd. is used as main offshore development house of Wolters Kluwer (WK).

Orion provides:

* Cost-effective solutions across a number of industry verticals.
* Proven and mature process based upon industry best practices.
* Dedicated professionals focused on client requirements and concerns.
* Transparency of execution, thereby minimizing execution risk.

## 2.2 Main Client

**Wolters Kluwer (WK)** is the main client of Orion Informatics Ltd. It is a global information services company. The company is headquartered in Alphen aan den Rijn, Netherlands. It was founded in 1836. Wolters Kluwer in its current form was founded in 1987 with a merger between Kluwer Publishers and Wolters Samson. The company serves legal, business, tax, accounting, finance, audit, risk, compliance, and healthcare markets. It operates in over 150 countries. About 19000 employees work for WK [3]. Employees of Orion informatics Ltd. are included in the employee list of Wolters Kluwer. Orion Informatics Ltd. mainly works on the banking software sector of WK.

## 2.3 Description

Orion is one of the leading software company in Bangladesh. It has a good relation with IIT. IIT had been sending intern there from BSSE 2nd Batch. Orion Informatics Ltd. is situated in Dhanmondi-7, Dhaka. 30 employees are currently working there on different projects. Orion is mainly working for WK, a global software company. Almost all employees are listed as employee of WK. Orion mainly works on WK’s project. Besides, there are some R&D (Research and Development) project under the direct supervision of the owner of the company. Orion has a flat hierarchy. There is no manager level employee between developer and management level. Any outsider cannot differentiate employees having different designation. All most all employees are treated equally. Even we, the intern felt the same thing.

## 2.4 Location and Contact Information

The location and contact information of Orion Informatics Ltd. is given below [4] :

|  |  |
| --- | --- |
| Location and Contact Information of Orion Informatics Ltd. | |
| Location | House No. 32, Road No. 7, Dhanmondi, Dhaka-1205 |
| Phone | +88 (0) 291 161 44 |
| Mail Address | info@onirban.net |
| Website | www.orion-informatics.com |

## 2.5 Mission, Vision, Values

This section describes the mission, vision and values of Orion Informatics Ltd.

### 2.5.1 Mission

A **mission statement** is a statement about the purpose of a company. It purveys a platform for evaluating opportunities and challenges that helps to understand whether the company fits their core business model and strategy or not. Why mission statement is important? Orion beliefs a properly crafted mission statement

* Serves as filters to separate what is important from what is not
* Clearly state which markets will be served
* How communicate a sense of intended direction to the entire organization.

So, as an organization Orion also has some mission statements. Orion's mission is to

* Make their business faster and reliable.
* Build value for customers through innovative use of technology, support and service.
* Provide innovative software solutions of the utmost quality and observing the highest levels of integrity and business ethics.

### 2.5.2 Vision

A vision is different from a mission statement in the sense that the mission is the cause and the vision is the effect; a mission is something to be accomplished whereas a vision is something to be pursued for that accomplishment. For fulfilling the mission statement, Orion software industry has some vision statements which paves the way of success for Orion and those are:

* To be a values-based global organization, providing cost effective solutions to the highest standards of excellence.
* Company continuously explore emerging technologies and enhance and extend its product line.
* Provide supports for continuing education and training for its engineering and staff and maintain the focus on quality as a top priority.

### 2.5.3 Values

Orion Informatics Ltd. operates under the following values:

1. Honesty
2. Integrity

#### 2.5.3.1 Honesty

Honesty in the workplace encourages a sense of trust among employees, the company and the community [5]. This thing is pretty much important in a software company for developing efficient software products. Orion tries to ensure honesty with the client and employees of the company.

#### 2.5.3.2 Integrity

Integrity comes in many forms, but the most important traits that are expected at the workplace are dependability, honesty, loyalty and good judgement. As an individual in the workplace, having integrity means that your actions are consistent with your words, you have appropriate values, and behaviors that reflect these values and you can admit mistakes and not be afraid to show you care [6]. Orion always try to maintain integrity with its client and customer and also encourages employees to practice this value.

## 2.6 Strategies

Following strategies are followed by Orion Informatics Ltd. in order to achieve their goals:

* Provide cost-effective solutions across a number of industry verticals.
* Provide proven and mature process based upon industry best practices.
* Assign dedicated professionals focused on client requirements and concerns.
* Maintain transparency of execution, thereby minimizing execution risk.

## 2.7 Services

Orion Informatics Ltd. offers one stop software development and quality assurance services. Its services cover the entire gamut of the software development lifecycle – requirements gathering, architecture and design, coding, quality assurance, deployment and production support [7].

Orion provides the following services:

* Cost-effective IT solutions across multiple industry verticals
* Proven and mature SDLC process based upon industry best practices
* Experience in creating systems that are highly available, scalable, secure and fault-tolerant
* Deep technical and process expertise in enterprise software development
* Agile execution, with transparency and traceability
* Dedicated professionals focused on business success and client concerns

## 2.8 Solutions

The software solutions that Orion Informatics Ltd. have developed include [8]:

* Regulatory compliance, risk management, financial crime detection and other financial services applications
* Proxy voting software for capital markets
* Digital Payment Platform for utilities
* Marketing analytics software for optimizing return on investment
* Post-modern ERP software for business process optimization
* Student management software for universities
* Audience engagement software for entertainment industry
* Citizen engagement software for city government
* Online marketplace for transacting syndicated loans
* Accounting software for small businesses
* Patient management software for healthcare industry.

The solutions which Orion provides are based on three major design principles. These are-

* Mission Criticality
* Scalability
* Security

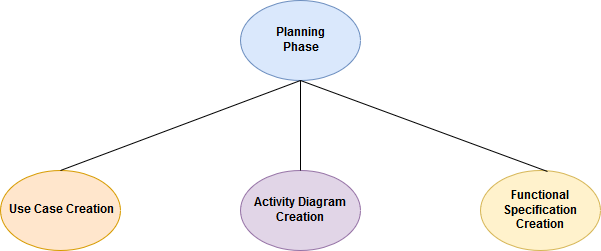
1. **Mission Criticality:** Orion architects for high-availability, fault-tolerance and avoidance of single points of failure. Their software runs core business processes in some of the largest financial services institutions in the world.
2. **Scalability:** Orion design their solutions to scale linearly and expand elastically, to meet transaction processing demands in near-time; their software executes core recordkeeping processes in the largest capital market in the world.
3. **Security:** They protectively design for security at all levels of the software stack; Orion Informatics Ltd. follow secure code development practices as well as defense-in-depth strategy in multiple layers, to harden the system against cyber-attacks.

## 2.9 Software Development Methodology

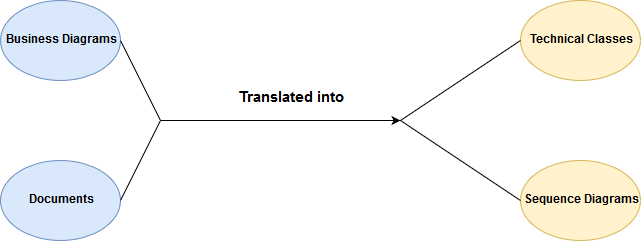
Orion’s Development Methodology is based upon recommended best practices from Rational Unified Process and Microsoft Solutions Framework. They practice a milestone based iterative development model.

The following Software Development Life Cycle is followed in Orion Informatics Ltd.:

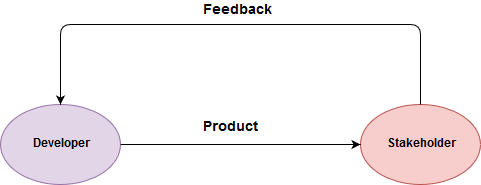
1. **Planning Phase:** Creation of use case diagrams and activity diagrams along with the creation of functional specification are done in the planning phase. Figure- picturizes the planning phase of SDLC which is followed in Orion Informatics Ltd.

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1. **Design Phase:** Business diagrams and documents are translated into technical classes and sequence diagrams by architects in the design phase. Figure-describes the design phase of Orion.



1. **Implementation Phase:** Frequent builds are made and distributed to stakeholders for review. Figure- shows the implementation phase.



1. **Stabilization Phase**: Quality assurance and development teams work closely to achieve progressively shorter Zero Bug Bounce periods.
2. **Release Management Phase:** Cross-functional teams work together with the clients to ensure successful implementation.

## 2.10 Orion’s Team and Technical Expertise

Team spirit is a vital thing to an organization’s growth. Any company can only be

successful as a brand if it is first successful as a team. This company constantly

emphasizes on customer’s satisfaction with innovative and quality product. Orion

Informatics LTD. team’s through understanding of the Communication Technology gives our client community a leading edge in this rapidly changing industry. Masters in their respective fields of expertise, each one has considerable awareness about

communications applications.

With strong expertise in communication technology and services, Orion’s workforce consists of top individuals with technology background. The set of technical expertise of employees of Orion consists the following things [9]:

* **Programming languages:** .Net/C#/Java/JavaScript/VB/Node.js/Go/Python
* **Mobile Software Development:** Android
* **Databases:** SQL Server/MySQL/CouchDB/DocumentDB/Hadoop
* **Event Processing Engine**: Apache Kafka/Confluent/Azure Event Hub
* **Blockchain Systems**: Hyperledger, Etherium
* **ERP Systems:** Dynamics NAV/AX
* **Machine Learning:** Tensorflow, Azure ML
* **Cloud Platforms:** Azure, Amazon, Google App Engine
* **Container Management Systems:** Docker, Kubernetes

## 2.11 Current Projects

In today’s world, the organizations depend heavily on technology to keep business

operations connected, drive revenue and support ever growing customer demands. Orion always tries to integrate solutions and simplify the work of professionals and give their customer the information that they need and when they need it. Orion provides their customers with the latest and most reliable content, which is integrated with innovative and cutting-edge technology.