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**Internship Report**

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Chapter 1.....	8
Introduction.....	8
1.1 Preamble.....	9
1.2 Purpose of the documentation .....	10
1.2.1 General Objective .....	10
1.2.2 Specific Objective .....	10
1.3 Methodology .....	11
1.3.1 Primary Data Source .....	11
1.3.2 Secondary Data Source .....	11
1.4 Scope of the Report .....	12
1.5 Overview of the Document .....	12
1.6 Conclusion .....	13
Chapter 2 .....	14
Company's Profile .....	14
2.1 First Day at Orion Informatics Limited .....	15
2.2 Historical Background of the Company.....	16
2.3 Office Schedule .....	17
2.4 Representative Customer/ Clients.....	17
2.5 Technical Expertise .....	17
2.6 Software Development Methodology .....	19
2.6.1 Planning Phase:.....	19
2.6.2 Design phase.....	20
2.6.3 Implementation phase .....	20
2.6.4 Software Development Process.....	20
2.7 Mission, Vision, Values & Culture .....	23
2.7.1 Mission .....	23
2.7.2 Vision.....	23
2.7.3 Values .....	24
2.7.4 Culture.....	24
2.7.4.1 Beware of the Meeting .....	24

2.7.4.2 Self-Responsibility .....	24
2.7.4.3 Keep the Workplace Comfortable.....	25
2.7.4.4 Have Fun .....	25
2.7.4.5 An honest approach to business and trust in each other.....	26
2.8 Collaboration and teamwork.....	26
2.9 Orion Strategy .....	27
2.9.1 Serving the Expanding Needs of Customers.....	27
2.9.2 Expand Globally to Meet the Increasing Needs of the Customers .....	27
2.9.3 Further Embed Deep Domain Expertise into their Leading Technologies and Platforms.....	28
2.9.4 Continue to Expand Capabilities and Invest in Industry-Leading Solutions .....	28
2.9.5 Continue to Grow in Order to Meet Evolving Customer Needs .....	28
2.10 Solutions & Services.....	28
2.10.1 Industry Verticals .....	29
2.10.2 Solutions .....	30
2.10.2.1 Onirban Keyboard .....	30
2.10.2.2 Community Reinvestment Act (CRA Wiz) .....	30
2.10.2.2.1 What CRA-Wiz provides .....	31
2.10.2.2.2 Components of the CRA-Wiz.....	31
2.10.2.2.3 Data Preparation and Submission .....	32
2.10.2.2.4 Analysis Tools .....	32
2.10.2.2.5 Solution Benefits.....	32
2.10.2.3 Home Mortgage Disclosure Act (HMDA) Wiz: .....	32
2.10.2.3.1 Easy Access and Web Updates .....	33
2.10.2.3.2 Ramp up Fast and Submit on Time .....	33
2.10.2.3.3 Security and Reliability.....	34
2.10.2.3.4 The power of HMDA Wiz.....	34
2.10.2.3.5 Benefits of HMDA Wiz Automation .....	34
2.10.2.4 BBE (Browser Based Editing).....	35
2.10.2.4.1 CRAWiz Data.....	35
2.10.2.4.2 Browser-Based Editing .....	35

2.10.2.4.3 Browser-Based Editing provides the following features.....	35
2.10.2.4.4 Browser-Based Auditing.....	36
2.10.2.4.5 Conclusion.....	36
2.10.2.5 Anti Money Laundering (AML) .....	36
2.10.2.6 Wiz Sentinel .....	37
2.10.2.6.1 Compliance in a Changing Regulatory Environment .....	38
2.10.2.6.2 Benefits of the Solution: .....	39
2.11.2.7 Fair Lending Management.....	39
2.10.2.7.1 Why Fair Lending Management .....	40
2.10.2.7.2 Available Products .....	40
2.10.2.7.3 Meeting Compliance Intelligence Needs .....	40
2.10.3 Services.....	41
Chapter 3 .....	43
Workplace Details .....	43
3.1 Brief Account .....	44
3.2 SWOT ANALYSIS.....	45
3.3 Organizational Structure: .....	46
3.4 Internal & External Communication Program .....	48
3.5 Virtual office .....	49
3.6 Environment.....	50
3.7 Conveniences.....	51
3.7.1 Non-refundable Facilities .....	51
3.7.1.1 Lunch and Snacks .....	51
3.7.1.2 Prayer Room .....	53
3.7.2 Recreational Facilities.....	53
3.7.2.1 Indoor Games.....	53
3.7.3 Miscellaneous .....	54
3.7.3.1 Birthday Celebration .....	54
3.7.3.2 Party .....	54
3.7.3.3 Achievement Celebration .....	55

3.7.3.4 Tour .....	55
3.7.3.5 Celebration of Sprint Completion .....	56
3.8 My Viewpoint .....	56
Chapter 4 .....	57
Research & Development Projects.....	57
4.3 R&D .....	57
4.3.1 Requirements .....	58
4.3.2.1 How to solve .....	58
4.3.2 GO Language.....	58
4.3.3 Angular Js.....	58
4.3.4 JQGRID.....	58
4.3.5 Sending email.....	60
4.3.6 Dynamic table creation and column creation.....	60
4.3.7 Custom number Format.....	60
4.3.8 Web Service .....	60
4.4: Timeline.....	60
Chapter 5 .....	61
Web Application Development.....	61
5.1 Tasks, Projects & Activities.....	62
5.2 My Involvement.....	62
5.2.1 Browser Based Editing (BBE) .....	62
5.2.1.2 Framework.....	63
5.2.1.3 My Contribution in BBE .....	63
5.2.1.4 My Learning from this Project.....	65
5.2.2 Timeline .....	66
5.2.3 HMDA-Wiz .....	66
5.2.3.1 Auto Deployment Procedure: .....	67
5.2.3.2 Features of HMDA wiz .....	67
5.2.3.3 Tools .....	67
5.2.3.4 What I am doing .....	68

Chapter 6 .....	70
Professional Growth.....	70
6.1 Challenges .....	71
6.1.1 Facing the Office Environment .....	71
6.1.2 Accustomed to the Office project .....	71
6.1.3 Completing the task within a fixed time properly .....	72
6.1.4 Handling the Boredom: .....	72
6.1.5 Code Checked-in/ Checked-out .....	72
6.2 Technical Skills.....	73
6.2.1 ASP.NET C# .....	73
6.2.2 SQL Server 2012 .....	73
6.2.3 Microsoft Visual studio 2013 .....	74
6.2.4 Virtual Machine.....	74
6.2.5 Jquery and JavaScript .....	75
6.2.6 Angular Js.....	75
6.2.7 Go Language .....	75
6.2.7.1 Advantages of Go .....	76
6.2.7.2 Disadvantages of Go.....	76
6.2.8 Regular Expression.....	77
6.2.9 Stored Procedure .....	77
6.2.10 Web Service .....	77
6.2.11 Windows Service.....	78
6.3 Communication Skills.....	79
6.3.1 Information Gathering .....	79
6.3.2 Negotiation.....	79
6.3.3 Listening .....	80
6.4 Management Skills.....	80
6.4.1 Planning.....	80
6.4.2 Time Management.....	80
6.5 Intrapersonal Skills.....	81

6.5.1 Questioning .....	81
6.5.2 Logical Argument .....	81
6.5.3 Respecting .....	81
6.7 Quality of Work .....	81
6.8 Relations with Others.....	82
6.9 Quantity of Work .....	82
6.10 Judgment.....	82
6.11 Problem-Solving Skills .....	83
6.12 Punctuality.....	84
6.13 Initiative .....	84
6.15 Teamwork Skills .....	84
6.16 Overall Analysis.....	85
Chapter 7 .....	86
Conclusions & Recommendations.....	86
7.1 Conclusion .....	87
7.2 Recommendations .....	88
Chapter 8 .....	89
References .....	89
References .....	Error! Bookmark not defined.
Chapter 9 .....	91
Appendices.....	91
Appendix B: Clients.....	92
Appendix B: BBE .....	94
Appendix C: HMDA Wiz .....	98

## Chapter 1

# Introduction

“Life is one big road with lots of signs. So when you riding through the ruts, don't complicate your mind. Don't bury your thoughts, put your vision to reality. Wake Up and Live!” —Bob Marley

## 1.1 Preamble

An internship is a period of work experience offered by an employer to give students and graduates exposure to the working environment. It presents a directed, pragmatic learning experience outside of the normal classroom setting, in which students sharpen skills, gain expertise through work on advanced productions and be familiar with how professional companies or organizations operate. It offers a chance to relate a student's theoretical knowledge with the tougher real world environments.

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. Being an intern I crave to confess that my main challenge was to translate the theoretical concepts into the real life experience. IIT introduces the internship program and the study has following purposes:

- To get and organize detail knowledge on the job responsibility.
- To prudent the real business world.
- To find out the conformity about real scenario with the lessons learned in IIT of Dhaka University
- To fulfill the requirements of Bachelor of Science and Software Engineering (BSSE) Program.

I feel proud for being a student of IIT and was sent to Orion Informatics Limited to complete my internship. With having a job count of zero, I started my journey of internship in Orion Informatics Ltd as an intern from 1<sup>st</sup> January, 2014. The expectations were high and now almost nearing the end of my internship I must admit that it was really an amazing experience.

The journey was not simple as it hears. There were many obstacles that I have faced. I had to handle those obstacles by accepting those challenges as my opportunity. The skills that I have gathered from 'Orion' are immeasurable to me. I am greatly owed to Orion Informatics Ltd for

their kind help. In addition to that, some of the non-technical skills that I have procured, combined with those technical skills will certainly prove handy in my future jobs.

## 1.2 Purpose of the documentation

This report is the result of five months long internship program conducted 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 forms. Those are -

- General Objective
- Specific Objective

### 1.2.1 General Objective

This internship report is prepared primarily to fulfill the Bachelor of Science and Software Engineering (BSSE) degree requirement under the Institute of Information Technology, University of Dhaka.

### 1.2.2 Specific Objective

More specifically, this study entails the following aspects:

- 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.

The purpose of this document is to present an ample description about my journey of internship life. This report explains the purpose of the internship program, what the advantages and the constraints which I faced are and how I overcame those constraints. Besides, this report I also

assimilates the information on the products and services of Orion Informatics Limited, the overview of the organization and the facilities which company offers to satisfy their employees.

This report is also intended to reflect my achievements, project works and professional growth during the intern period. Besides, anybody looking for a short detail about “Orion Informatics Ltd” may find this report useful. In addition to that, this document will definitely enrich the knowledge of the students from upcoming batches regarding the workplace environment and other things. Using that knowledge they may prepare themselves appropriately for their future internships.

## 1.3 Methodology

Different kinds of information are available to me which I presented in this report. I can classify that information into two categories based on the information provider. Categories are primary and secondary data source. I have told primary data source in those information which I collected by my inspection during intern period and I mentioned those as secondary which I collected from any written document such as internet or from another person. Most of the information regarding the organization has been gathered from different web sites, articles, Orion employees and some journals. Now I will more clearly say the specific data source name.

### 1.3.1 Primary Data Source

- ✓ Direct inspection through the internship time
- ✓ Conversation with the employees

### 1.3.2 Secondary Data Source

- ✓ Website of Orion Informatics Ltd
- ✓ Website of Clients
- ✓ Internet

## 1.4 Scope of the Report

The main intention of this report is to give an insight of the experience that I gained from my workplace during internship time. A brief description of Orion Informatics Ltd is included so that teachers and students can able to know easily about the organization. My daily work schedule is also included to give a clear view about the life at Orion Informatics Ltd.

If internships are about gathering skills then projects are the main way of gathering them. I have completed some R&D projects on .NET. My R&D projects are creation of jqgrid using Jquery, creating small application based on go language, creating a TreeView with jquery, Sending email with html format and related work. Besides those R&D, I was fully involved in real life project. I worked on Browser Based Editing (BBE) and HMDA Wiz Projects. The tasks, timeline and results of those specific projects are included for a better visualization of industry standard projects.

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 challenges that I have faced over my internship period almost all are discussed in this document. The skills which include both technical and non-technical ones are also a vital part of this report.

The main focus is on the analysis of the standard of facilities provided and their effect on the employee satisfaction. Although the 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.

## 1.5 Overview of the Document

The next chapter, Company's Profile of this document explains an overview of the basic information such as physical location, year of establishment, the type of work the company performs, company's capabilities, resources and financial stability. The third chapter illustrates the Workplace details which demonstrate the structure of the company, SWOT analysis, Respective clients and Technical Expertise of the company. Chapter four presents the research &

Development and my involvement in the projects and the chapter five demonstrates how much professionalism I could achieve after internship.

## **1.6 Conclusion**

In this chapter, I have discussed about the overview of the internship experience, document purpose, and overview of this whole document and definition of some used term in the document which will provide a clear view to the reader of this document about the purpose of this document.

## Chapter 2

# Company's Profile

“Outstanding leaders go out of their way to boost the self-esteem of their personnel. If people believe in themselves, it's amazing what they can accomplish”.- Sam Walton

This chapter emphasizes on the historical background of the company under study, overview of the company, their product and services, customer base and market condition of Orion Informatics Limited.

## **2.1 First Day at Orion Informatics Limited**

On my first day at Orion Informatics Ltd, I was nervous about how the company would be, what would be the culture of the company, how they would behave with me. But when I was reached in the company, I became a little bit surprised. I thought, it would be a giant company and much professionalism would be appeared to me. But all of my thinking had become false. The company is similar to a home. It was within a two storied house near to Dhanmondi Lake. In the first day of my internship life journey, when I reached in the company, my senior brother ‘Mehedi Mahfuz’ met with me and talked with me. After a while he maybe understand my nervousness and so he tried to remove my fear by telling some jokes and telling me something about the company. Then I was seated the discussion room of Orion. One person gives me a cup of tea with a smiling face. After reaching the company, I heard that the Chief Executive officer (CEO) of the company would meet with me. I was waiting for him in the discussion room with a tensed mind. Suddenly one person entered into the room and told us “Hello, How are you” with a pleasant smile. Such a smiling face removes most of my confusion and nervousness but something still remained. He goes through my Curriculum Vitae (CV) and talked with me about several issues. I thought, he would ask a lot of question to me. But what was happened? No question raised in that situation. He continuously tries to inspire me by saying good, good and very good. After my 5 months experience at Orion, I wish to share that all the guys of this company always give inspiration to each other. Then the CEO of the company went inside of the office and gave the responsibility to manage me (intern) to ‘Abul Kalam Azad’ another Senior Software Engineer of the company. After seeing his fresh smiling face, my rest nervousness ran away. After talking with him I definitely had to get used to the idea of working in the company, with all the smalls spaces and the house environment. After a while I got used to the company and felt comfortable. After a while I got used to the company and felt comfortable. I am greatly

owed to him for his kind help and different kind of suggestions to me for any situation. I visit the whole office and became very much pleased that for only inter, the company allocates a single room.

I honestly want to say that the environment of the company is so much friendly and joyful.

## 2.2 Historical Background of the Company

Orion started its journey before 18 years ago only with a few manpower and technical resources. Orion has become a dynamic and leading global software solution provider of industry experience. It was registered as "Orion Informatics Ltd." on 2006. Before that it was named after "Onirban Informatics Ltd." which was not recognized as a registered company. Orion works as an off-shore company of **Wolters Kluwer(WK)**. **Wolters Kluwer** is a market leading global information Service provider Company. WK enables legal, tax, finance, and healthcare professionals to be more effective and efficient. They provide information, software, and services that deliver vital insights, intelligent tools, and the guidance of subject-matter experts [3].



Fig: metaphor of Wolters Kluwer



WK creates value by combining information, deep expertise, and technology to provide customers with solutions that improve their quality and effectiveness. Professionals turn to them when they need actionable information to better serve their clients.

## 2.3 Office Schedule

Business **hours** are the hours during the day in which business is commonly conducted. By observing common informal standards for business hours, workers may communicate with each other more easily and find a convenient divide between work life and home life. In Orion from Sunday to Thursday is considered as working day and the hours between 12pm to 9pm are considered to be standard business hours. Each day scrum is conducted at 12.30PM.

## 2.4 Representative Customer/ Clients

Wolters Kluwer (WK) is the main client of Orion. Besides WK, Orion has other clients those are Safeguard Business Systems, Financial Interactive, Choice Technologies, ASAT Holdings Ltd and United States Determination Services. The logos of the clients are given available Appendix [A].

## 2.5 Technical Expertise

Orion provides new application development as well as legacy software maintenance services. Their current skill-set includes:

- Web Services/SOAP
- .NET/C#/C++/VB.Net
- Java/Enterprise JavaBeans/Servlets/JavaServer Pages
- Visual Basic 6/ActiveX/COM+/Active Server Pages
- SQL Server/Oracle/Foxpro/DB2/MS Analysis Services

- SQL Server Reporting Services/Crystal Reports
- Multimedia Authoring (Flash/Director)
- Web Design (HTML/DHTML, JavaScript, VBScript)
- Geographic Information Systems (including Digitization and Mapping)

Fig of Technical Expertises are available in Appendix [A].

Orion is located at Dhanmondi-7, Dhaka-1205. It has a group of software architect, Project manager, junior software engineers, senior software engineers and Quality assurance team which are gamut in software engineering. Although Orion tries to maintain flat hierarchy, in software engineering has some classification. I just want to compare between software engineering classifications with Orion Software engineering section. After that, I got bellow figure from Orion Informatics LTD.

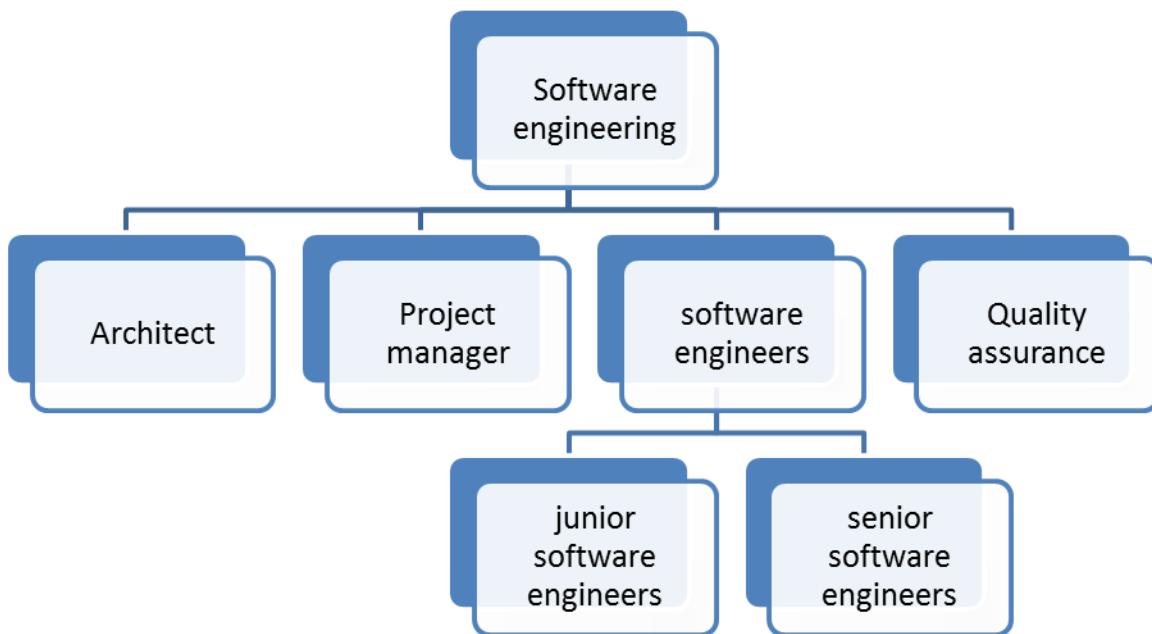


Fig:

The combination of all, Orion forms one of the leading custom software companies in Bangladesh for software development. It offers software and content management services to international customers across multiple industries. It understands the challenges that its

customers face. Orion provides practical, pragmatic and powerful solutions to address those challenges. It is mix of skills and talent that leads to fulfill the goal in Orion Informatics LTD. Software Design, development, content, testing, deployment and anything in between those clearly pre-defined roles - Orion cover it all.

## 2.6 Software Development Methodology

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

During project planning phase, Use Case and Activity diagrams are created along with supporting Functional Specifications. During design phase, business diagrams and documents are translated into technical Class and Sequence diagrams by architects. [8]

### 2.6.1 Planning Phase:

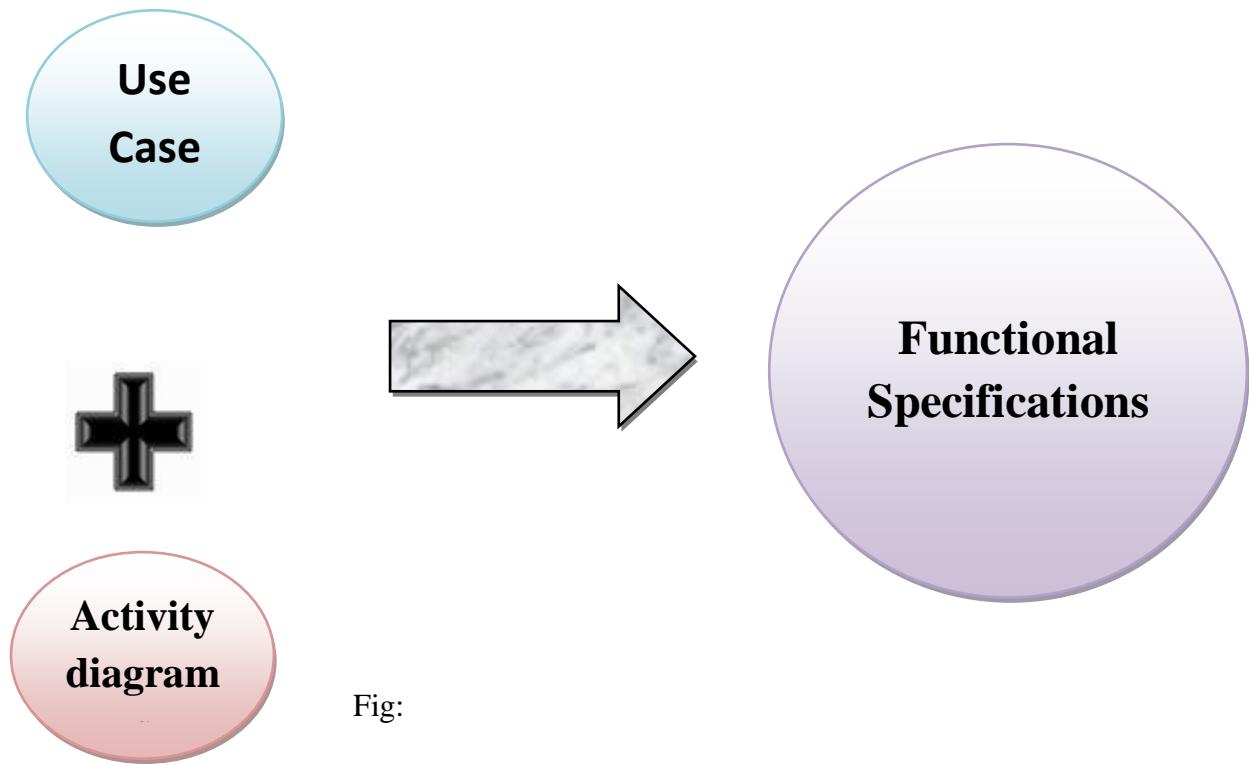
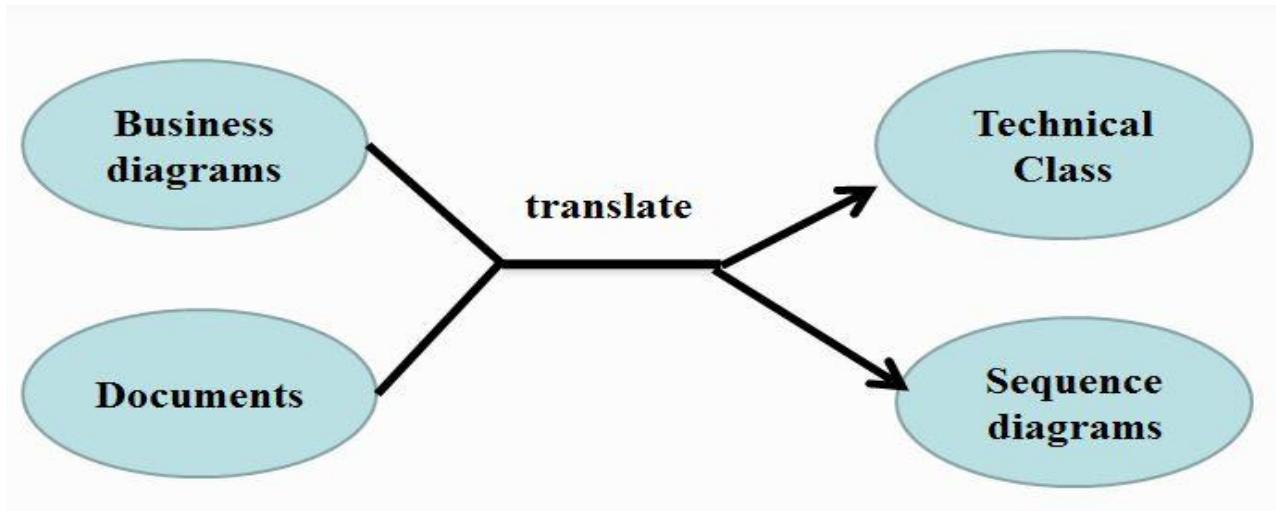


Fig:

## 2.6.2 Design phase



**Fig:**

## 2.6.3 Implementation phase

During implementation phase, frequent developments are made and distributed to stakeholders for review. During stabilization phase, quality assurance and development teams work closely to achieve progressively shorter Zero Bug Bounce periods. During release management phase, cross-functional teams work together with the clients to ensure successful implementation [8].

## 2.6.4 Software Development Process

From my experience of 5 months at Orion, it seems to me that Orion strictly follows **agile software development** methodology. It has a group of software development methods based on iterative and incremental development, where requirements and solutions evolve through collaboration between self-organizing, cross-functional teams. Orion accepts any kind of changes occur in any time.

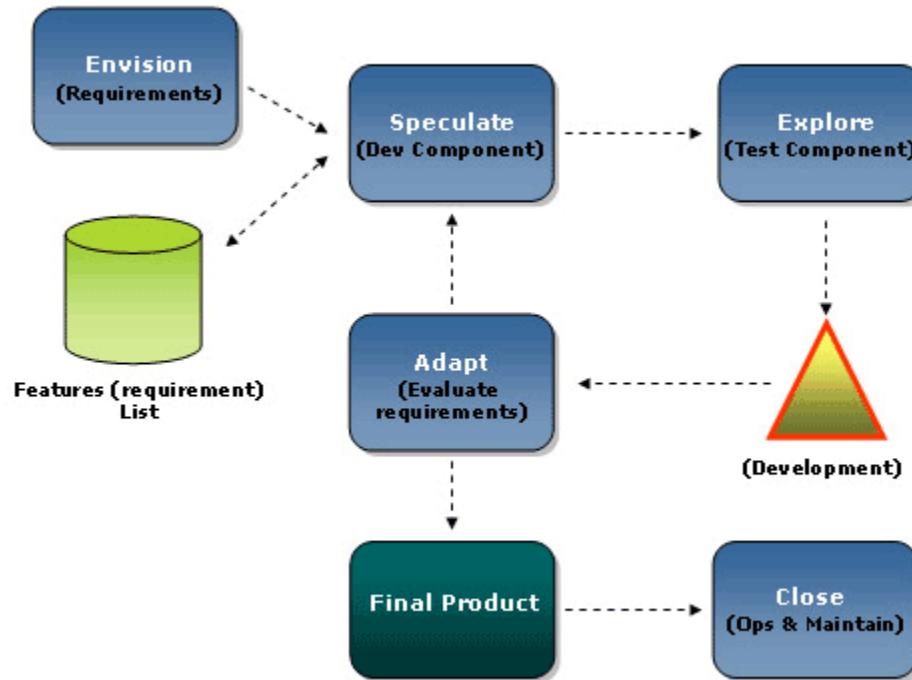
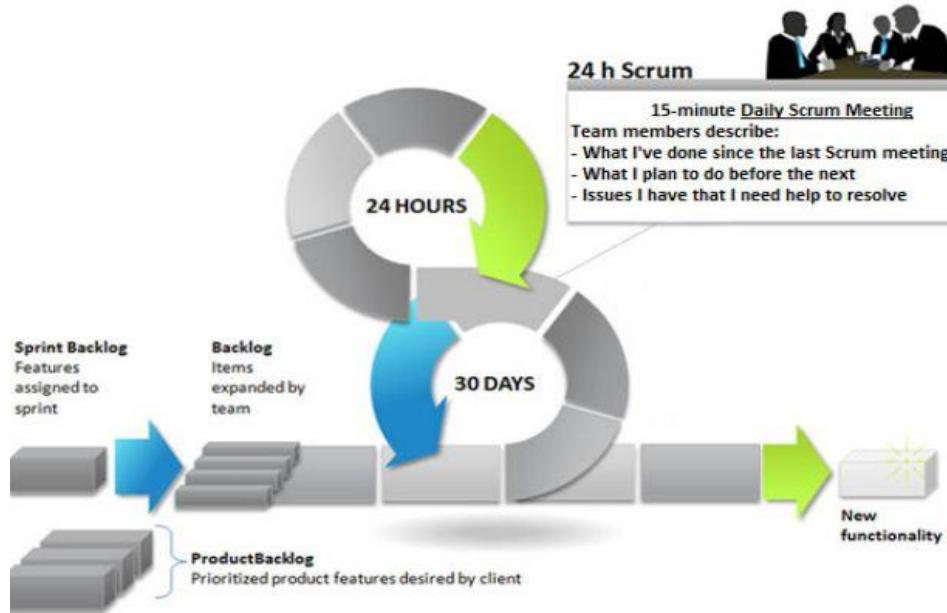


Fig: Agile methodology

**In Orion, Scrum** is an iterative and incremental agile software development framework for managing software projects and product or application development due to its simplicity and flexibility. It is suited for projects with rapidly changing or highly emergent requirements. Scrum software development progresses via a series of iterations called sprints, which last from one to four weeks. The Scrum model suggests each sprint begins with a brief planning meeting and concludes with a review.



**Fig: Scrum**

Scrum has conducted in Orion at 12:30PM. The duration of each scrum meeting is only 15 minutes. In this meeting three questions raised for each of the member and those are what they worked in previous day, what are the current task and any blocking issue exist or not. The supervisor or team lead of a project handles the meeting.

Orion has 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-class solutions, Orion offers mission-critical software services. 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

Moreover, due to the diverse array of IT experience, Orion is devoted to bringing clients noticeable transformations in their operational efficiency and they strive to provide inventive end-to-end IT solutions which are unsurpassed in value and quality [1].

## 2.7 Mission, Vision, Values & Culture

### 2.7.1 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.

### 2.7.2 Vision

A vision is different from a mission statement in 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.

### **2.7.3 Values**

Orion Informatics operates under the values of honesty and integrity.

### **2.7.4 Culture**

Orion believes special kind of work culture is the vital arsenal which generates special type of creative work. The company is very much cautious to maintain a culture that attracts talented people and promotes them to achieve their best performance. This culture starts from work place structure to operate the development teams. Orion has a great working environment. It has some sort of culture as well. The cultures which Orion follows are illustrated bellow.

#### ***2.7.4.1 Beware of the Meeting***

Awareness about the meeting has become a habit of the employees of Orion Informatics LTD. Because they believe that a meeting is only arsenal which can draw attention as well as it helps to communicate project progress, clarifies product direction and identifies any issues or impediments. Although not everyone speaks at these meetings, every team member presents in the meeting. Besides this, a meeting is essential to make sure that the project is almost always moving forward. Being present every day keeps everyone accountable and prepared for that day. It allows for the project's focus to be better dictated.

#### ***2.7.4.2 Self-Responsibility***

The meaning of responsibility is "response-ability" - the ability to choose one response. Orion's employee highly proactive people recognize their responsibility. They do not blame circumstances, conditions, or conditioning for their behavior. Their behavior is a product of their

own conscious choice, based on values, rather than a product of their conditions, based on feeling. To achieve major success in life -one must assume 100% responsibility for his/her life. Nothing less will do.

In every moment, employee believes that outcome will produce based on event and response.

### **The Event + Our Response = Outcome**

#### ***2.7.4.3 Keep the Workplace Comfortable***

There is no doubt that the workplace's physical and social environments are key factors in whether employees are satisfied or dissatisfied. With so much attention focused on trimming costs to hold down prices, many companies find themselves struggling to define what's essential and what's extravagant. A comfortable work place does not lead to leave the company, to miss work unnecessarily and have less conflict in the workplace. Orion ensures their work place is healthy and comfortable to work in, good lighting, comfortable desks and chairs, comfortable office decor, a quiet environment, a kitchen with a fridge where they can store food bought from market, all make the workplace more inviting for employees. Sometime company gives free snacks which is also really appreciable. Temperature is the most common office complaint amongst workers, Orion ensures air condition (AC) for each and every room which proves that the work environment has the right temperature for the employees to work in.

#### ***2.7.4.4 Have Fun***

The best work happens when one people enjoying oneself and enjoying oneself is possible to make fun. Orion recognizes that if they want to survive—even thrive—in the global market place, they have no choice but to be able to adapt quickly. Working with people on a daily basis can be so rewarding when there is laughter in the environment. **John Naisbitt** said—"Many business people have mourned the death of the work ethic in America. But few of us have applauded the logic of the new value taking its place: 'Work should be Fun.' That outrageous assertion is the value that fuels the most productive people and companies in this country." When people start to have more fun on their jobs, they become energized and more productive. Though

many organizations are afraid to try putting humor and fun to work because of their fear, Orion successfully Overcome their fear.

#### ***2.7.4.5 An honest approach to business and trust in each other***

In normal sense says that the brand perfection is necessary before the brand of honesty strategy which leads a biggest misconception. Successful teamwork is built on a foundation of trust. Each member of the team must establish trust, cultivate trust through his/her actions, words and work to maintain it. Each member also needs to be able to trust his/her team members to make a commitment to the team and its goals, work competently with those goals in mind, and communicate consistently about any issues that affect the team.

## **2.8 Collaboration and teamwork**

Collaboration is a recursive process where two or more people or organizations work together to realize shared goals, which typically takes place on a larger scale than teamwork. Collaboration and teamwork make an important contribution to the success of business initiatives like quality improvement, product development or customer service. To create effective teamwork across the organization, Orion breaks down any departmental barriers to collaboration so that they can draw on the best people. In a teamwork environment, people understand and believe that thinking, planning, decisions and actions are better when done cooperatively. People recognize, and even assimilate the belief that "none of them is as good as all of us." Team members combine their talent and support each other when attempting to achieve the same result. As a result, productivity is increased because of clearly defined responsibilities distributed among each member.

### **Being humble:**

Humble begets the success for a life or a company. We're living in an era where many leaders are put on a pedestal. CEOs are conveyed as all-powerful celebrities. Everyone should humble oneself. Besides that culture, Orion exhibits some other cultures. Two of the best predictors of performance — both academic and on the job — are intelligence and conscientiousness, and humility predicted performance better than both.

## 2.9 Orion Strategy

The strategy of a company sets out to achieve its desired ends. Company's **strategy** involves the formulation and implementation of their major goals. The initiatives are taken by a company's top management on behalf of owners, based on consideration of resources and an assessment of the internal and external environments in which the organization competes. For a business to survive, growth is an imperative, not an option. Developing and executing a great corporate strategy requires a strong strategic foundation, the rigorous formulation and evaluation of alternatives, and careful follow-through to ensure mobilization. Orion managing the strategy. Orion follows some of the approaches. Those are:

### 2.9.1 Serving the Expanding Needs of Customers

Organizations need solutions and expertise that address growing risk concerns and increasing regulatory complexity. Orion business strategy is to fill up the customer's needs and develop the right solutions to help them address their risk management challenges. Orion believes four strategic imperatives those are compliance, risk, finance and audit professionals which need to manage. The solutions which Orion provides help their customers to stay in front of new regulatory requirements, improve efficiencies and grow their business.

### 2.9.2 Expand Globally to Meet the Increasing Needs of the Customers

Orion works with Wolters Kluwer and working with that company Orion is building upon its global scale and scope to improve the effectiveness for their customers as well. They are continuously trying to expand their solutions and services to meet the customer needs in multiple geographies, regulatory jurisdictions and workflows. They also proactively invest in the markets where their customers are growing and in their global platforms to comprehensively address compliance, operational and financial risk and reporting as well as enterprise risk management and audit.

### **2.9.3 Further Embed Deep Domain Expertise into their Leading Technologies and Platforms**

Orion tries their best to continue to build the breadth and depth of their global content in the financial services industry by developing and enhancing their systems, processes and expertise to acquire, manage and deliver that needed intelligence to their customers.

### **2.9.4 Continue to Expand Capabilities and Invest in Industry-Leading Solutions**

Continuous enhancement and expansion of the capabilities of Orion current solutions to help customers more effectively manage risk, compliance, finance and audit at every level of their business. Whether it is the peace of mind that a financial contract is compliant, the insight into risk exposure by portfolio or at the enterprise level or a purpose-built trusted solution for internal audit, Orion holds the trust from the customer that organizations turn to first to help them manage risk and compliance and grow.

### **2.9.5 Continue to Grow in Order to Meet Evolving Customer Needs**

Orion fosters a culture of innovation and to develop the strengths of their people, portfolio, processes and systems to quickly deliver the solutions necessary to support the evolving needs of financial institutions. They continuously integrate proven Operational Excellence disciplines such as Lean Six Sigma, Agile Development and the Net Promoter System into their business efforts, ensuring that the root of everything they do is firmly planted in their customers' needs.

## **2.10 Solutions & Services**

In today's world, every organization depends heavily on technology to keep business operations connected, drive revenue and support ever growing customer demands. Undoubtedly, Information Technology (IT) is the key factor to manage technology and it spans wide variety of areas with computer software, information systems, programming languages, database management systems, networking etc. Keeping these in minds Orion Informatics LTD. provides an impressive tally of services and solutions.

Orion offers one stop software development and quality assurance services. For software development it has a group of engineers who are dedicatedly involve to the development process of the software. Orion covers the entire gamut of the software development lifecycle – requirements gathering, Software architecture and design, coding, implementation and quality assurance. Maximum project of the Orion is only for bank loan management system. Different projects acts differently. Some projects only assure that whether a person should get loan or not. The Services of the Orion can be figure out below:

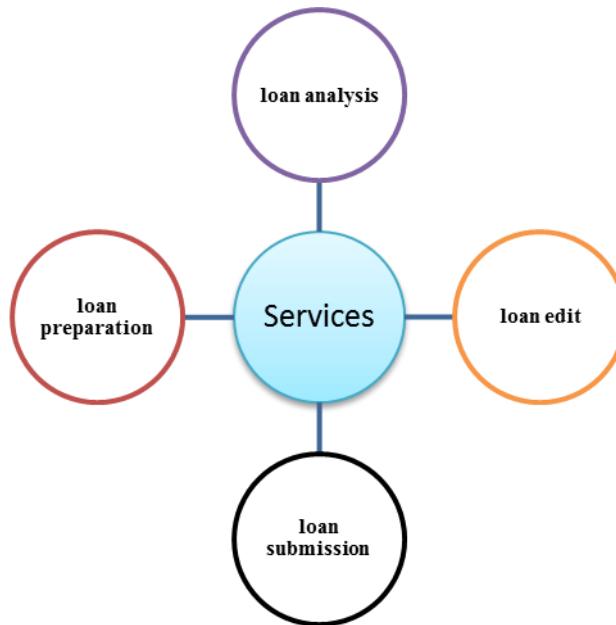


Fig: Services of Orion Provides

#### 2.10.1 Industry Verticals

- Banking and Financial Services
- Small Business Accounting
- Geographic Information Systems
- Clinic Management Systems
- Consumer Edutainment Software
- Document and Content Management Systems

- Retail Web Sites
- Sales Force Automation Systems
- Executive Information Systems
- Web Based Training
- Mapping and Digitizing
- Hedge Fund Management Software
- B2B Exchanges

## 2.10.2 Solutions

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. In doing so, Orion efficiently improve the work of their customers and help them make better-informed decisions that have a positive impact on the clients they serve. Several solution Orion provides. Most of the solutions are illustrated in bellow part.

### 2.10.2.1 *Onirban Keyboard*

1993 Orion has started their journey and after three years the first product of Orion is a bangle typing keyboard and it was named after the “Onirban” which was the name of the company in that time. But nowadays this keyboard is almost obsolete from the market.

### 2.10.2.2 *Community Reinvestment Act (CRA Wiz)*

**Community Reinvestment Act (CRA)** regulations have different reporting requirements for different institutions. Examiners from any one of six regulatory groups can evaluate the CRA performance of a company based on slightly different criteria depending on the size and market. One company needs a CRA compliance solution that is custom tailored for a particular situation. Financial Service provider companies crave a wide range of fully customizable automation technologies for CRA reporting process. Specially it is designed to speed up the preparation of data for CRA reviews, scrubs and corrects data and reports the results, allowing ones to take full

charge of the review process. Clients can compare their performance with their peers, mine data to identify underserved markets, and uncover new lending opportunities. CRA Wiz guarantees the accuracy of the geocoding to flexible reporting to intelligent analysis [2].

#### 2.10.2.2.1 What CRA-Wiz provides

Lending organizations use CRA Wiz for different purposes. Those are illustrated below.

- **Exam Preparation**— Gives the customer with the necessary data sets and reporting tools, including government defined reports, necessary to anticipate examiners' findings and paint best performance picture.
- **Customized Reporting**— Provides executive reports and maps with maximum flexibility in report creation and automation of reporting process.
- **Goal Management**— Provides platform for quickly evaluating progress toward external and internal CRA lending and investment goals.
- **Accurately prepare and submit data**- Provides a compliance-grade geocoding, editing, assessment area delineation and all the necessary submission tools to comply with CRA reporting requirements.
- **Do real-time auditing**- Browser-based data entry and editing provides real-time updating of all customers CRA data. Besides, more than hundred pre-programmed reports include for helping customers to analyze, monitor and audit performance.

#### 2.10.2.2.2 Components of the CRA-Wiz

- **Data Prep Module:** provides functionality that allows importing, editing and preparing data for submission.
- **Analysis Module:** provides access to various analysis reports using out of the box templates.
- **Geocoder** standardizes and geocodes address data.

#### 2.10.2.2.3 Data Preparation and Submission

The data preparation and submission modules of CRA Wiz enable an institution's current data collection and submission processes to improve the accuracy of Home Mortgage Disclosure Act (HMDA) data, decrease the time spent to process the data and streamline workflow processes.

#### 2.10.2.2.4 Analysis Tools

CRA Wiz provides a variety of tools to help lending institutions to analyze their lending patterns to ensure CRA compliance, including:

- Performance of Context Data
- Mapping
- Data Analysis Tools and Reports
- Custom Reports Designer
- Historic Data Auditing
- Compliance Dashboard
- Browser-Based Editing

#### 2.10.2.2.5 Solution Benefits

1. Reduces cost by enabling staff to prepare, analyze, and report on lending data in less time and with less effort.
2. Reduces risk by eliminating the primary concern of data errors, geocoding mistakes and incorrect or incomplete understanding of market areas.
3. Delivers increased productivity, efficiency as fewer people handle a greater volume of lending.

#### ***2.10.2.3 Home Mortgage Disclosure Act (HMDA) Wiz:***

Only manual Home Mortgage Disclosure Act (HMDA) compliance can't keep up with present increased reporting requirements. More data means more effort, high probability for error and more public scrutiny of lending performance.

HMDA *Wiz* software includes everything needs to import, collect and edit data, create data scrubbing detail and summaries, and submit reports. Easily the solution can be used and it is quickly to implement and always accurate. Since not all institutions, have the same compliance needs, people can combine HMDA *Wiz* products and *Wiz* services into a fully customized compliance solution [4].

HMDA *Wiz* is an easy-to-use, web-based tool for HMDA management and reporting system which is more powerful than the FFIEC software. HMDA *Wiz* gives the customer more robust reporting and data prep functionality but at a cost that still fits their customers' budget. Proceed with confidence with a solution from a recognized leader in HMDA and CRA regulatory compliance [3].

#### 2.10.2.3.1 Easy Access and Web Updates

Everybody wants to internet access and a browser to log into their organization's secure site. HMDA *Wiz* is a fully hosted solution reduces the cost of ownership and maintenance while increasing access and usability. One will enjoy seamless installation and updates, without the need for IT intervention or client-side installation. Best of all, one will automatically receive updates with the latest FFIEC defined edits, HUD Median Income levels, and Geocoding data.

#### 2.10.2.3.2 Ramp up Fast and Submit on Time

Get up to speed and down to work quickly. HMDA *Wiz* is designed around a simple four-step workflow to put one in the driver's seat and on ones way to an on-time and accurate submission:

##### **1. IMPORT:**

Simply follow an intuitive wizard to import a file from client Loan Origination System (**LOS**). Or, using an integrated LOS one can import only at the click of a button.

**2. EDIT:** Quickly perform all essential HMDA compliance functions on customer data including: geocoding, rate spread calculations, and HMDA FFIEC edit checks. User interface makes the data preparation process simple, error-free and fast.

**3. REPORT & ANALYZE:** Without any effort generate the LAR and public LAR report. Monitor key performance indicators with dashboards to stay on top of customer compliance status.

**4. SUBMIT:** When February comes, Clients can simply create their submission file based on the data that they have prepared throughout the year. They can feel confident that the file will be edit free and avoid last minute scrambling and costly resubmissions.

#### 2.10.2.3.3 Security and Reliability

Orion invests heavily in technology to create a secure, comprehensive platform based on entirely Internet technology standards and advanced security protocols. Their platform is built on a Microsoft .Net, SharePoint, and SQL Server infrastructure, IIS server. Besides, some of the customized services are used. They continue to make significant investments in the area of audit compliance. Their data centers reside in a Tier 1, Class A Data center, providing a high level of service availability, disaster recovery and fault tolerance.

#### 2.10.2.3.4 The power of HMDA Wiz

Reliability and accuracy as the customer expects is possible to get from the industry leader in CRA and HMDA at a cost that fits one's budget. Confidently prepare ones data using the same compliance management functionality used by the examiners of most government regulatory agencies. With over 70% of HMDA LARS submitted by Wiz products, one can take comfort in adopting the same functionality as many of their peers. Like every Wiz offering, HMDA Wiz is built on a deep understanding of the way compliance professionals work and a commitment to tackle compliance challenges.

#### 2.10.2.3.5 Benefits of HMDA Wiz Automation

**Accurate data preparation and submission** - HMDA Wiz includes geocoding, editing, analysis, and all necessary tools to comply with HMDA reporting requirements.

**Custom reports to help communicate lending activity** - HMDA Wiz has preprogrammed reports help customer to analyze, monitor and audit performance.

**Real-time auditing** - Browser-based data entry and editing allows real-time auditing of all your HMDA data.

#### **2.10.2.4 BBE (Browser Based Editing)**

In USA after granting the loan, financial institutions are discovering high error rates, elevated costs, and a compliance department that bears the brunt of others mistakes. For analyzing data, different company uses Browser Based Editing (BBE).

##### **2.10.2.4.1 CRAWiz Data**

Community Reinvestment Act is a United States federal law designed to encourage commercial banks and savings associations to meet the needs of borrowers in all segments of their communities, including low- and moderate-income neighborhoods. CRA data indicate the lending information such as number and dollar amounts of lending, cross-tabulated by loan, applicant, and geographic characteristics.

##### **2.10.2.4.2 Browser-Based Editing**

BBE makes data accountable for its quality and readiness for submission by automating the existing manual data process. It significantly improves the accuracy sand time to completion with the CRAWiz data collection process by allowing direct access to CRAWiz data via an Internet Browser.

##### **2.10.2.4.3 Browser-Based Editing provides the following features**

- **Rapid set up for instant access** — with no client-side installation required, the browser-based editor immediately installs on any Windows environment with Internet Explorer. Users can instantly access the most up-to-date format for CRAWiz data.

- **Secure remote administration** — the powerful editor enables lenders to permit any number of staff to manage the compliance process safely and securely from their web browsers.
- **Increase productivity** — by leveraging the power of the Internet, compliance officers and staff can share information to investigate, resolve and update specific data issues.
- **Customized views** — lenders can control and manage individual access to data. Browser based tools can designate permission for detailed summary reports and specific LAR databases - to record level detail.

#### 2.10.2.4.4 Browser-Based Auditing

This module ensures that what is in a loan file is actually correct or not. Some user prepare the data and some user audit the data which is prepared and audit user don't modify the data. They can only review the data. Users can mark it if verified or ship it out if it needs further corrections. The auditing functionality can be tailored to internal requirements for auditing of loan applications. It is the perfect complement to the Data Auditing module.

#### 2.10.2.4.5 Conclusion

In brief, BBE is very much essential for those business people who aren't capable of buying CRA Wiz because of its high cost rate but want to measure the accuracy of their transaction. In that case, BBE is very helpful for that people with low cost.

### **2.10.2.5 Anti Money Laundering (AML)**

The increasing sophistication of money launderers and government regulators demands a more comprehensive response to avoid exposure. If one's anti-money laundering program still follows manual processes, one may face the risk of rendering it inefficient, inaccurate and, ultimately, ineffective. It is, therefore, necessary for clients to plan for an Anti Money Laundering strategy to protect their institution. Orion offers specific solutions for varying regulatory and geographic needs.

United States based Wiz Sentri's Anti-Money Laundering module delivers anti-money laundering monitoring and automated SAR creation and filing tools that meet Bank Secrecy Act requirements. The combined power of profiling and transactional analysis meshes seamlessly with the platform's technology to offer clients an all-encompassing AML compliance program.

China based Summix Anti-Money Laundering solution has a team dedicated to monitoring and keeping up to date with daily governmental and international blacklists and providing updates directly to customers subscribing to Orion list service, adding further value, time reduction and certainty of compliance.[7]

#### **2.10.2.6 Wiz Sentinel**

Stricter lending regulations demand that compliance be built into your approval process from the outset. Post-closing sampling is just not enough to protect your institution. Compliance checks must be made throughout the loan life cycle to make sure that every loan meets all federal, state and local lending laws.

It is essential that today's lending institutions develop a strategy to manage the ever-changing and increasingly complex federal, state and municipal anti-predatory regulations. There is simply too much at risk with potential fines that can be severe and reputations that can be severely damaged. As states continue to pass and implement their own set of unique statutes in hopes of stamping out predatory lenders and deceptive lending practices, managing this complex web of legislation has become a formidable task.

With the anti-predatory lending and state rules modules of Wiz Sentinel, lenders have an integrated and dynamically updated authoritative service that checks each mortgage for compliance with the appropriate regulations. The solution provides real-time feedback to lending personnel as to the exact values that must be modified in order to comply with these regulations. Wiz Sentinel is web based software that analyzes loans - in real-time at the point of sale or in batch for a post-closing audit - to determine potential violations of prohibited lending practices. It compares user entered loan parameters with a lender's loan program information, HUD fees,

and federal, state, and municipal compliance regulations. A results page displays whether the loan is acceptable, cautionary, or in violation of statutory limits. Results can be viewed by federal, state, and municipal level. The differences are clearly highlighted in actual and expected results and the user receives instruction on how to correct the compliance errors prior to funding a loan. Wiz Sentinel's scalable architecture ensures high performance when working with large volumes of data, returning results in less than one second to ensure there is no disruption to the lending process. It can integrate seamlessly into your Loan Origination System (LOS) or work stand-alone [5].

#### 2.10.2.6.1 Compliance in a Changing Regulatory Environment

With more than 30 states having enacted anti-predatory lending legislation, many lenders have already devoted significant time and resources to monitoring and complying with state legislation. In addition to the regulatory and reputational risks associated with making high cost loans, nonperformance and foreclosure concerns on the secondary market have increased lenders' due diligence responsibility. Lenders and investors are now looking closely at other state regulatory requirements for usury and fee limits. Any overages on these limits may result in a loss in portfolio value. Tests under Wiz Sentinel include:

- High Cost Testing
- Higher Priced Mortgages
- Federal (HOEPA status), state and local high cost tests
- Truth in Lending (TIL) validation
- Rate Spread
- Investor Test
- APR Calculation
- RESPA
- Tangible Net Benefit Assessment
- State Limits
- Custom Testing
- Configurable investor test
- Texas cash-out 3% limit validation

- State usury laws/State legislation module

#### 2.10.2.6.2 Benefits of the Solution:

- Ensures all loans are compliant prior to funding or purchase.
- Quantifies expert legal interpretations.
- Dynamic system updates ensure compliance.
- Integrates with LOS —no disruption of lending process.
- Lowers the cost of compliance.
- **Manage your portfolio** for predatory lending and ratings agencies, flag loans for profit and protection, and validate loan policies, fees and APR calculation.
- **Screen entire portfolios of loans** for predatory lending compliance, and view management summary reports that display aggregate results. These screening capabilities also help you pass Wall Street rating agency compliance reviews.
- **Ensure your protection** by flagging high-cost loans before you close or acquire them on the secondary market.
- **Increase the quality of your loan portfolio** by identifying problems before loans are closed or acquired in the secondary market.
- **Seamlessly integrate** into your LOS system or delivered with a browser interface.
- **Outsource all or any part of your anti-predatory lending compliance program** to us. We have the expertise and resources to provide program monitoring, loan portfolio analysis, regulatory reports and training.

#### 2.11.2.7 Fair Lending Management

Managing fair lending compliance across your entire organization is a daunting task. It requires thorough monitoring of diverse loan portfolios and third-party loan originators for CRA, HMDA, ECOA and FHA violations. If you don't have a comprehensive fair lending program in place, you're risking serious consequences around redlining, pricing, underwriting, marketing, steering, exception management, among others. Without a comprehensive fair-lending monitoring program, you're at risk for civil penalties, fines and devastating damage to your institution's

reputation [5]. Minimizing your risk takes continuous review, analysis and reporting. You can't afford to overlook a single loan, but manual review is labor-intensive and prohibitively expensive.

#### 2.10.2.7.1 Why Fair Lending Management

The software is designed to provide robust analysis that allows you to easily identify potential risk and immediately take corrective action to remedy unfair lending practices. Besides, one can keep programs in compliance and build a robust preventative program. Fair Lending Wiz analyzes, verifies and documents one institution's compliance with all fair lending regulations. The fair lending solutions help banks to answer three main questions:

- What is my exposure to fair lending risk?
- What can I do to mitigate that risk?
- How do I manage a fair lending audit?

#### 2.10.2.7.2 Available Products

**Fair Lending Wiz:** Available as an installed product or hosted on the Web, analyzes, verifies and documents your fair lending compliance. This is a proactive solution tailored to help institutions respond to ever-changing regulatory requirements.

**Fair Lending Dashboard:** Provides a consolidated view of Fair Lending data and lets users quickly analyze performance against goals and benchmarks.

#### 2.10.2.7.3 Meeting Compliance Intelligence Needs

Orion offers compliance intelligence software that can be customized to meet clients existing needs and budget. Moreover, it also helps customer in different ways. Those are:

- Improve the quality of information immediately.
- Control costs with a solution that addresses what you need today, while having the flexibility to handle future needs.
- Increase access to valuable information to empower good decision making.

- Reap the benefits of analytical insights.
- Reduce the costs and risks associated with managing information.
- Extend the value of client's existing IT investments.

### 2.10.3 Services

In-depth technical expertise, mature process management model and pragmatic delivery orientation approach help the company to achieve flexibility and meet tight scheduling demands. Orion delivers high impact solutions that best fit its client's unique business needs. It offers services such as:

- Banking and Financial Services
- Small Business Accounting
- Geographic Information Systems
- Clinic Management Systems
- Consumer Edutainment Software
- Document and Content Management Systems
- Retail Web Sites
- Sales Force Automation Systems
- Executive Information Systems
- Web Based Training
- Mapping and Digitizing
- Hedge Fund Management Software
- B2B Exchanges

Moreover, working with diverse global corporations for more than a decade, Orion has acquired domain expertise and best practice knowledge in a number of industry sectors. It has learnt from practical engagements and has evolved into a mature organization capable of handling complex business applications [1].

How it serve:

Easily identify potential risk and immediately remedy unfair lending practices. It automatically performs a full range of risk assessment tasks, so you can devote your resources to developing corrective action.

- **Cut the cost** of collecting and reporting fair lending data.
- **Perform a full range of risk assessment**, matched pair testing, regression analysis and reporting.
- **Reduce the chances of missing individuals** or groups whose loan applications have been mishandled.
- **Improve the value of your portfolio** by eliminating or prompting correction of risky loans.
- **Perform complex statistical regression** without costly consultants and statisticians.
- **Eliminate the tedious task of sifting through loans by hand** in the hope of identifying applicants who may have been mistreated

Above those solutions, Orion also provides some another projects/ solutions. Those are:

Wizcentral, WizEnterprise, Marcetract, Risk-Id, Bank-Track Toxhead etc. Among those without Toxhead other projects are still running in Orion.

## Chapter 3

# Workplace Details

“Inspiration exists, but it has to find us working.” - Pablo Picasso

### **3.1 Brief Account**

After my joining at Orion as an intern, firstly  $\frac{3}{4}$  days I was not assigned any task, I just observed the company and the company gave me an opportunity for accustomed to the Orion environment. After  $\frac{3}{4}$  days later, I was assigned to a real life project named Browser Based Editing (BBE). It is a single page application. It is fully based on Jquery, javascript and .NET C# and stored procedure. In that project, my supervisor was Abul Kalam Azad, Senior Software Engineer, Orion Informatics Ltd. He has been working on this company for more than five years. At first he was trying to give me the business logic of the project and later assigned me to do some of the process of BBE. In this project, my supervisor also assigned me some R&D projects which were essential for BBE solution. After 2 months later, I was also assigned another project named HMDA Wiz. My contribution was 50% for BBE and 50% for HMDA wiz. HMDA Wiz is fully built in based on ASP.NET. Before, this project was in sharepoint environment. But currently its' conversion task from sharepoint to ASP.NET is running. It is expected that in future this project will be converted into Angular js. In this project my supervisor was Ataur Rahman. He was also a Senior Software Engineer at Orion Informatics Ltd.

The company provides a flexible work hour for its employees. So there were no specific regulations on when to arrive on office and when to leave. But the norm is that one should come by twelve pm and leave at nine pm & I was quite successful at following the norm.

There are no specific dress codes for the employees. But that doesn't mean that someone can arrive at the office by wearing something which is not that decent. Most of the employees come to the office by having a business casual get up. I also took that as an opportunity of habituating myself with this sort of dresses. Thus almost every day I ended up coming to the office in a

business casual outfit. But as I told one may come to office wearing anything decent, I had also utilized that flexibility in some occasions.

## 3.2 SWOT ANALYSIS

**SWOT analysis** is a structured planning method that assesses the strengths, weaknesses as well as the potential opportunities and threats involved in a project. Used in a business context, a SWOT Analysis helps one company to carve a sustainable niche in their market. It can be used for all sorts of decision-making, and to enable proactive thinking, rather than relying on habitual or instinctive reactions. The following SWOT analysis highlights Orion strengths, weaknesses, opportunities and threats.

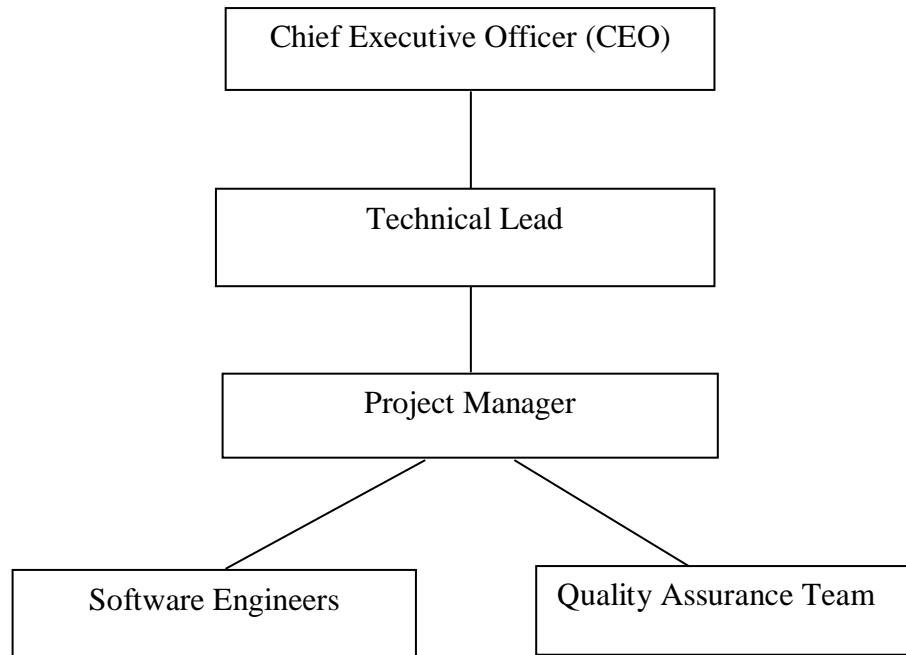
<b><i>SWOT Analysis</i></b>	<b>S</b> trength:  Brand loyalty Easy to use software	<b>W</b> Weakness  Poor acquisitions and investments  Dependence on hardware manufacturers  High price  Incompatibility with different OS  Defects of new products  Lack of marketing expertise
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	<p><b>O Opportunities:</b></p> <p>A developing market such as internet</p> <p>New Products</p> <p>Cross Selling</p> <p>The company has the opportunity to expand its global operations.</p>	<p><b>T Threats:</b></p> <p>A new competitor in your home market.</p> <p>Taxation is introduced in your new product and service</p> <p>Price wars with competitors.</p> <p>A Competitor have new, innovative product or service</p>
 ORION INFORMATICS LTD.		

### 3.3 Organizational Structure:

Orion Informatics LTD is founded by Zamil Azhar In 1993. Most of the year company recruit intern. Though the company maintains flat hierarchy, as an organization it has a structure.

Starting a new organization can be a hard task, no matter how big or small it may be. Whether one person starts a new company, business, his/her organization needs a good structure to keep it going. The structure of the company is illustrated through bellow figure:



**Fig: Structure of the company**

Orion is a small software company that has a simple structure. Orion's interns come from different educational background, mostly Computer Science or Information Technology

education. The interns come from different university or following College program. Some of them have a university degree and are interning at Orion's for the work experience.

Each intern is assigned to tasks and projects that relate to their educational background. It also occurs that interns are getting and working in tasks and projects that hardly relate to their education.

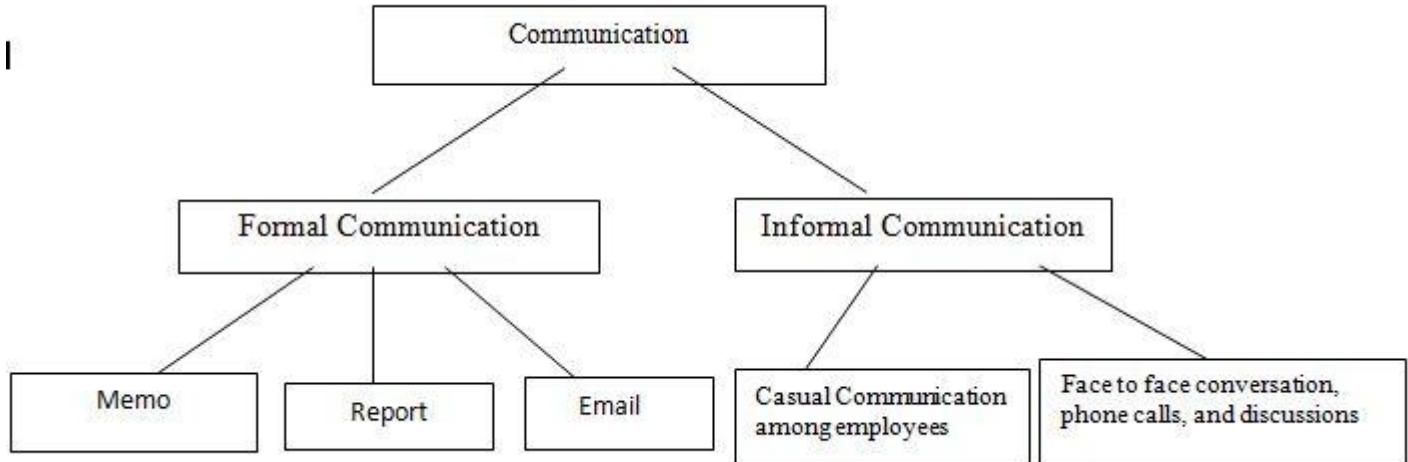
### **3.4 Internal & External Communication Program**

An organization is a group of people associated for business, professional, religious, social or other purposes. Its activities require human beings to interact and react that is, to communicate. They exchange information, ideas, plans, and order needed supplies and make decisions, rules, proposals, contracts, and agreements. All these activities require one skill that is communication. So we can say that communication is the "Lifeline" of every organization.

An exchange of information within an organization is called internal communication. It takes place at different levels -- downwards, upwards and horizontal and to exchange information within and outside of the organization. Employers use a variety of formal and informal forms of communication that carry the flow of information.

Internal Communication may be occurred in two ways. Those are

- Formal Communication
- Informal Communication



**Fig: Communication**

For internal and external communication the mostly used medium is ‘SKYPE’ and Email. Noteworthy that Orion provides its employees two email addresses which ones domain name is onirban.net and another domain name is WoltersCluwer.com. For emailing purpose Orion uses Microsoft Outlook.

Most of the computers are connected with Local Area Network(LAN) but Wireless network connection is also available in Orion Informatics LTD. Orion provides each and every employees 5 Internet Protocol Address (IP) and the speed of internet is also high. As an intern, I got the 1Mbps internet speed. Although I was an intern, I also got an email address and that's domain name is WoltersCluwer.com. My computer is also very highly configured. It was 8GB RAM, 500 GB hard-disk space, the monitor screen of my computer is large that is 24".

### 3.5 Virtual office

Orion allows virtual office for its employees. It may occur one employee faced a problem, it may be external/internal problem and for that reason employee could not attend to the office. Such

type of event may- Strick, feeling sick. In that case, if that employee only informs his/her team lead then he/she will be allowed to make a virtual office. I think this has a great impact in the office such as if anybody could not attend to the office due to the political crises, then through virtual office he/she will be able to do the office. So, the productivity of the employee is fully possible to utilize which was not possible without virtual office.

## 3.6 Environment

There were some new terms that I came to know by working at Orion. Actually these terms define the environment of the office. As for example, Orion was one of the pioneers of introducing flat hierarchy in our country. Due to that a friendly environment always persists around the office.

Orion provides a paper free office for their employees. All the office staffs are provided with their own laptops or computers and for office works the paper usage has been kept to a minimal level. This is certainly a great initiative considering the ecological factor. Along with that having an office full of green plants creates an eco-friendly and most certainly a fresh and healthier office environment for the employees.

In a nutshell, the overall work environment of Orion is really appreciable. Here are some noteworthy points regarding work environment:

- Highly configured development PC for each employee.
- Enriched study materials.
- Facility of high speed Internet.
- Project Management tool is used to distribute task among employees.
- Regular session conducted in-house for introducing new technology.
- Friendly communication and understanding between highly experienced and resourceful employees that help everybody to develop their skill and productivity.
- UPS and generator facilities.

## 3.7 Conveniences

### 3.7.1 Non-refundable Facilities

#### 3.7.1.1 Lunch and Snacks

The employees are provided delicious lunch and snacks from the office. For managing the lunch and snacks one or two employees of the company acted as manager for each month. In the sense of food habits, Orion is influenced by the regional variations. I also want to give some images of Orion lunch.



Fig: Some of the lunch item





Fig: Snacks at orion

Also, there is tea available all the time which is really healthy for engineers.

### **3.7.1.2 Prayer Room**

There is a single room dedicated for saying the prayer. The wall of the prayer room is made of glass and the glass is transparent. It creates problem to me when I was saying my prayer. After saying my problem to my supervisor Abul kalam Azad, he informed our CEO. Getting permission from CEO, my supervisor himself wrapped the wall by the paper.

## **3.7.2 Recreational Facilities**

### **3.7.2.1 Indoor Games**

At evening, employees are allowed to play table tennis for their entertainment in the playground of Orion Informatics LTD. Not only this, every year Orion organizes a table tennis tournament where all employees of the company participate and the winner team is awarded & at the same time, they also throw a treat for enjoying the win. Besides this, sometimes employees play football game in Dhanmondi 8 playground. I also played table tennis sometimes though I was not expert at table tennis.

### 3.7.3 Miscellaneous

#### 3.7.3.1 *Birthday Celebration*

Birthday of the employees are celebrated with birthday cakes. Office throws a surprising party & wishes him/her by cutting a birthday cake and on that party he/she has to declare the date of the birthday treat.



Figure: Birthday Celebration

#### 3.7.3.2 *Party*

Different types of party have arranged in Orion. After my joining at Orion, I got a party named ‘Orion Kebab Party’. It was occurred one evening. Sik-kabab, grill, gilapi, cold drinks and many other things had been arranged in that kabab party.



Figure: Orion Kebab Party

### ***3.7.3.3 Achievement Celebration***

It is not necessary that it will be someone's own achievement to throw a treat. It can be for his family or relative's achievement even. They never forget to share their weal and woe because of its homely feelings. Here I want to give an example, a few days ago, our CEO gave a lunch treat in whole office because his daughters' birthday. Our technical lead 'Zakir Hossain' also gave a treat in office because of his passing time at Orion has crossed 10 years.

### ***3.7.3.4 Tour***

In each and every year, Orion has arranged an abroad tour for its employees so that the intimacy of the employees has increased. The tour is one week lengthy. In last year, Orion visited in

Nepal. Office bears the maximum cost and employees have to give a silly amount of money. Noteworthy, cost which is taken from the employees almost negligible with respect to the total cost.

#### ***3.7.3.5 Celebration of Sprint Completion***

After successfully completed a sprint from a backlog, all of the team lead of that arranges a party and all of that project members celebrate the party. I also got such kind of party. In May 27 of 2014, the first sprint of HMDA wiz has completed and then our team lead Ataur Rahman arranged a celebration party at Kabab Village, located in Dhanmondi-6. Huge amount of food and varieties also exist.

## **3.8 My Viewpoint**

The flexible work hour was one of the best things that I had experienced. Because I knew that even if someday I was late, I can make that up by working for some extra time after regular office hours. This is especially important for the new comers in the company as a new comer may be late just because he/she is not habituated with the new office schedule.

Orion never treated me like an intern rather than a member of their family. For example, though I am an intern, one day the tour issue had been discussed in the dynning table, suddenly one employee asked me where I want to go to visit in the current year and whether my family give me the permission to the tour and other question. Everyone was there to help me at the time of learning whatever it is. Employees working there are very friendly and cooperative as well. They themselves asked me about my problems and my need which was really encouraging.

In Orion, I got acquainted with newer and demanding technologies which will help me in the long run. My programming skills are also highly improved. Problem solving aspects has also enriched extensively. Nonetheless, Orion has brought me into light and paved my way to success in this world of technology and innovations.

## Chapter 4

### Research & Development Projects

"I believe in innovation and that the way you get innovation is you fund research and you learn the basic facts"- Bill Gates

#### 4.3 R&D

My supervisor also assigned me some of the R&D projects.

### 4.3.1 Requirements

Creating a treeview with folder icon and file icon and also with radio button for each and every file and the file must be selectable. Noteworthy the root node must not be stayed.

#### 4.3.2.1 How to solve

For solving this, I have used jquery, json Serialization is used for sending data to tree and css for showing folder icon and other looking issue.

### 4.3.2 GO Language

I was assigned a R&D with Go language. GO is a programming language which was created by Google.

### 4.3.3 Angular Js

I was assigned some of the projects using angular js. I lot of video tutorial (pluralSight) I got during my internship period from my supervisor. I learned angular js from that video tutorial.

### 4.3.4 JQGRID

I have created a jqgrid in .NET C# using user control page, jquery, webservice and aspx page. Different kinds of operation may be performed such as edit, search, delete

Using events example						
	Action	Address	AgencyCode	DepartMent	ActionDate	Applnumb
	Action 1	Dhaka	9091		4/5/2010	1
	Action 2	Khulna	9092		4/5/2010	2
	Action 3	Barisal	9093		4/5/2010	3
	Action 4	Chittagong	9094		4/5/2010	4
	Action 5	Rajshahi	9095		4/5/2010	5
	Action 6	Kustia	9096		4/5/2010	6
	Action 7	Bagerhat	9097		4/5/2010	7
	Action 8	Pirozpur	9098		4/5/2010	8
	Action 9	Monla	9099		4/5/2010	9
	Action 10	Jessore	9090		4/5/2010	10

+ Add Edit View Delete Search Reload

Page 1 of 0 >> >> 10

Figure: Jqgrid

The functionality of jqgrid is huge from here. Some of which I implemented are edit, delete, update, add, search, and sort any row item based on different criteria.

	Action	Address	AgencyCode	DepartMent	ActionDate	Applnumb
	Action 1	Dhaka	9091		4/5/2010	1
	Action 2	Khulna	9092		4/5/2010	2
	Action 3	Barisal	9093		4/5/2010	3
	Action 4	Chittagong	9094		4/5/2010	4
	Action 5	Rajshahi	9095	IIT	4/5/2010	5
	Action 6	Kustia	9096		4/5/2010	6
	Action 7	Bagerhat	9097		4/5/2010	7
	Action 8	Pirozpur	9098		4/5/2010	8
	Action 9	Monla	9099		4/5/2010	9
	Action 10	Jessore	9090		4/5/2010	10

Figure: Column Update is possible

	Action	Address	AgencyCode	DepartMent	ActionDate	Applnumb
		<input type="text"/> == <input type="text"/>				
		<input type="text"/> == equal				
		<input type="text"/> != <input type="text"/>				
		<input type="text"/> <= <input type="text"/>				
		<input type="text"/> < <input type="text"/>				
		<input type="text"/> > <input type="text"/>				
		<input type="text"/> >= <input type="text"/>				
	Action 10	Jessore	9090		4/5/2010	10

Figure: Search of row based on different criteria

Custom search is also possible by using it.

Applnumb	ActionDate	Applnumb
1	4/5/2010	1
2	4/5/2010	2
3	4/5/2010	3
4	4/5/2010	4
5	4/5/2010	5
Action 6	Kustia	9096
Action 7	Bagerhat	9097
Action 8	Pirozpur	9098
Action 9	Monla	9099
Action 10	Jessore	9090

Figure: Custom Search

#### 4.3.5 Sending email

Sending Esmai where email body will hold **html page** including image and context using JavaScript and SMTP protocol.

#### 4.3.6 Dynamic table creation and column creation

#### 4.3.7 Custom number Format

#### 4.3.8 Web Service

### 4.4: Timeline

Task name	Length	Start	Finish
TreeView Generation	11 d	1/9/2014	1/23/2014
Learning Go language and build a s...	7 d	1/30/2014	2/7/2014
Jqgrid	12 d	2/17/2014	3/4/2014
Angular Js	4 d	3/10/2014	3/13/2014
Sending email with html body	3 d	3/13/2014	3/17/2014
Dynamic table creation and column ...	1 d	3/18/2014	3/18/2014
Custom number Format	1 d	3/19/2014	3/19/2014
Web Service	2 d	3/20/2014	3/21/2014

## Chapter 5

### Web Application Development

"In many cases, the user interface to a program is the most important part for a commercial company: whether the programs works correctly or not seems to be secondary" - **Linus Torvalds**

## 5.1 Tasks, Projects & Activities

Orion follows agile software methodology. They believe they are agile. Agile software development in Orion is based on iterative and incremental development, where requirements and solutions evolve through collaboration between self-organizing, cross-functional teams. Agile methodology is fully completed by Scrum. **Scrum** is an iterative and incremental agile software development framework for managing software projects and product or application development. Scrum is just one of the many iterative and incremental agile software development methods.

## 5.2 My Involvement

### 5.2.1 Browser Based Editing (BBE)

**What is BBE:** Browser Based Editing is a complementary product of CRA Wiz. With CRA Wiz license BBE is given as a free product. The organizations who are not capable for buying CRA Wiz, they buy the BBE for completing their motive. BBE is a single page application.

### **5.2.1.2 Framework**

Microsoft .NET C#, Visual Studio 2013, SQL Server 2008, JavaScript, Jquery, Virtual Memory.

### **5.2.1.3 My Contribution in BBE**

In this project, maximum object is custom/dynamically created. All controls are created by custom developer coding. My first task was to create a dynamic control and make it as a required field. After creating dynamic control all those are handled from Jquery. Noteworthy, the JavaScript class was more than 6000 line coded. So, at first it was very difficult for me to find out where I had to write some code.

The tasks what I was assigned and solved during my involvement in BBE, all are discussed below in serially.

#### **Task1:**

Validation that a numeric field of money field will not be capable for taking multiple decimal points and only will be capable for taking {0-9} and {.} and after bluring the mouse thousand separator will be added with the input value and will be shown as with comma seperator.

#### **How to solve this:**

I use restrict character for doing this and Regular Expression(RegX) and through onblur click event I added thousand separator if client does not manually give the thousand separator.

#### **Task2:**

My next task was for amount field value must be required and a '\$' sign must be auto generated if the user doesn't give it. Here one bug raised and when value comes from database it has much space after the value. But when inserting it has no space.

#### **How to solve this:**

For resolving this issue I used dataTrim() function for removing spaces when value comes from database and stored into a dictionary. Firstly, I checked whether ‘\$’ exist with the value if not I append a ‘\$’ sign with that textfield value.

### **3<sup>rd</sup> Task:**

In BBE the user have the right to create the aspx page/ dynamic control. If the user create a field for money but corresponding that field database hold numeric value type then value will be shown into user interface(UI) with thousand separator as well as a ‘\$’ sign. But if the database contains value which is non-numeric, in UI it will show only a message and that was ‘Sorry Value is not numeric’.

#### **How to solve this:**

For solving the problem, I checked what is the datatype, database contains. If it is varchar or non numeric I had shown the desired message otherwise value will be treated like to the money amount.

### **4<sup>th</sup> Task**

Sending email using asynchronous call with JavaScript and JSON serialization.

### **5<sup>th</sup> Task:**

Date/Time validation

#### **How to solve this:**

Using regular expression I solved this.

### **6<sup>th</sup> Task:**

Required field validation with a specified color.

### **How to solve this:**

Firstly I checked that whether a field is required or not from jquery. If the field is required then it will be colored with different color. Otherwise background will be colored with white color.

### **7<sup>th</sup> Task:**

Any user can save a link via a text field. The motivation of this is if any user stores a file in a specified location, he will give that location url so that any other users can browse that link easily for finding that specified file.

### **How to solve this:**

I solve this at first creating a text field. When any user want to save a specified link, he/she will put that link to the text field and will click a save button for storing this. When other users log in the system, that link will be visible in their interface page.

#### *5.2.1.4 My Learning from this Project*

- Stored Procedure
- Regular Expression (RegX)
- Web Service
- Jquery
- Angular JS
- JavaScript
- Go language

Icons of some are represented in Appendix [A].

### 5.2.2 Timeline

Task name	Length	Start	Finish
Bussiness Logic Understand of BBE	7 d	1/7/2014	1/15/2014
Code Review and understand	3 d	1/15/2014	1/17/2014
Numeric Field Validation	2 d	1/20/2014	1/21/2014
Restrict character for money field	3 d	1/22/2014	1/24/2014
Amount show into UI property	1 d	1/27/2014	1/27/2014
Sending Email Asynchronously	8 d	1/30/2014	2/10/2014
DateTime validation	2 d	2/17/2014	2/18/2014
Required field validation with a speci...	4 d	2/19/2014	2/24/2014
Link Setting and will show into other ...	2 d	2/25/2014	2/26/2014

Those are my 1<sup>st</sup> two months task of internship. But latter I was assigned another project named HMDA-Wiz.

### 5.2.3 HMDA-Wiz

HMDA Wiz solution provides everything needs to import, collect and edit data, create data scrubbing detail and summaries, and submit reports. Easily the solution can be used and it is quickly to implement and always accurate.

Financial institutions of USA including federal bank uses HMDA-Wiz to maintain and annually disclose data about home purchases, home purchase pre-approvals, home improvement and refinance applications.

The requirements and implementation is huge of this project. The project is started before 10 years ago as far I know. In the implementation perspective, the solution of the HMDA wiz consisted with 43 projects, a large amount of web services, three windows services, huge number of dll, huge stored procedure, sql and Databases are also used in this project. For deploying this project four powershell scripts must need to run. The debugging is very difficult when the project is run from the deployment phase. For debugging, the project needs to attach a process. In previous, this project was built in SharePoint environment. Currently SharePoint removing task

is operated. After the conversion between SharePoint to ASP.NET, it is expected that in future it will be converted from ASP.NET to Next generation programming model which will completely base on Angular JS.

The auto deployment is very difficult procedure to learn for beginners.

#### ***5.2.3.1 Auto Deployment Procedure:***

At first it is needed to get latest the project from Team foundation Server Appendix [B]. After doing get latest two solution need to build one is Wizcompass service and another is web service solution. Noteworthy because of holding huge functionality sometime it took 3-5 minutes only for building this project. Must need to run all the services. Four powershell scripts are used for completing the deployment procedure. First powershell script is built for creating the main project then within that project database, app and web project need to run and this is possible running three powershell script. After all those successfully completion Internet Information Service need to restart and now the project is ready for run in 60000 port.

#### ***5.2.3.2 Features of HMDA wiz***

- Enterprise-wide HMDA management
- Compliance-grade Geocoding
- Importing and Exporting
- Data Preparation and Submission
- Data Analysis Reports
- HMDA Pricing
- Automated front-end HMDA management

#### ***5.2.3.3 Tools***

- Team Foundation Server
- Source Code comparing tools
- SQL Server 2012
- Visual Studio 2013
- SQL Server 2012 Management Studio

- Total commander

#### **5.2.3.4 What I am doing**

**Task1:**

How to deploy Windows Service?

**Task 2:**

How to implement Windows Service?

**Task3:**

**Requirements:**

In HMDA-wiz, different classes use different logger classes. So, I was assigned to make a common logger and all of the other classes will use this logger class.

**How to solve:** I created a common logger class into a project and I gave that project reference to other projects which need to use common logger. Through this reference I read and write the common logger.

**Task 4:**

Data files cannot be deleted after deleting the data file and if the current file is deleted level will contain –No DATA–:

**How to solve:** I check at first whether a delete command is fired or not. I checked if delete command is fired then database will drop that file and if that file was selected as current file then after deleting that file level will contain –No DATA–.

**Task 5:**

**Reports on why pll database is needed & which information of the pll database needed?**

**Task 6:**

**Radio button doesn't select when user wants:**

**Task 7:**

**Welcome menu popup does not hide properly:**

**How to solve:** I checked the whole html page is clicked or not using jquery. If it is clicked anywhere without the welcome menu option then the popup will hide, otherwise popup will show.

**Task 8:**

**Menu Item does not works properly:** When mouse is hovered on menu item, it extends more than the size of the menu item.

**How to solve:** It was a css issue. I solved this by minimizing the value after mouse hover.

**Task 9:**

**In Submission package module Attachment column does not exist and with each row attachment icon will be stayed in telerik grid:**

**Task 10:**

**Action event works in IE8 but not in IE10:**

**Solution:**

I solved this using javascript. I had created a javascript function and when click is occurred a url address will be passed to the function and then by resolveUrl() function I extracted the url and that will be set as the current window location.

**Task 11:**

Fixing some bug (CSS issue)

## How user control works

### Task 12:

**After Deployment all Importformat Type has removed which are imported in previous deployment:**

### Solution:

This was a problem of stored procedure and a sql. The sql continuously drop the table and creates new table. So, I solved that.

## Chapter 6

# Professional Growth

“There are no great limits to growth because there are no limits of human intelligence, imagination, and wonder”- Ronald Reagan

## 6.1 Challenges

The journey of Internship period is never that smooth as expected. In fact, it will always test somebody by putting up new tasks, unexpected scenarios and obviously lots of challenges. My internship was not a different case either. Throughout my internship period I had to overcome a quite number of challenges. Some of them really push me to my limits but after completing those I found myself in a better position than I was before overcoming that challenge. This section is intended to reflect the challenges that I had faced during my stay at Orion Informatics LTD.

### 6.1.1 Facing the Office Environment

Going into a new place is always challenging as one has to adapt with the new environment. Orion being one of the pioneers of introducing flat hierarchy in our country has a nice and warm environment.

### 6.1.2 Accustomed to the Office project

Accustomed with a large project within a short period is very difficult for one person. My first project involvement was Browser Based Editing (BBE), though it was interesting but difficult for me to habituate within a very short period. All of the controls and functionalities of the project are Orion developer coded. The structure of the BBE is really good and difficult to understand. My second involvement of the project is HMDA Wiz. It is really a perilous project to understand as well as sometimes it takes more time to run the project. Not only this project run using ‘F5’ key it needs to

auto deployment for production. Currently developer got advantages because that project is possible to run using F5 command. But when I joined this project, for running the project auto deployment process was needed and the process of auto deployment is too lengthy. Four powershell scripts need to run. Services need to run and Internet Information Service (IIS) needs to reset for production. If one line or any changes have occurred within a project, the full deployment is needed to show the impact of the changed code. Debugging was also a very difficult task. For debugging, it needs to attach a process named W3C to the debugger. Not only just attached the process for debugging rather before attaching the process, the project must be run. Web service deployment was also very difficult and took more time as well. Habituating above hurdle projects was really challenging for me.

#### **6.1.3 Completing the task within a fixed time properly**

Sometimes it is difficult to me that my supervisor gave me a limited time for completing the task. End of the day or sometimes in the evening our supervisor asked to me what I was doing in that day and whether that is almost on the way of completion or not. one will always want to do something that has an immediate impact. Completing my R&D works properly was another challenge that I have to overcome in order to get a chance of developing some web applications.

#### **6.1.4 Handling the Boredom:**

There may be a time when one cannot even breathe due to the pressure of his/her work but the surprising fact is that one may even fall into an exactly opposite scenario. That is someone may get bored simply because s/he has nothing to do and I had faced that scenario too. At the beginning of my internship first 7 days no computer was allocated for me. For that time I felt so much bored. I had nothing to do. I just went to the office and seated the intern room. In that time I thought why time goes too slowly.

#### **6.1.5 Code Checked-in/ Checked-out**

In our internship organization, Team Foundation Server is used for code checked-in and for other maintenance. **Team Foundation Server** (TFS) is a Microsoft product which provides effectively managed source code, reporting, requirements management, project management for agile software development, automated builds, testing and release management capabilities throughout

the IT lifecycle. Before my internship, I was not acquainted to the TFS and code checked in features. For checking the code, several steps need to be followed. Such as writing a comment, associating the bug number, selecting the reviewer, assigned to QA with committed mode, updating the timesheet. Appendix [C]

## 6.2 Technical Skills

An internship is the first opportunity to apply the skills and knowledge in real life field that I have learned from class room. Without the real-world experience, I am not capable to know how to translate theory into practice. Employers prefer candidates, who have experience, because it takes time to become accustomed to a professional role. It is crucial for me that I will use my internship experience to hone the career-related skills. This internship has provided me a wonderful opportunity to acquire various technological skills as well as other skills. Though it may take some more time to master those skills, at this moment, I am confident to apply them in any of my projects. Some of the significant technical aspects that I have handled during the internship are listed below.

### 6.2.1 ASP.NET C#

.NET is an integral part of many applications running on Windows and provides common functionality for those applications to run. **ASP.NET** is a server-side Web application framework designed for Web development to produce dynamic Web pages. It allows programmers to build dynamic web sites, web applications and web services. ASP.NET is built on the Common Language Runtime (CLR), allowing programmers to write ASP.NET code using any supported .NET language.

### 6.2.2 SQL Server 2012

**Microsoft SQL Server** is a relational database management system developed by Microsoft. As a database, it is a software product whose primary function is to store and retrieve data as requested by other software applications and operation is performed either from on the same computer or those running on another computer across a network. SQL Server 2012 enables customers to build mission-critical applications and Big Data solutions using high-performance, in-memory technology across OLTP, data

warehousing, business intelligence and analytics workloads without having to buy expensive add-ons or high-end appliances.

### 6.2.3 Microsoft Visual studio 2013

**Microsoft Visual Studio** is an integrated development environment (IDE) from Microsoft. It is used to develop computer programs for web sites, web applications as well as web services. Visual Studio is a comprehensive collection of tools and services that help one to create a wide variety of apps, both for the Microsoft platform and beyond. Whether anyone designing mission-critical .NET apps, writing blazing fast code with C++ AMP, or testing and debugging a cloud-connected HTML/JavaScript app that runs on many devices, join millions of developers is possible worldwide by choosing Visual Studio.



Fig:Visual Studio 2013

### 6.2.4 Virtual Machine

A virtual machine (VM) is a software implementation of a computing environment in which an operating system (OS) or program can be installed and run. The virtual machine typically emulates a physical computing environment, but requests for CPU, memory, hard disk, network and other hardware resources are managed by a virtualization layer which translates these

requests to the underlying physical hardware. In my office computer I used three VM. One is for BBE project and the two other for HMDA Wiz project.

#### **6.2.5 Jquery and JavaScript**

As far, all we know about Jquery and JavaScript. A dynamic computer programming language which defines the behavior of the program is known as JavaScript. **JavaScript** is a lightweight, interpreted, object-oriented language with first-class functions, mostly known as scripting language for Web pages.

Jquery is a cross-platform JavaScript library designed to simplify the client-side scripting of HTML. It is a fast and concise JavaScript Library that simplifies the HTML document traversing, event handling, animating, and Ajax interactions for rapid web development. Jquery is simple to understand and easy to use, which means the learning curve is small, while the possibilities are (almost) infinite.

#### **6.2.6 Angular Js**

AngularJS is a structural framework for dynamic web apps. **It** is an open-source web application framework, maintained by Google that helps to create single-page applications. Its main goal is to augment web applications with well structured, easily testable, and maintainable front-end applications with model–view–controller (MVC) capability.

#### **6.2.7 Go Language**

Go is an expressive, concurrent, garbage-collected programming language initially developed by Google in 2007. It is a statically-typed language with syntax loosely derived from C. The journey of the Go language is not many days. The language was announced in November 2009 and is now used in some of the Google's production systems. Google's Go language is not surprisingly, especially well-suited to cloud development. As Berkholz concludes about Go- "Tooling that can ease the complexity for both new entrants and existing users of the cloud will continue to gain prominence at all levels of the stack."



#### *6.2.7.1 Advantages of Go*

- Go compiles very quickly.
- Go supports concurrency at the language level.
- Functions are first class objects in Go.
- Go has garbage collection.
- Strings and maps are built into the language.

#### *6.2.7.2 Disadvantages of Go*

- Go is still an experimental language subject to change. (I suppose this could be an advantage depending on how you look at it. For most it's probably a disadvantage.)
- Go's not very usable on Windows yet.
- The packages distributed with Go are pretty useful, but there are still some libraries you'll miss. Most notably a UI toolkit.
- There is no support for generics in Go, although there are many discussions around it.

### 6.2.8 Regular Expression

A regular expression (regex-regexp) is a special text string for describing a search pattern. One can think of regular expressions as wildcards on steroids. The regex equivalent is `.*\txt$`. It comes from a term used to describe grammars and formal languages. Regular expressions can be concatenated to form new regular expressions, if  $A$  and  $B$  are both regular expressions, then  $AB$  is also a regular expression. In general, if a string  $p$  matches  $A$  and another string  $q$  matches  $B$ , the string  $pq$  will match  $AB$ .

### 6.2.9 Stored Procedure

Stored Procedures are a batch of SQL statements that can be executed in a couple of ways. Most major DBMs support stored procedures. A benefit of stored procedures is that one can centralize data access logic into a single place that is easy for DBA's to optimize. Stored procedures also have a security benefit in that one can grant execute rights to a stored procedure but the user will not need to have read/write permissions on the underlying tables.

Advantages of using stored procedures:

- ✓ Stored procedure allows modular programming.
- ✓ Stored Procedure allows faster execution.
- ✓ Stored Procedure can reduce network traffic.
- ✓ Stored procedures provide better security to your data.

### 6.2.10 Web Service

A Web service is a method of communication between two electronic devices over a network. *Web services* illustrates a standardized way of integrating Web-based applications using the XML, Simple Object Access Protocol (SOAP), Web Services Description Language (WSDL) and Universal Description, Discovery and Integration (UDDI) open standards over an Internet protocol backbone. XML is used to tag the data, SOAP is used to transfer the data, WSDL is used for describing the services available and UDDI is used for listing what services are available.

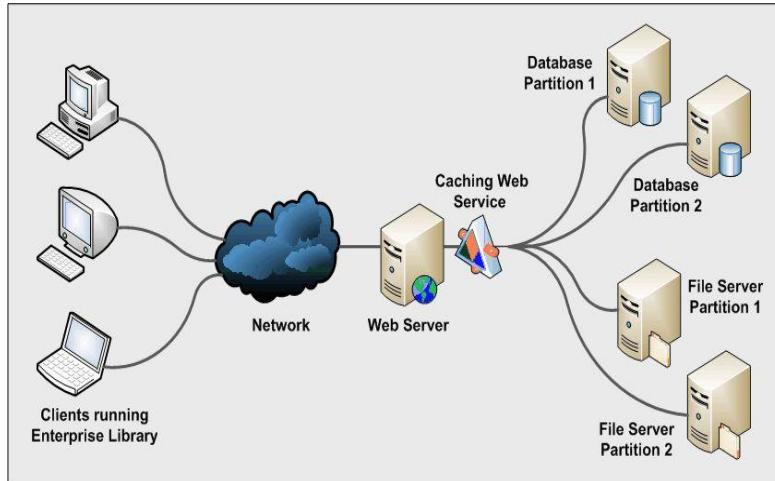


Fig: Web Service

#### 6.2.11 Windows Service

A Windows service is a small program that usually starts when the Windows operating system loads. A service will run in the background while Windows is running. The difference between services and the other programs is that they run in the background and don't have a user interface for clicking and services are managed by the Services tool in Windows that helps to start, stop or pause the windows service, as needed. A Windows service must conform to the interface rules and protocols of the Service Control Manager and the components are responsible for managing Windows services. Capability to create windows service is one of the powerful features of .net.

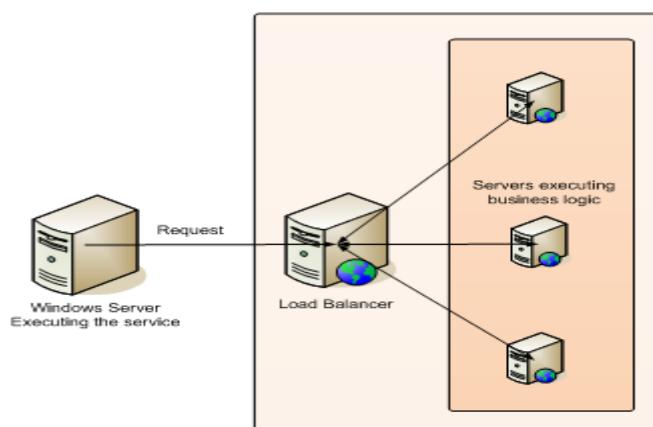




Fig: Windows Service

Besides technical knowledge, I have also gained some professionalism. Those are listed below.

## 6.3 Communication Skills

Effective communication requires being able to express one person's idea and view clearly, confidently and concisely in speech, tailoring ones content and style to the audience and promoting free-flowing communication. Winnie the Pooh says "Some people talk to animals. Not many listen though. That's the problem". A good communicator has a better chance to succeed. For the students, internship provides me the best chance of improving my communication skills as well. I had tried my level best to enhance my communication skills. The skills that I think I have really improved are discussed here.

### 6.3.1 Information Gathering

Information gathering is a vital communication skill especially for a person who wants to be a good software engineer. The quality of our requirement engineering heavily depends on how much information can we gather from a normal communication. As developing the web applications, I had to improve my information gathering skills because if I had failed to understand the requirements properly, it would take much longer to complete my task. Besides, Sometimes Quality Assurance (QA) team reports for bug which actually not appeared as bug. For that time, I had to express my speech clearly to them why the reported issue is not a bug Appendix [C].

### 6.3.2 Negotiation

Clients will demand something more. The question is whether it can be provided within the specific timeline. So there will be some features that one cannot provide or may need a time extension. Whatever the case, for that someone must increase his/her negotiation skills. In one of my R&D, I faced this scenario and I had negotiated as well with my supervisor. At that moment, maybe I was not that good in negotiating but the confidence that I have gathered certainly boosted up my negotiation skills.

### 6.3.3 Listening

Listening may sometime appears to me sound boring but there is no alternative of becoming a good listener to understand the product. The meetings that I have undertaken during my internship were very much helpful in increasing my patience of listening to others. At the beginning of my internship, it was frequently occurred that when my supervisor talked to me something, before completing his speech I interfered there for presenting my speech. But now I think, through my internship, I am capable for enhancing my listening power.

## 6.4 Management Skills

One may argue that internship is not the best way of gaining management skills. That may be partially true because someone would be very lucky if s/he get the chance of managing something during the internship. But there is always a scope of managing own self to increase one's management capabilities. I followed the later methodology to gain some of the management skills mentioned below.

### 6.4.1 Planning

Before starting a task I had always planned that how should I approach towards it. Sometimes one more items had appeared to me and that time I also need to plan what task I should do first. Though those plans only included me, at least I can say that I am habituated with planning.

### 6.4.2 Time Management

Time management plays another important role in professional life. One may be doing multiple jobs at once and some other people may also ask for his/her help. Working at Orion I had this experience, of getting some smaller tasks from others when I was busy with my own project. But I could not say no to them, instead I had to manage my times for them. Besides that it is occurred sometime when I do one item task, another employer asked me to do another task. In that time I had to organize my time for solving both problems. That was another important lesson for me.

## 6.5 Intrapersonal Skills

### 6.5.1 Questioning

Being able to frame and express questions effectively helps us understand and integrate knowledge into our own mental model of the world, even to modify our mental model. It was frequently occurred in my intern life, that what my supervisor trying to learn me. If something was unclear to me, I questioned him until that was not clear to me.

### 6.5.2 Logical Argument

When I was presenting an idea, I tried to show my statement logically. That helped me to share my assumptions or axioms and the logical sequence of reasoning to reach me to the conclusion. I was always trying to avoid fallacious logical methods because it creates confusion about my assumption to others. In the beginning of my internship, a logical argument frequently occurred between me and my supervisor about some project related task.

### 6.5.3 Respecting

Showing respect represents acknowledging the fundamental human value of the existence of my teammates. In fact, respect for my teammates allowed me to support them in behaving in ways that are in alignment with their fundamental nobility as human beings.

## 6.7 Quality of Work

Every company's reputation depends on their products' quality and product quality depends on quality of works and their doers. So in every project quality must be considered as one of the highest priority feature. And that's why there are no compromises allowed in qualities of employees even. I was involved in two main projects namely "Browser Based Editing (BBE)" and "HMDA Wiz" and completed them successfully as well. I always tried to maintain my best quality in these projects. I have followed standard and structured coding development I maintained project planning and project timeline for completing my task properly. Hence, I always tried to maintain **highest quality of work** throughout my internship at Orion.

## 6.8 Relations with Others

The best thing of Orion is its cordial and cooperative employees who made me staying a lively and fruitful one. Whenever I faced any problem, I frankly discussed it with my colleagues. They tried to help me at their best. In our free time, we would share everything about ourselves such as my personal problem. They were trying to solve my problem by giving me any kind of suggestion or any kind of help. In our company every employee's birthday party used to be celebrated with birthday party cake. It was really good to work with experienced and talented persons. Moreover, I had a very close relationship with all my colleagues which helped me to be among themselves in their weal and woe.

## 6.9 Quantity of Work

As Orion treated me like an employee, I was assigned to a bundle of works from the very beginning. At first, I was assigned a real life project "BBE" and for that project huge amount of JavaScript, Jquery and ASP.NET C# I had to do. After two months of work in BBE, I was assigned to a C# project named "HMDA wiz". To be noted, it was a huge project which has 43 projects with one solution. So, I was engaged in so many mentions worthy projects within this little period of time. Besides this each and every time my supervisor told me that you have more time so you can do a task using a lot of time. Moreover, my supervisor sometimes said that when I assigned any task, after a while you heard me that your task has been completed.

## 6.10 Judgment

Judgment is a matured term in real life. It is not generated within a day or in a month. It is the quality that builds up gradually with gathering experience. It helps to take appropriate decision at appropriate time which will be helpful for any company to maintain his commitment with his clients. As I was involved in some projects, I tried to develop my skill on judgment. I was involved in development for BBE and HMDA wiz projects. So in this phase I tried my best to

follow the standard way of coding, maintaining the timeline, planning of doing things in the right time. All these helped me to grow the judgment quality inside me with time and experience.

## 6.11 Problem-Solving Skills

Problems are only opportunities in work clothes – Henry Kaiser. Problem solving is a key skill, and it's one that can make a huge difference to your career. At work, problems are at the center of what many people do every day. There are five basic steps in problem solving. Those are:

- Identify the problem.
- Explore Information and create Ideas
- Select best idea
- Build and test the idea
- Evaluate the result

Process can be illustrated by below figure.

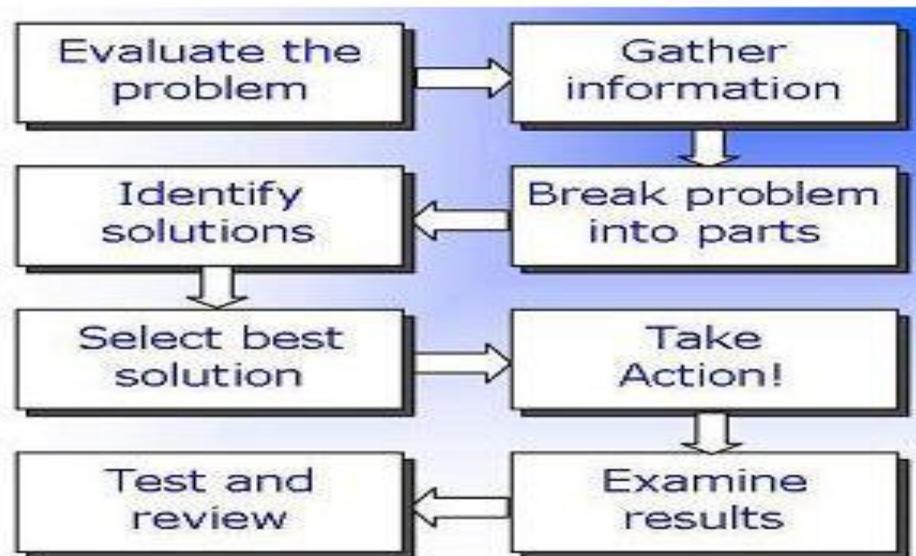


Fig: Problem Solving process

I think analytical and critical thinking skills help me to evaluate the problem that I faced and to take decisions.

## 6.12 Punctuality

Tardiness was a nonexistent phenomenon for me throughout the internship six months. Every day I used to go Office before time which enabled me to maintain close relationships with other employees as well as help to keep ahead of time. However, whenever there was any possibility of lateness or absence, I always tried to inform it to my supervisor with a formal mail or simple SMS or a phone call. I have tried my best to use my office time for greater productivity. I hope that this punctuality and regularity will build a **better disciplinary attitude** in me and pave my way to success.

## 6.13 Initiative

Initiative is one of the most important characteristics for any employee. In a company every body works in a group and in each group every person has his/her own responsibilities. There is no culture to push anybody to do their responsibilities. Orion was like a family. Whenever I have done any work, I tried to do it with my full efforts and **proceed well on own**. I hope that this sort of attitude of mine will help me in the long run.

## 6.15 Teamwork Skills

Employers are always keen to recruit a graduate who has the ability to cooperate, solve problems and work in teams. From the beginning of my intern period, I worked with team. My allocation was 50% in BBE and another project HMDA-Wiz had 50%. BBE is a project, composed of three members and HMDA-Wiz is structured with 8 members. So, with a large number of people, I had to work in my intern period. Teamwork helps me to work confidently within a group, contributing ones' own ideas effectively, taking a share of the responsibility, being assertive - rather than passive or aggressive, accepting and learning from constructive criticism and giving

positive, constructive feedback to others. I think passing a huge amount of time with other members through team work, I have improved my quality of teamwork skill and I think it will help me in my later life.

## 6.16 Overall Analysis

In my six months internship period, I have gathered lots of experience and learning. I was involved in some real life projects of our company and successfully completed my responsibilities as well. Involvement on these projects also taught me how to handle and cope up with a very large project, how to manage everything easily, how to maintain project timeline and schedule, how to develop a complete project etc. This whole journey also taught me to be passionate, hard-working, rational, dependable, punctual, cordial, enthusiastic and confident. So I think that my overall progress during my internship period was noteworthy and praiseworthy and it will play a key role throughout my whole life. Other personal skills that I think, I procured those are illustrated below.

- Computer Skills
- Organizational Skills
- Leadership Skills
- Creativity
- Sense of Humor

## Chapter 7

# Conclusions & Recommendations

"You are not responsible for what people think about you. But you are responsible for what you give them to think about you." -Stanley Ferrard

## 7.1 Conclusion

The last five months of internship has played a significant role in my life contest and was very much instructive for my life journey. Orion has offered me opportunities to learn and develop myself in many areas. The internship program helped me to gain important knowledge on how the IT sector shaping in the country. It has enabled me to understand the technologies that are frequently used in the software industry. I am now become used to the professional company culture and I am really grateful to my internship program for giving me a felicity like internship. The program has helped me to develop good judgment, proceed on my own in new technological challenges, and develop better analytical skills.

Participating in team meeting with project manager and discussing on the threats of the projects helped me to attain the faith to develop a never give up attitude. At the same time it helped me learning the software life cycle for a real life system. The projects in which I worked inspired me to be responsible and confident. The internship program helps me in the sense that it improved my team work capabilities. At the companies it is important to function as a unit and respect the teammate's ideas and suggestions. Team discussions like brain storming sessions helped me to identify and solve numerous problem issues which would have been impossible to solve otherwise.

I would like to convey my thanks to IIT, DU for providing me an opportunity to gain the idea of the competitive environment in the professional field. It has certainly lifted my software development skills in terms of design and coding. I now look forward to facing the upcoming challenges of the world.

At last, I crave to confess one very important thing which will be useful even for my younger brothers that Google is the patron in this sort of technological arena of expertise. So, one should be proficient enough to utilize the best out of it.

## 7.2 Recommendations

Before going to Orion Informatics Ltd, I did not know what fortunate means to be. I was tensed about my inter life. But I am well aware of it now. In Orion, I got so overwhelming support from my colleagues that I can never forget. For that, I would like to express my whole-hearted gratitude to **Dr. Kazi Muheymin-Us-Sakib** for believing in me and thinking me eligible for Orion. But everyone may not be lucky like me. So I have a strong suggestion for them that it is you who has to cope with the office environment and its culture.

## Chapter 8

# References

- [1]: <http://www.orion-informatics.com/>
- [3]:<http://www.wolterskluwer.com/>
- [4]:<http://www.wolterskluwerfs.com/compliance-program-management/solutions/hmda-wiz.aspx>
- [5]:<http://www.wolterskluwerfs.com/compliance-program-management/solutions/wiz-sentinel.aspx>
- [6]:<http://www.wolterskluwerfs.com/compliance-program-management/solutions/fair-lending-wiz.aspx>
- [7]: <http://www.wolterskluwerfs.com/financial-crime/solutions/anti-money-laundering.aspx>
- [8]: <http://www.orion-informatics.com/expertise.htm>
- [9] <http://www.slideshare.net/shantorahman12/bbe>

## Chapter 9

# Appendices

## Appendix B: Clients



Fig: Respective Clients of Orion



Fig: Technical Expertise



Fig: Web Service/SOAP

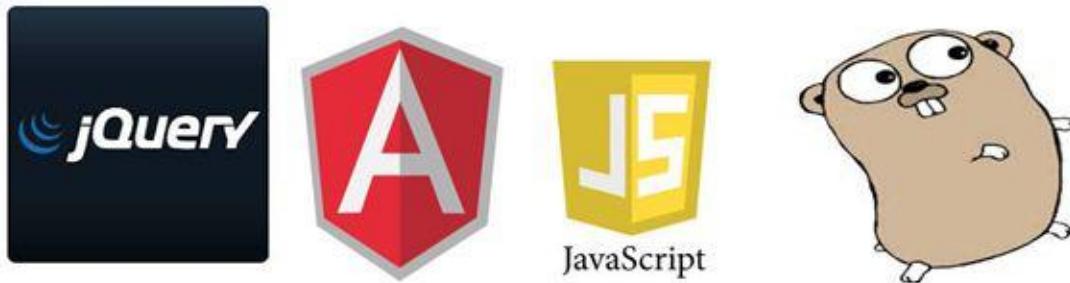
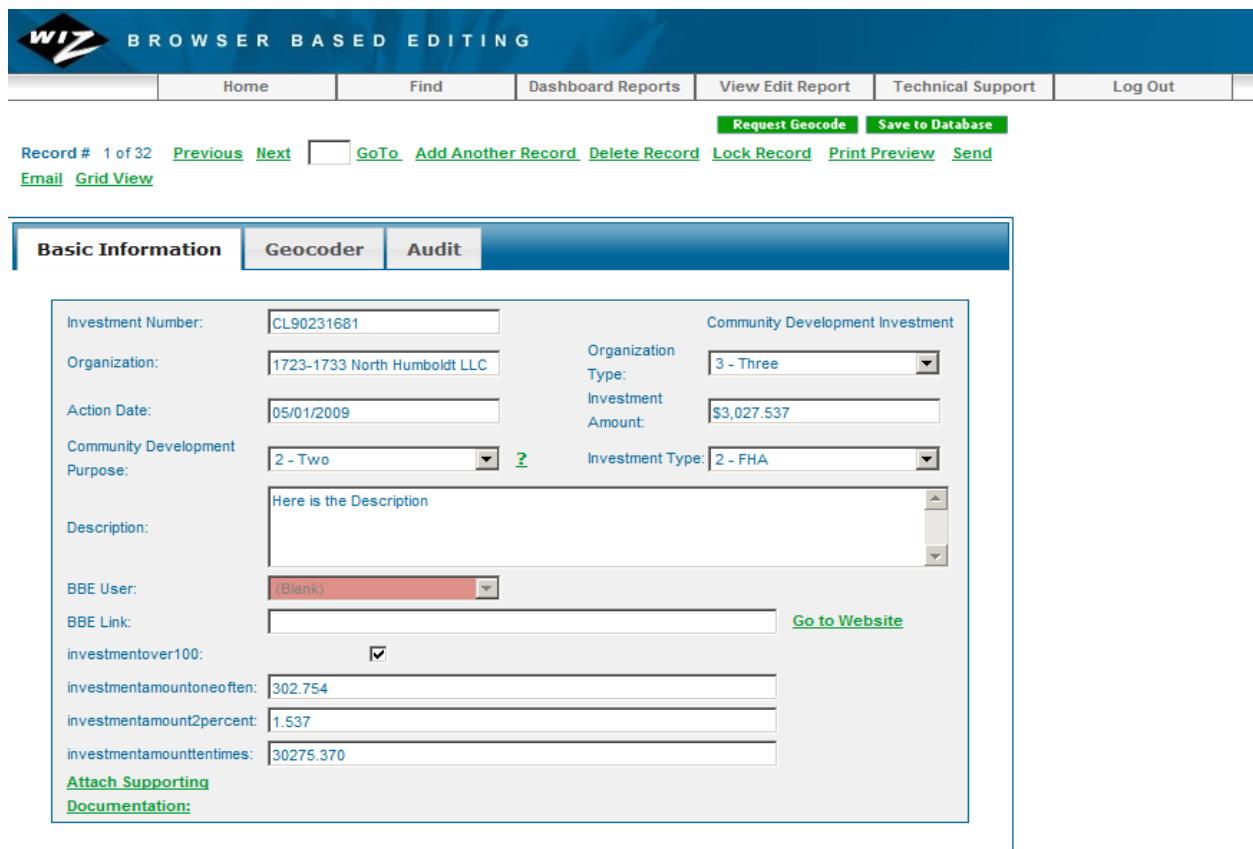


Fig: Icon of Languages

## Appendix B: BBE



The screenshot shows a web-based editing application with the following interface elements:

- Header:** BROWSER BASED EDITING
- Top Navigation:** Home, Find, Dashboard Reports, View Edit Report, Technical Support, Log Out
- Toolbar:** Request Geocode, Save to Database
- Record Navigation:** Record # 1 of 32, Previous, Next, GoTo, Add Another Record, Delete Record, Lock Record, Print Preview, Send, Email, Grid View
- Form Sections:**
  - Basic Information:** Investment Number (CL90231681), Organization (1723-1733 North Humboldt LLC), Action Date (05/01/2009), Community Development Purpose (2 - Two), Description (Here is the Description), BBE User (Blank), BBE Link, investmentover100 (checkbox checked), investmentamountoneoften (302.754), investmentamount2percent (1.537), investmentamounttentimes (30275.370).
  - Geocoder:** A tabbed section showing the organization's address (1723-1733 North Humboldt LLC) and a map.
  - Audit:** A tabbed section showing audit details.



Fig: Front Page of BBE

Sprint1 backlog [Results] - Microsoft Visual Studio

FILE EDIT VIEW BUILD DEBUG TEAM SQL TOOLS TEST ARCHITECTURE ANALYZE WINDOW HELP

Toolbox

Sprint1 backlog [Results] \* Sprint2 backlog [Results] Source Control Explorer

Save Results Save Query Open in Microsoft Office Edit Query Column Options

Query Results: 46 items found (6 top level, 40 linked items, 1 currently selected).

ID	Work It...	Backlog P...	Title	Assigned To	State	Activity	Effort
26134	Product Ba...	1.03	All BBE dollar amount fields (on all screens) should have the following format, ...	Bhuiyan, Parvez	Done	Development	119
26752	Task		Development testing	A.K.Azad	Done	Development	
26753	Task		Code review	A.K.Azad	Done	Development	
26774	Task		Output Format implementation document (text or video)	A.K.Azad	Done	Development	
26775	Task		Helping in Spec Creation and Review	A.K.Azad	Done	Development	
26776	Task		Re-fixing Effort	A.K.Azad	To Do	Development	
26749	Task		Modify HTML template (all type of BBE-NG)	Rahman, Shanto	Done	Development	
26750	Task		Client-side script modification to display data with custom(money, numeric...)	Rahman, Shanto	Done	Development	
26751	Task		Client-side script modification to avoid the save pop-up window if not modu...	Rahman, Shanto	Done	Development	
26814	Task		Bug Fix Verification	Webster, Don	Done	Testing	
26815	Task		TC Creation	Webster, Don	Done	Testing	
26816	Task		TC Execution	Webster, Don	Done	Testing	
26980	Product Ba...	1.09	Email the user with a daily email (end of day, say 9pm) - Part 1 (Spec and Design)	Bhuiyan, Parvez	Done	Development	21
26794	Task		Technical Design - Part 1	A.K.Azad	Done	Development	
26978	Product Ba...	2.01	Improve filtering functionality within BBE screens - Part 1 (Spec and Design)	Bhuiyan, Parvez	Done	Development	28
26778	Task		POC and Technical Design	A.K.Azad	Done	Development	
26779	Task		Helping in Spec Creation and Review	A.K.Azad	Done	Development	
27938	Product Ba...	1.04	When a record has not been modified, the user is still prompted to save. (Part 1)	Webster, Don	Done	Development	75
26757	Task		Development testing	A.K.Azad	Done	Development	
26758	Task		Code review	A.K.Azad	Done	Development	
26777	Task		Re-fixing Effort	A.K.Azad	In Progress	Development	
26754	Task		Investigate through html template (all type of BBE-NG) and fix if required	Rahman, Shanto	Done	Development	
26755	Task		Investigate through client-side code and fix if required	Rahman, Shanto	Done	Development	
26756	Task		Investigate through BBE service and fix if required	Rahman, Shanto	Done	Development	

Output Error List Find Results 1

Ready

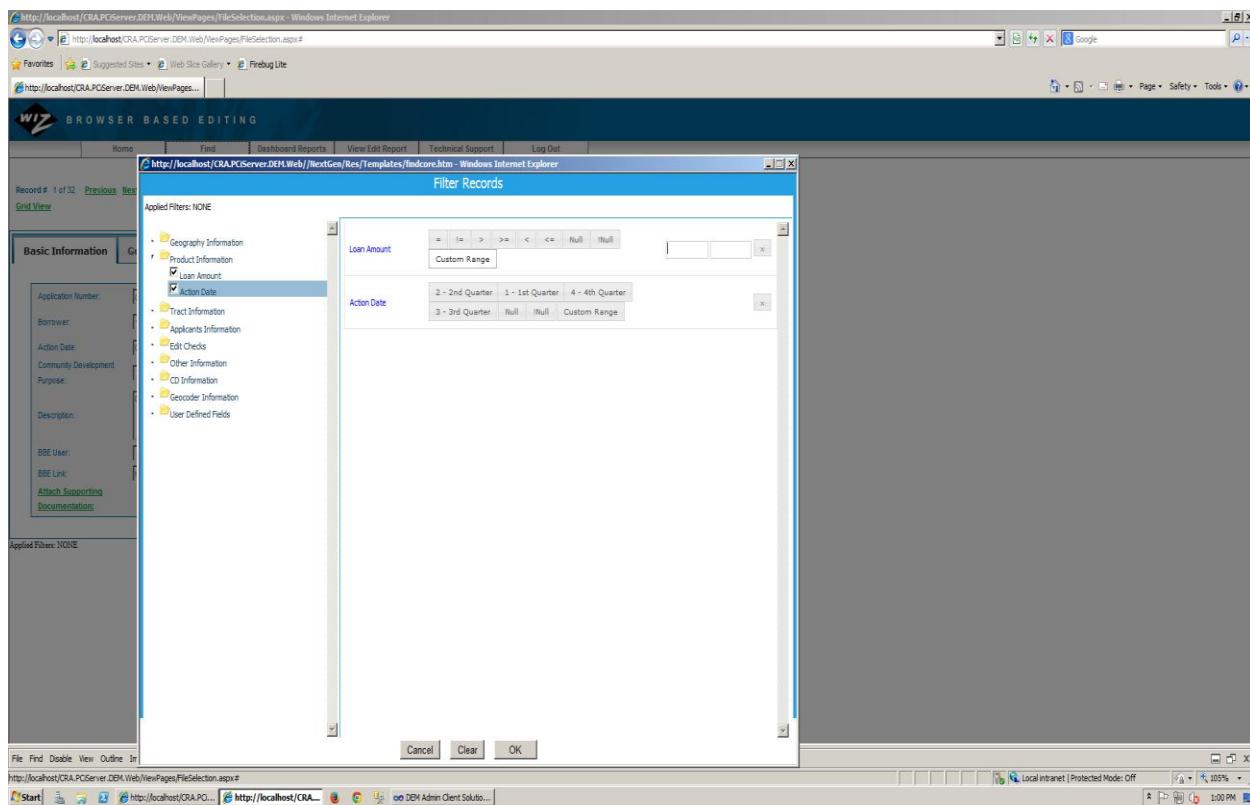
Quick Launch (Ctrl+Q)

Team Explorer - Work Items

Work Items | BBE\_NG

- New Work Item | New Query
- My Favorites
- Drag queries here to add them to your favorites.
- Queries
  - My Queries
    - New And Approved Bugs
  - Shared Queries
    - BBE 6.9
      - Sprint1
        - Sprint1 backlog
        - Sprint1 backlog - Open Items
        - Sprint1 bugs
      - Sprint2
        - Sprint2 backlog
        - Sprint2 backlog - Open Items
        - Sprint2 bugs
      - Sprint3
        - Sprint3 backlog
        - Sprint3 backlog - Open Items
        - Sprint3 bugs
      - BBE 6.9 - Backlog
        - BBE 6.9 - Backlog - Open Items
        - BBE 6.9 - Open Bugs
      - BBE\_CD
      - Current Sprint
      - All Sprints

Fig: Backlog Item



http://localhost/CRA-PLServer/DEP/Web/ViewPages/FileSelection.aspx - Windows Internet Explorer

File Favorites Help http://localhost/CRA-PLServer/DEP/Web/ViewPages/FileSelection.aspx

http://localhost/CRA-PLServer/DEP/Web/ViewPages/FileSelection.aspx

http://localhost/CRA-PLServer/DEP/Web/ViewPages/

WIZ BROWSER BASED EDITING

Home Find Dashboard Reports View Edit Report Technical Support Log Out

Request Generate Save in Database

Record # 1 of 32 Previous Next GoTo Add Another Record Delete Record Lock Record Print Preview Send Email

Grid View http://localhost/CRA-PLServer/DEP/Web/ViewPages/LandDataGrid.aspx?record=aaa&database=Wiz\_0002 - Windows Internet Explorer

Basic Info

Applied Buttons

Action Common Purpose Description

BBE Inv BBE Inv Amach Document

Applied Filters

Records

Lar Data Records

AppLumb	LoanAmount	ActionDate	NSA	State	County	CensusTrac	Address	City
CL90253670	16038	04/04/2010	16974	17	031	3804.00	4131 S State St	Chicago
CL90230415	2259.9	04/05/2009	16974	17	031	3804.00	4131 S State St	Chicago
CL90247102	320.76	01/20/2010	16974	17	031	3205.00	53 W Jackson Blv	Chicago
CL90230659	1093.5	06/05/2009	16974	17	031	2433.00	1400 W. Hubbard	Chicago
CL90255205	874.8	09/20/2010	16974	17	031	5720.00	1700 W 4th	Madison
CL90267330	8383.5	10/01/2010	16974	17	031	2908.00	4000 W Filmore	Chicago
CL90241467	729	09/22/2009	16974	17	031	2898.00	4000 W Filmore	Chicago
CL90228037	830.33	02/24/2009	16974	17	031	2215.00	402 N St Louis	Chicago
CL90236846	16767	09/08/2010	16974	17	031	3814.00	211 East Grand A	Chicago
CL90250229	182.25	03/05/2010	16974	17	031	3016.00	7101 N Greenview	Chicago
CL90247756	656.1	01/05/2010	16974	17	031	8124.00	411 West Chicago Oak Pt	
CL90214957a	81.648	03/16/2009	16974	17	031	2415.00	1279 N Milwaukee	Chicago
CL90214957	277.02	01/21/2009	16974	17	031	2415.00	1279 N Milwaukee	Chicago

Page 1 of 1 Page Size 40

View 1-32 record(s) out of 32

Close

File Find Disable New Outline Images Cache Tools Validate | Browser Mode: IE9 Document Mode: IE9 Standards

Start http://localhost/CRA-PLServer/DEP/Web/ViewPages/FileSelection.aspx http://localhost/CRA-PLServer/DEP/Web/ViewPages/FileSelection.aspx

Local Intranet Protected Mode OFF 12:59 PM

## Appendix C: HMDA Wiz

The screenshot shows the homepage of the HMDA Wiz website. At the top left is the Wolters Kluwer Financial Services logo. At the top right are 'Sign In' and a help icon. The main header features the 'HMDA Wiz®' logo and the tagline 'The Complete Online HMDA Solution'. Below the header is a large image of a smiling woman. To the left, there's a callout for compliance staff performance, a demo link, and contact information. To the right, there's a sidebar for the 'HMDA Wiz' product, including an annual subscription plan starting from \$1295.00, based on HMDA Loan Volume. It also includes a 'Contact Us Now!' button, a product description, and links to download brochures and frequently asked questions. At the bottom, there are copyright and legal links.

**HMDA Wiz®**  
The Complete Online HMDA Solution

Give your compliance staff the power to reduce costs and improve performance.  
[Click here to view a demo.](#)  
For more information on HMDA Wiz, please contact our sales department at 1-800-261-3111.  
*"Over 70% of HMDA submissions are made through Wolters Kluwer Financial Services products"*

**Consultative Services, World-Class Support:**  
Make the Most of your Investment  
[Click here to find out more.](#)

**New Mapping Functionality**  
Creating current maps is straightforward with the mapping options available through the HMDA Wiz solution. With the most up-to-date peer and demographic data, you can feel confident that your lending analysis is comprehensive. With three levels of mapping functions, you can find the right fit for your institution. Read more about mapping with [HMDA Wiz](#).

**HMDA Wiz**  
Annual Subscription Plan  
Starting From  
**\$1295.00**  
Based on HMDA Loan Volume  
[Contact Us Now!](#)

HMDA Wiz is an easy-to-use, web-based solution for HMDA compliance management, submission and reporting.  
[Download Brochure](#)  
[Frequently Asked Questions](#)

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Current Institute: gag | Welcome padmin | [Logout](#) | Contact Us

Current File: Shanto\_CCSV





**STEP 1      STEP 2      STEP 3      STEP 4**

File Type	<input style="width: 100%;" type="text" value="Mortgage"/>
Import Format Type	<input checked="" type="radio"/> New <input type="radio"/> Saved <input type="radio"/> FFIEC HMDA Format <a href="#">Manage Import Formats</a>
Source File Type	<input style="width: 100%;" type="text" value="Text"/>
Source File Selection	<input type="button" value="Browse..."/>
New File Name	<input type="text"/> <small>New File Name is only required for new files. If you are appending to an existing file you can select the desired file in Step 3.</small>
<input type="button" value="Next"/> <input type="button" value="Finish"/>	

Dashboards

[Edit](#)

Reports

[Map](#)

**Wizards**

[Import Wizard](#)

[Create Areas](#)

[Submission Wizard](#)

[Matched Pair Wizard](#)

**Saved Items**

[Data Files](#)

[Saved Areas](#)

[Submission Packages](#)

[Action Items](#)

Fig: Import Module of a LAR

Current Institute: gag | Welcome pitadmin | [Logout](#) | Contact Us

Current File: Shanto\_CCSV

Report ID	Report Name	Loan Register	Transmittal ID	Loan File Type	Activity Year
SUB003028	05-14-14 6:15 Submission File	Shanto	31CBC453-8328543F0DA	HMZ4	2014
SUB004028	05-15-14 1:48 Submission File	SDF	80468B5B-B0112C8B419	HMZ4	2014
SUB004029	05-15-14 1:57 Submission File	Then	2141F398-94A4C1D81C6	HMZ4	2014
SUB004030	05-15-14 2:04 Submission File	Normal	60BC2976-FA5FFB00160	HMZ4	2014
SUB004031	05-15-14 2:22 Submission File	SDF	23F08DC6-67B3A4C3FF3	HMZ4	2014
SUB004032	05-15-14 2:35 Submission File	SDF	D1602463-3A92B98EFA6	HMZ4	2014

Fig: Submission Package module

Wolters Kluwer | PCI

HMDA & CRA COMPLIANCE ANALYTICS

Current Institute: gag | Welcome pitadmin | Contact Us

ORION INFORMATICS LTD.

Current File: Shanto\_CCSV

Title	Data File Type	Census Year	Activity Year	Database Name
Shanto	HMZ4	2010	2014	Wiz_01628
SDF	HMZ4	2010	2014	Wiz_01654
star	HMZ4	2010	2014	Wiz_01655
dffgght	HMZ4	2010	2014	Wiz_01657
Test_with_star	HMZ4	2010	2014	Wiz_01658
Normal	HMZ4	2010	2014	Wiz_01659
Test_s1	HMZ4	2010	2014	Wiz_01660
Then	HMZ4	2010	2014	Wiz_01661
Pavel	HMZ4	2010	2014	Wiz_01662
Shanto_CCSV	HMZ4	2010	2014	Wiz_01666
Check	HMZ4	2010	2014	Wiz_01667
EE1	HMZ4	2010	2014	Wiz_01679
RRT	HMZ4	2010	2014	Wiz_01680
TT	HMZ4	2010	2014	Wiz_01681
QQ	HMZ4	2010	2014	Wiz_01684
EE12	HMZ4	2010	2014	Wiz_01686
TT1	HMZ4	2010	2014	Wiz_01687
TT3	HMZ4	2010	2014	Wiz_01688
TT4	HMZ4	2010	2014	Wiz_01689
Q3	HMZ4	2010	2014	Wiz_01690
shanto1	HMZ4	2010	2014	Wiz_01691

Fig: Data File module

From this module no imported lar had been deleted. I was doing this.

Current Institute: gag | Welcome pitadmin | [Logout](#) | Contact Us

Current File: Shanto\_CCSV

**Wolters Kluwer Financial Services PCI**

HMDA & CRA COMPLIANCE ANALYTICS



<a href="#">Dashboards</a> <a href="#">Edit</a> <a href="#">Reports</a> <a href="#">Map</a>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2" style="padding: 5px;">Action Item</td> <td style="text-align: right; font-size: small;">* indicates a required field</td> </tr> <tr> <td colspan="2" style="padding: 5px;">         Title * <input type="text"/>          To * <input type="text"/> </td> <td></td> </tr> <tr> <td colspan="2" style="padding: 5px;">         Issue Status <input type="button" value="Active"/> </td> <td></td> </tr> <tr> <td colspan="2" style="padding: 5px;">         Priority <input type="button" value="(1)High"/> </td> <td></td> </tr> <tr> <td colspan="2" style="padding: 5px;">         Description  <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div> </td> <td></td> </tr> <tr> <td colspan="3" style="padding: 5px;">         Append-Only Comments  <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div> </td> </tr> <tr> <td colspan="3" style="padding: 5px;">         Category  <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div> </td> </tr> <tr> <td colspan="3" style="padding: 5px;">         Related Issues  <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div> </td> </tr> <tr> <td colspan="3" style="padding: 5px;">         Due Date <input type="text"/> </td> </tr> <tr> <td colspan="3" style="text-align: right; padding: 5px;"> <input type="button" value="Create Action Item"/> <input type="button" value="Reset"/> <input type="button" value="Cancel"/> </td> </tr> </table>	Action Item		* indicates a required field	Title * <input type="text"/> To * <input type="text"/>			Issue Status <input type="button" value="Active"/>			Priority <input type="button" value="(1)High"/>			Description <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div>			Append-Only Comments <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div>			Category <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div>			Related Issues <div style="border: 1px solid #ccc; height: 100px; width: 100%;"></div>			Due Date <input type="text"/>			<input type="button" value="Create Action Item"/> <input type="button" value="Reset"/> <input type="button" value="Cancel"/>		
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Fig: Action Item Assign

In this module calendar does not show. I solved this as well.

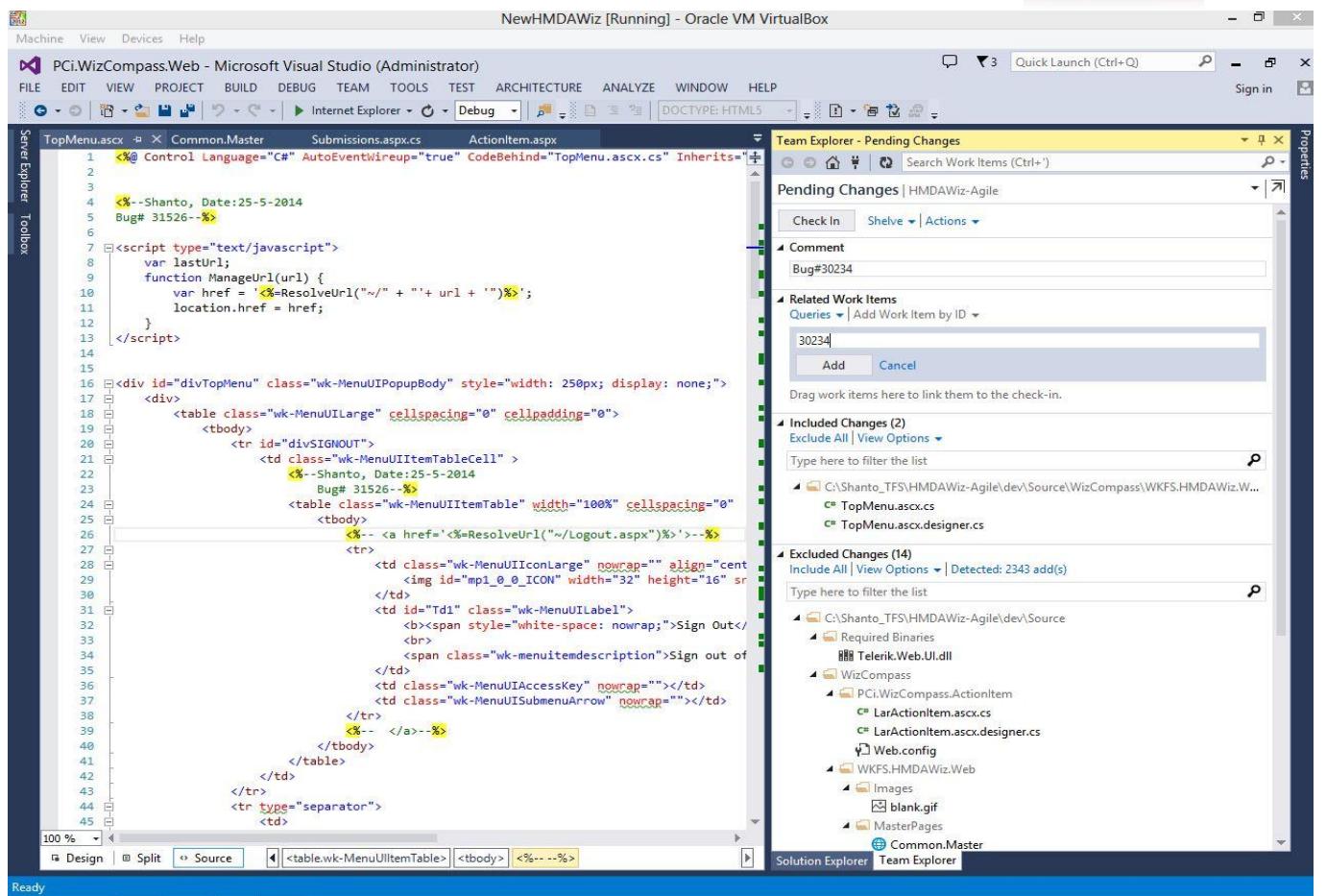


Fig: Check-in

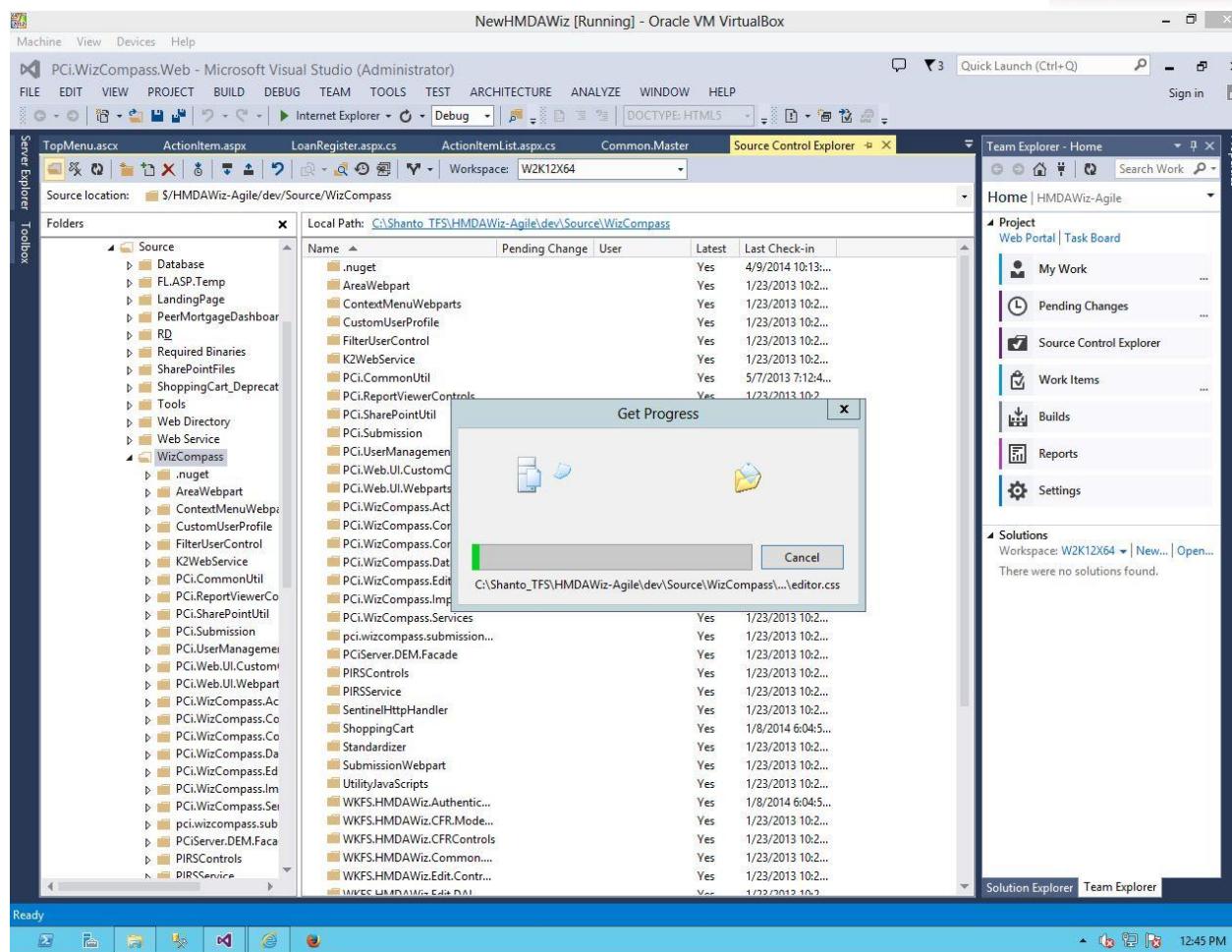


Fig: Get\_Specific

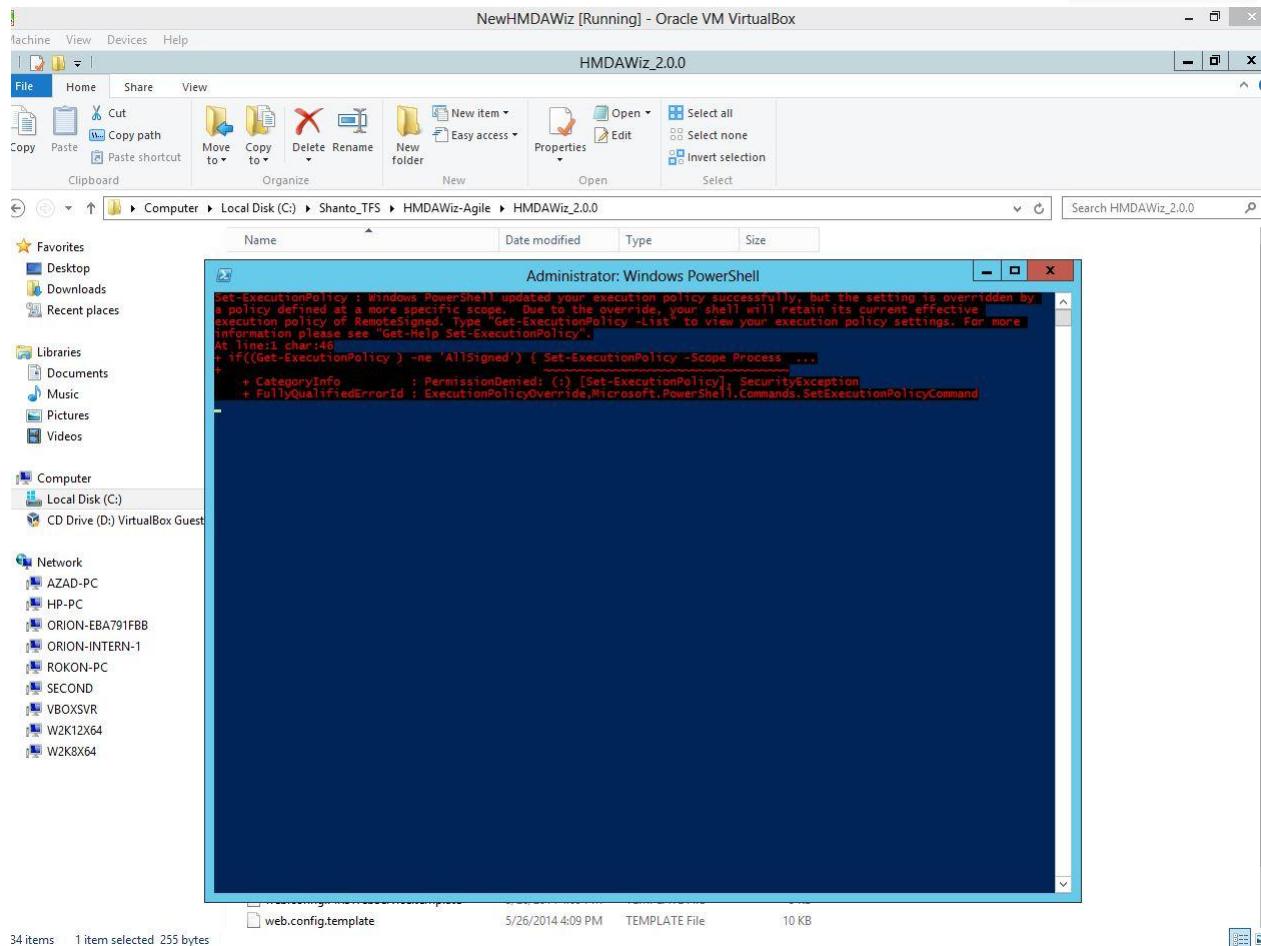


Fig: PowerShell Script for Auto Deployment

Sent Items - Shanto.Rahman@wolterskluwer.com - Microsoft Outlook

**FILE** **HOME** SEND / RECEIVE FOLDER VIEW

New Email New Clean Up Delete Reply All Forward More

Move to: ? To Manager Team Email Done Reply & Delete Create New Move Rules Unread/ Read Categorize Follow Up Search People Address Book Filter Email

Quick Steps Mon 5/19/2014 12:47 PM

Rahman, Shanto Bug#30941 Issue can't generate in Local machine

To: staur\_rahman@onirban.net

Hi ataur vai,

I am trying to solve Bug#30941. But the issue what is said for this bug, I can't produce that in my machine. All works accurately. If I click anywhere right of the datafile type no dropdown generates. Please see the current behavior from the Figure(1).

Title	Data File Type	Census Year	Activity Year	Database Name
Shanto	HHZ4	2010	2014	Wiz_01628
SDF	HHZ4	2010	2014	Wiz_01654
star			2014	Wiz_01656
star1			2014	Wiz_01657
dfgfdgt			2014	Wiz_01658
Test_with_star			2014	Wiz_01659
Normal			2014	Wiz_01660
Test_s1			2014	Wiz_01661
Then			2014	Wiz_01662
Pavel			2014	Wiz_01662

Figure(1)

Thanks  
Your Most obedient  
Shanto Rahman

See more about Rahman, Shanto.

Mail Calendar People Tasks ...

ALL FOLDERS ARE UP TO DATE - UPDATING ADDRESS BOOK - CONNECTED TO MICROSOFT EXCHANGE

Fig: Email with a report