

## Table of Contents

<b>1. INTRODUCTION .....</b>	<b>1</b>
1.1 Background.....	1
1.2 Objectives.....	1
<b>2. DESCRIPTION OF INTERNSHIP .....</b>	<b>2</b>
2.1 About organization.....	2
2.2 Internship activities.....	2
2.2.1 Overall process.....	2
2.2.2 My contribution towards project.....	3
2.2.3 Tools Used.....	4
2.3 Training program.....	6
2.3.1 Udemy (Best software training course you will ever get).....	6
2.3.2 Certified Tester Foundation Level (CTFL) course .....	6
2.3.3 KNOD learning Experience. ....	7
2.3.4 Codecademy [Python and JavaScript training] .....	7
<b>3. Learning Experience.....</b>	<b>8</b>
3.1 Goals achieved during the internship .....	8
3.1.1 Understanding the functioning and working conditions of IT companies.....	8
3.1.2 Enhancing technical and soft skills.....	8
3.1.3 Practical implementation of the gained knowledge.....	8
3.1.4 Discovering strength and weakness.....	8
3.2 Observed attitudes and gained Values .....	9
3.3 Challenges .....	9
<b>4. CONCLUSION .....</b>	<b>10</b>
<b>References .....</b>	<b>11</b>

# 1. INTRODUCTION

## 1.1 Background

Internship is the program offered to the final year students as a course to fulfill the requirements of Computer Engineering course. The main focus of the program is to have practical implementation of the gained knowledge and working in real time scenario. It is the opportunity for the undergraduate students to use the theoretical knowledge gained throughout the Bachelor's program to apply in real cases. This course helps to gain work experience and helps to build soft-skills. Teamwork and exposure is the main aim driving this program.

This report is a brief description of the internship period at Seva Development. The internship program was of three months and the experience here was very helpful and inspirational. The report includes the activities, experience and brief overview of the organization.

## 1.2 Objectives

The main objective of the internship program is exposure to understand the working environment of the companies and practical implementation of the knowledge.

The objectives of the internship program can be listed as:

- To understand the working environment of organization.
- To build up technical as well as soft skills.
- To discover your strength and weakness for personal development
- To work in professional environment

## 2. DESCRIPTION OF INTERNSHIP

### 2.1 About organization

Seva Development's is a software testing company located at Lamjung with mission to provide high quality jobs to Nepali and economic development of the locality by providing economical, best-in-class software testing services to companies the United States. Seva Development focuses on helping the people of Nepal work their way out of poverty by empowering the best and brightest students to apply their talents in a way that benefits their local economy. Seva offers exceptional employment and educational opportunities to local Nepali graduates in village regions and contributes to development projects in their communities. Seva Development is committed to making a long term, sustainable difference. We believe that a lasting difference can be made by teaching people real world skills rather than depending on continuous donations. Teach a man to fish...In order to make this work we are utilizing the lower living costs in Nepal to provide more economical services to U.S. clients, while still providing quality jobs, economic opportunity, and humanitarian aid in Nepal [1].

The Seva Development team has technical expertise in different forms of testing including white box and black box testing within the agile testing life cycle to provide the best Software QA services available. The testing services provided by the company are

- Functional
- Performance
- Compatibility
- Security
- Automation
- Usability

The company has partnered with Choice Humanitarian to help eliminate poverty and to build infrastructure and opportunity in Nepal.

### 2.2 Internship activities

#### 2.2.1 Overall process

The internship proceeded with training at initial stage, completion of a project and finally some work with the clients. The project was the practical implementation of the training programs we received at the initial stage. After the completion of the project I was assigned for the testing of the company SilverVue product SilverSearch.

About SilverVue and SilverSearch:

SilverVue:

SilverVue is a healthcare software provider whose platform improves the patient experience and enables them to make well-informed decisions regarding their post-acute care. Headquartered in Sandy, Utah, SilverVue is led by experienced technology entrepreneurs who have a proven track record of success and are committed to developing technologies that improve the quality of healthcare along with the patient experience. The goal of SilverVue is to provide a technology platform that allows payers and providers to connect with patients to reduce costs while improving outcomes and patient satisfaction. [2]

SilverSearch:

SilverSearch is a searchable tablet application that hospital case managers use to help patients choose their post-acute care (PAC) provider. It provides CMS ratings and information about PAC providers throughout the U.S. With this comprehensive and robust application, patients can easily filter searches based on the specialized care needed (including long-term acute care, inpatient rehabilitation facility, skilled nursing facility, and home health agency). The patient then selects a radius by zip code anywhere in the U.S. and the accepted insurance plan(s). [3]

## 2.2.2 My contribution towards project.

The projects assigned to me during the internship periods are:

### 2.2.2.1 Employee Management System(EIS)

We choose EIS as a project, for our own company. The main objective of the project was to track the employee information of the company. We divided the project task for each member and started to work on it. JIRA was used as the project management tool for managing the project. The task assigned to me was creating the user interface and back end.

#### 1. User Interface Development

- The EIS was a web based application.
- Created the forms and user interface of the project.
- Created test cases regarding the project in TestLink.

#### 2. Back End development

- Created the core features of the project using JavaScript.
- Form Validation using JavaScript

#### 2.2.2.2 SilverSearch

SilverSearch is the tablet application of the SilverVue. The role assigned me for this project is Senior tester. My roles and responsibilities included verifying, executing and designing the test cases for the tablet application. The project is related to American Health Policy so was hectic at first to understand. With time it became interesting and enjoyable at every moment. I want to thank individuals associated to provide me this wonderful opportunity. SilverSearch is application provided to the hospitals which is mostly used by the case manager to ensure the patients to choose a better PACs after they are discharged from the hospitals. Roles and responsibilities assigned to me for this projects are/were:

- Completing the EPIC of the project features.
- Designing test cases for existing and expected features of the application
- Executing the test cases and verifying the features expectation
- Improvement and bug reporting for better quality
- Regression testing (whenever a new build was released)
- Ad-hoc testing (for acceptance testing)

#### 2.2.2.3 KNOD Project

The project in KNOD assigned for our group was of SAD course to open a data center in Nepal. This project required us to include the feasibility analysis, requirement gathering, estimation of cost and budgets, Identifying required infrastructure and equipment's for H/W, S/W, networking. The role assigned to me for this project was of system analyst. The task performed for the project are:

- Identified the feasibility of opening the data center in Nepal
- Software requirements for the data center

We used to have a weekly deliverable and the members were divided to handle a role to meet the deadlines and requirements of the deliverable.

### 2.2.3 Tools Used

#### 2.2.3.1 TestLink

TestLink is a web-based test management system that facilitates software quality assurance. It is developed and maintained by Teamtest. The platform offers support for test cases, test suites, test plans, test projects and user management, as well as various reports and statistics. User can create test project and document test cases using this tool. With Test-Link you can create an account for multiple users and assign different user roles. Admin user can manage test cases assignment task. It also supports integration with many popular defect

tracking systems like JIRA, MANTIS, BUGZILLA, TRAC, etc. Since it is a web based tool, multiple users can access its functionality at the same time with their credentials and assigned roles. It supports both automated and manual execution of Test cases. [4]. Task completed using TestLink are:

- Created Test Plans, Test cases using TestLink.
- Performed manual testing for the project.

#### 2.2.3.2 JIRA

JIRA is a proprietary issue tracking product, developed by Atlassian. It provides bug tracking, issue tracking, and project management functions. JIRA dashboard provides the information about the stories in To-Do, Coding, In Test and Done and the user assigned for each role. JIRA helps to monitor the project activities like coding, error management, and assign the reporter and assignee for the issue [5]. Tasks accomplished using JIRA:

- Project management (roles assigned)
- Created sprints for the project and updated on regular basis
- Platform to log in the bugs, errors and improvements.
- Integrated TestLink and JIRA for bug management

#### 2.2.3.3 Selenium UI automation WebDriver for testing website.

Selenium is a portable software testing framework for web applications. Selenium provides a record/playback tool for authoring tests without learning a test scripting language (Selenium IDE). It also provides a test domain-specific language (Selenese) to write tests in a number of popular programming languages, including Java, C#, Groovy, Perl, PHP, Python and Ruby. The tests can then be run against most modern web browsers. Selenium deploys on Windows, Linux, and Macintosh platforms. It is open-source software, released under the Apache 2.0 license, and can be downloaded and used without charge . Tasks accomplished using Selenium UI automation WebDriver:

- Created automated test cases using python (Web automation using selenium and recording the test using Selenium IDE)

#### 2.2.3.4 JavaScript

JavaScript (often shortened to JS) is a lightweight, interpreted, object-oriented language with first-class functions, and is best known as the scripting language for Web pages, but it's used in many non-browser environments as well. It is a prototype-based, multi-paradigm scripting language that is dynamic, and supports object-oriented, imperative, and functional programming styles. JavaScript runs on the client side of the web, which can be used to design /

program how the web pages behave on the occurrence of an event. JavaScript is an easy to learn and also powerful scripting language, widely used for controlling web page behavior.

#### 2.2.3.5 Mongo DB (RoboMongo)

Mongo DB (from humongous) is a free and open-source cross-platform document-oriented database. Classified as a NoSQL database, Mongo DB avoids the traditional table-based relational database structure in favor of JSON-like documents with dynamic schemas making the integration of data in certain types of applications easier and faster. MongoDB is developed by MongoDB Inc. and is free and open-source, published under a combination of the GNU Affero General Public License and the Apache License [6].

RoboMongo was used to handle the MongoDB database.

## 2.3 Training program

During the Internship period, we were enrolled to different online trainings and courses. Most of the course focused about the software training. The list of training program we were involved during internship period are as follows:

### 2.3.1 Udemy (Best software training course you will ever get)

Udemy.com is a platform or marketplace for online learning. Unlike academic MOOC programs driven by traditional collegiate coursework, Udemy provides a platform for experts of any kind to create courses which can be offered to the public, either at no charge or for a tuition fee. Udemy provides tools which enable users to create a course, promote it and earn money from student tuition charges [7]. The training program included:

- Introduction to the software training.
- Test case scenario, test case and test plan writing.
- Test execution.
- Test strategy and Defect Management.
- JIRA, Bugzilla and qTest tools.
- Automation Overview with QTB

### 2.3.2 Certified Tester Foundation Level (CTFL) course

International Software Testing Qualifications Board/American Software Testing Qualifications Board Certified Tester Foundation Level (ISTQB/ASTQB CTFL®) Certification is a rigorous, examination-based, professional certification program accepted across the

world. CTFL® Certification establishes a professional's proficiency in Software development and testing [8]. The training program included:

- Fundamentals for software training
- Software development process and life cycle
- Static and dynamic techniques
- Test Design technique
- Test Management
- Tools support for Testing

### 2.3.3 KNOD learning Experience.

Knod connects you to a worldwide network of top organizations, employers and mentors. Powerful connections to global corporations and thousands of medium-sized and small businesses will help boost your career [9]. The training program included:

- Sync Session with foreign students.
- System Analysis and Design Classes
- Weekly Deliverables
- Project (Opening a data center in Nepal)

### 2.3.4 Codecademy [Python and JavaScript training]

Codecademy is an education company. But not one in the way you might think. We're committed to building the best learning experience inside and out, making Codecademy the best place for our team to learn, teach, and create the online learning experience of the future. Education is old. The current public school system in the US dates back to the 19th century and wasn't designed to scale the way it has. Lots of companies are working to "disrupt" education by changing the way things work in the classroom and by bringing the classroom online [10].

Trainings from Codecademy

- Basics of Python
- Basics of JavaScript



## 3. Learning Experience

At the initial phase of the internship I was new to the organization environment. Seva Development was a startup company and located at Lamjung so it took me two three days to adjust with the environment. The CEO and director of the organization helped us a lot during the internship period. Everyone at the organization were friendly and cooperative so there was no problem sharing the experience and forwarding the queries. The overall environment of the company was appealing so it helped me a lot to enhance my skills. The three month period was a short interval but the experience I gained is invaluable. This helped me to become familiar with the environment of IT companies. This has increased my technical skills as well as soft skills.

### 3.1 Goals achieved during the internship

#### 3.1.1 Understanding the functioning and working conditions of IT companies

This was my first experience working for a company. The internship program provided a platform to know about the working culture of the organizations. We were able to determine the management activities and requirements required to run a company. The working conditions and meeting the deadlines with the expected quality was a challenging and exciting task. I learned more about time management and its importance in an organization.

#### 3.1.2 Enhancing technical and soft skills

The program was very helpful for me to increase the technical skills. Along with the technical skills it helped me a lot to increase my soft skills like communication skills, teamwork, attitude towards problem. I am confident that my soft skills have increased and it will help me a lot in future.

#### 3.1.3 Practical implementation of the gained knowledge.

This program acted as an opportunity and platform to implement the knowledge we gained throughout the bachelor's program. We were clear about what is SDLC and how we can implement different techniques to achieve the quality throughout the process.

#### 3.1.4 Discovering strength and weakness

This program helped me a lot to identify the strong and weak spots. I was able to learn more about time management from my friends and trainers which was one of my weakness before starting with the company.

## 3.2 Observed attitudes and gained Values

The working environment of an organization is directly responsible for the employee's attitude towards a problem. The culture in Seva Development to focus on the problem was quite promising. The dependability of the co-workers has created an appealing environment. The hard work and honesty in the organization are other factors motivating the employees in the organization. I am confident that these factors had a positive impact in my growth during the internship period. The helping and friendly environment was driving factor for smooth experience gain. The manners and mindsets of dealing with the problems will definitely help for a successful career.

## 3.3 Challenges

There were many challenges associated with the internship programs. The challenges that I faced during the internship period are listed below:

- It was my first time working for a company so it took me some days to settle with the working environment of the company.
- As a QA intern it was quite difficult to get onboard as we had no experience of Quality assurance. We had experience about software development but the QA was a new topic for us.
- Getting familiar with different testing and defect management tools was also a challenging task
- The implementation of gained knowledge in the real time was also challenging, you know the concepts but not sure how and what to implement at first.
- Error detection on the features of the program is also challenging because you need to be sure about the acceptance criteria of the software itself.
- As a QA you need to be updated from the requirement documents to the current status of the software.
- Communication with the US clients was a challenging task due to different time zone.
- Having a standup early in the morning and late at night was quite difficult.
- There was no face to face interaction with the clients so some of the cases were very difficult to interpret.

## 4. CONCLUSION

On the whole, this internship was a useful experience. I have gained new knowledge, skills and met many new people. I achieved several of my learning goals, however for some the conditions did not permit. I got insight into professional practice. I learned the different facets of working within a IT company. I experienced that financing, as in many organizations, is an important factor for the progress of projects. Related to my study I learned more about the software development lifecycle, agile methodology and testing. There is still a lot to discover and to improve. The methods used at the moment are still not standardized and a consistent method is in development. Furthermore, I experienced that it is of importance that the education is objective and that you have to be aware of the view of other people. The internship was also good to find out what my strengths and weaknesses are. This helped me to define what skills and knowledge I have to improve in the future. It would be better that the knowledge level of the language is sufficient to contribute fully to projects. This internship has given me new insights and motivation to pursue a career in testing field.

# References

- [1] "About Seva Development," [Online]. Available: <http://www.sevadevelopment.com/about-1/#about-seva-1>. [Accessed 07 September 2016].
- [2] "About Us - SILVERVUE," [Online]. Available: <http://www.silvervue.com/aboutus/>. [Accessed 07 September 2016].
- [3] [Online]. Available: <http://www.silvervue.com/>. [Accessed 07 September 2016].
- [4] "TestLink," [Online]. Available: <http://www.guru99.com/testlink-tutorial-complete-guide.html>. [Accessed 07 September 2016].
- [5] "JIRA - Wikipedia," [Online]. Available: [https://en.wikipedia.org/wiki/Jira\\_\(software\)](https://en.wikipedia.org/wiki/Jira_(software)). [Accessed 09 September 2016].
- [6] "MongoDB-Wikipedia," [Online]. Available: <https://en.wikipedia.org/wiki/MongoDB>. [Accessed 08 September 2016].
- [7] "Udemy- Wikipedia," [Online]. Available: [https://en.wikipedia.org/wiki/Udemy#cite\\_note-techcrunch5-8-14-1](https://en.wikipedia.org/wiki/Udemy#cite_note-techcrunch5-8-14-1). [Accessed 08 September 2016].
- [8] "CTFL Certification: Access CTFL Training," [Online]. Available: <http://www.simplilearn.com/quality-management/ctfl-training>. [Accessed 08 September 2016].
- [9] "Study at Knod," [Online]. Available: <http://www.knod.net/study-at-knod>. [Accessed 08 September 2016].
- [10] "About | Codecademy," [Online]. Available: <https://www.codecademy.com/about>. [Accessed 08 September 2016].