Chapter - 01 Introduction

This chapter includes a full introduction to the Open Source Test Automation Framework for eBuilder Technology Centre. It will focus on the problem statement, objectives of the thesis, background of the organization and overview of the current process in this chapter.

1.1 Overview

eBuilder has a number of projects and products under the business areas of e-Travel Management, e-Procurement and e-Logistics. eBuilder teams are handling thousands of bugs, enhancements and change requests for an annum. With the high degree of requirements and pressure on development teams leads to slight degrade of the output quality. Then QA team should precede written testing sessions on developed products/projects. As an example, suppose eBuilder has 5 main projects and 10 products. When it comes to parallel releases it is pretty much difficult to go through all the test cases of the products/projects. So the number of resources is a constraint for testing all the application functionality. Therefore it is a costly process to maintain the quality of the developed products/projects.

eBuilder has offices in Stockholm, Gothenburg, Luleå and Kristianstad in Sweden, in Sydney, Australia and in Colombo, Sri Lanka.

1.2 Background of the organization

eBuilder offers the expertise and experience allowing you to engage in electronic business processes within and between companies and organizations. eBuilder develops and actuates the e-services related to business-to-business (B2B) coordination and collaboration such as, e-commerce, e-travel management, logistics and integration. eBuilder e-solutions for e-commerce and travel management are market leading within their respective business fields.

eBuilder specializes within the following business areas:

- eProcurement offers component-based solutions for managing the order-to-payment process for contract-based procurement. It includes online catalogues, invoice and workflow management tools, and integrates to existing ERP.
- eTravelmanagement delivers complete solutions for travel management in cooperation with leading external partners in the travel industry.
- eMobility delivers a platform and solutions for adjusting Internet services to mobile devices such as cell phones and palmtop computers allowing your workforce to “take office on the road”.
- eServices offers a complete range of services for business and application integration.
- eLogistics offers, development and operation of advanced logistics solutions for national as well as international markets.

Today, more than 250,000 people in 400 organizations use eBuilder´s electronic business processes for instance, for their electronic procurement and travel management purposes, making eBuilder one of Sweden´s leading companies within the field of e-commerce.

1.3 Existing System and Problem Statement

In today’s environment of plummeting cycle times, test automation becomes an increasingly critical and strategic necessity. Assuming the level of testing in the past was sufficient (which is rarely the case), how do we possibly keep up with this new explosive pace of web-enabled deployment while retaining satisfactory test coverage and reducing risk? The answer is either more people for manual testing, or a greater level of test automation. After all, a reduction in project cycle times generally correlates to a reduction of time for test.

With the onset and demand for rapidly developed and deployed web clients test automation is even more crucial. Add to this the cold, hard reality that we are often facing more than one active project at a time. For example, perhaps the team is finishing up Version 1.0, adding the needed new features to Version 1.1, and prototyping some new technologies for Version 2.0!

Better still; maybe our test team is actually a pool of testers supporting many diverse applications completely unrelated to each other. If each project implements a unique test strategy, then testers moving among different projects can potentially be more a hindrance rather than a help. The time needed for the tester to become productive in the new environment just may not be there. And, it may surely detract from the productivity of those bringing the new tester up to speed.

Existing way of doing regression testing is manual testing. So the QA team should go through the each test case manually and verify that the results are correct. So it is a really inefficient, time wasting process.

1.4 Aim and Objectives of the Project

It is better to have fully automated QA process for any organization. If any company or organization has fully automated QA process then that company leads the market in providing quality products with fewer defects. The main purpose of this project (Test Automation Framework) is to provide fully automated process for regression testing. And also having a complete automated QA process can deliver a project on time.

By considering all the details stated earlier, the company such in need of an efficient testing process. The aim of this project is to develop a Test Automation Framework, that will overcome most of above stated problems and also to achieve objectives which will finally increase customer satisfaction from the services provided by eBuilder.

- The company is in need of additional staff to serve its clients due to rapid increment of the number of requirements and bugs. By having this type of a system, number of additional staff recruited can be limited due to less manual work.
- Implementing this system will require minimum maintenance for the automated scripts.
- Can be used by non-technical users to execute tests and monitor results without tool proficiency.

1.5 The proposed solution

Proposed system is a fully automated testing framework. So it will minimize the manual effort on regression testing and load testing. The system should be able to use by any of the international user of eBuilder group and it should be easy to handle. Further more, the proposed system should give an analysis of the executed tests.

1.6 Structure of the rest of the dissertation

Chapter 2 discusses on the background Material of the project and discuss about existing systems and project background.

Chapter 3 consists of the requirement analysis part of the project. It discusses about the domain analysis, General Description of proposed system, Functional Requirements, Non Functional Requirements, Interface requirements, Method of requirement capturing used in the project and the use case diagrams.

Chapter 4 consists of the full design of the project. It contains all the UML diagrams drawn to obtain the proper design of the project. It also discusses about the way that report was designed.

Chapter 5 discusses on project implementation part. It discusses the four separate modules in details and hardware and software implementations of the project.

Chapter 6 is constructed on testing. All the required test cases are identified and the tests done and the results are discussed in this chapter.

Chapter 7 is the conclusion chapter. How the project was conducted, achievements, problems encountered while preceding the project, deficiencies of the project and future work is stated in this chapter.

1.7 Summery

This chapter will discuss about back ground of the company and objectives of the proposed project.

eBuilder is software manufacturing company and using manual methods to complete their test processes. So main objective of this project is automate their software testing processes and reduce testing time.