Name: Jimmy Palma ID:610756

Situation:

V2soft is a staffing company for software solutions with different clients in different countries like the United States, Mexico, India, and so on. The main client in the USA is Ford Motors in Detroit Michigan.

In V2soft I have two contacts to manage anything about my job, Jamie Martin, the Manager, and Rinita Bose, the Human resources Manager. In the client Ford Motors, the product owner is Mica Tessler and in the team, we 10 developers, working with TDD and pair programming to ensure the quality of the code.

Ford Motors is one of the biggest car companies in the world with its main brand is located in Detroit Michigan.

Project: DCS (Dev Central Station)

Dev Central Station is a project which purpose is to generate templates for different kinds of projects. The idea with DCS, is to reduce the time of creation and configuration.

These templates have the basic requirements to work and connect in the Ford environment. The projects available are Angular, Spring boot Java, Spring boot kotlin, Phyton, Android, and express.

The generated templates could be download or publish directly in the Ford GitHub account.

DCS project, has three layers, Front end in Angular 11, back-end in Spring boot, at begging to work with Java, now we develop the back-end in Kotlin. The other project of DCS is cookiecutter in charge to generate the templates.

Task:

I work as a Full-stack developer, 50% Front end and 50% back end. The project cookiecutter is made in Phyton and I have not had the chance to work with it.

In the back-end, the task is to create the rest full web services, which ones receive the request to create the different types of projects. Every request has the data to create the template like the type of project, the dependencies needed in the template, and if we need to download the template as a zip file or if we want to upload the template to GitHub. I work with Spring boot with Kotlin creating the new rest full web services, besides I give support for legacy web services developed in Java.

In the front-end, Angular 11, the task is to consume the rest full web services to create the templates. Another task is to show to the users all the options for a specific template.

We use Github as source control and Jenkins for Continues Integration for this project.

Because DCS is used for all the development departments in Ford Motors, we receive requirements to add or to improve the templates. Every week, in a stand-up meeting, the team discusses and analyzes the requirements, and decides to add them to the backlog or not.

Every month, the task for the team is for one day, research if there are new versions for dependencies, and updated the templates.

Action:

For all the tasks, I have implemented many and important subjects learned at Maharishi International University. The main topic we work on in Ford motors is we implement TDD (Test Driven Development) and pair programming. I studied these topics in Software Engineering so I was prepared to work with methodologies. Working with them I ensure the code quality. With pair programming, we work with ping pong, which means every 15 minutes we change the roles of driver and navigator.

I work with TDD in the back-end and front-end. For the back end with Java, I work with JUNIT and Mockito. For kotlin I use MockK. In the front end, I use Jasmine to create the unit test.

Developing rest full web services, I refer to Enterprise Architecture and Software Architecture where I learned and worked with frameworks like Spring boot in JAVA. The new services I develop in Spring boot but with kotlin. In the beginning, was a challenge but after a couple of days and with help from teammates, I could achieve the goal to develop in Kotlin.

Working in Angular, I refer to MWA to work with Components and User Interfaces. DCS shows to the users different interfaces. The first interface is to select the template, the next interface, the users are able to choose all the dependencies for the template.

Every Wednesday, we have a mobbing session which it is a group programming with all teammates where all of us work together on a hard or complicated Jira task.

If there are new versions of any dependency, I update it and run all the unit cases created with TDD, if the test passes, I push the new changes in the master branch and Jenkins build and deploy the project.

For this project we work with Scrum, we apply all the steps I learned in Sofware Engineering about Agile Development and for Scrum. We have daily meetings where each member of the team has to say the activities from the previous day and the activities for the actual day. In these meetings, we discuss possible solutions for problems and ask the Product Owner about the business.

Result:

Implementing TDD, the error in productions is almost cero, so I am able to ensure Test Driven Development Methodology Is very strong and one of the best I have worked with.

All the projects are deployed in production, front-end in Angular, back-end in Spring boot, and cookiecutter. Ford has made research to verify if DCS is achieving the goal and yes it does, the time

creating a project and setting all the configurations has reduced by 50 percent which is around 12000$ per month.

There are counters for every time a template is generated the respective counter increase. In the department meeting, we show the statistics: 80% of the projects are downloaded as zip files and only 20% are uploaded to GitHub. Talking about the templates, Spring boot java has around 75% and Angular around 10% of generated projects.

For now, DCS only can create Angular, Spring boot Java, Spring boot kotlin, Phyton, Android, and express projects. It is in the backlog to add new templates like IOS, this means the DCS will improve and expand.