VOLVO FROM THE EYES OF AN INTERN



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AUTHORIZATION

This is to authorize that the project report titled "VOLVO FROM THE EYES OF AN INTERN" is an original Project Work done by Miss Isha Rajesh Angadi from University of Maryland, College Park, USA. The work was done during her six week summer internship (25th June, 2018 to 6th August, 2018) at Volvo Group IT, Bengaluru, India.

This work has not been submitted to any other University or Organization for assessment.

ACKNOWLEDGEMENT

An acknowledgement is sometimes very difficult to write, for those people whose altruism cannot be described in words. I had the greatest privilege of working at VOLVO Group IT India as a Project trainee for six weeks. I shall forever remain indebted to Mr.Dayasindhu Sakrepatna, the Director Purchasing Solutions and Mr. Sreenu Koondrapu, the Delivery Manager for giving me the opportunity to work at their esteemed organization.

I would like to express my deepest gratitude to thank Mr.K Parthiban and Mr.R Sudheendra for hosting me for six weeks and helping me carry out my projects. A heartfelt thanks to Mr. Chirrapu Ravitejareddy for being a great mentor and guiding me throughout these six weeks to complete my tasks successfully.

I am also grateful for having a chance to meet so many wonderful people and professionals who led me through this internship. I take this opportunity to also thank the Indirect Products Services (IPS) team for actively including me in their projects in turn providing me with an experience of a lifetime!

I have learnt a lot at VOLVO these past six weeks and this is a big milestone in my career development. Thank you!

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EXPERIENCE

I spent six weeks of my freshman year summer as a Project Trainee at Volvo Group IT Bengaluru, India.

I was interviewed and assigned to the Indirect Product Services (IPS) Department headed by Mr. Sreenu Kondrapu. The team lead, Mr. K Parthiban and the technical lead, Mr. R Sudheendra interviewed me for this position and were responsible to handle me during my time at the organization. My mentor, Mr. Chirrapu Ravitejareddy guided me in my tasks through these six weeks.

My first week at Volvo consisted of a lot of learning. I joined the organization as a freshman java and HTML programmer. I was assigned to the SPORTS project- this project is an attempt to solve the DVP-IPS business case. The legacy systems dealt with registration, payments and ordering of products in the DVP-IPS departments. The systems took about five to seven days to process data, a lot of the data was repetitive which caused the lead time to be very long. A lot of manual work went into processing the data.

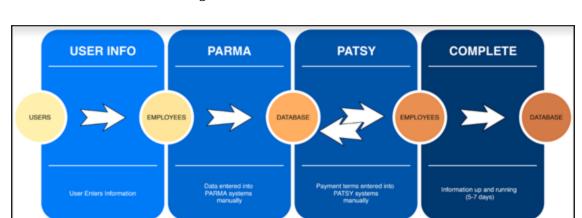


Fig 1. SPORTS Process Flow Chart

To improve the legacy systems, the SPORTS project was born. It consists of microservices that will be used to digitize data and provide an attractive digital workspace. The speed and reliability is increased drastically, the process time of five to seven days is reduced to one hour. Moreover, the application is available on web and mobile user interfaces.

To be a part of the SPORTS project I had to learn JavaScript, AngularJS and CSS as soon as possible. While updating my skills, I was also a part of all the team events like the Daily Stand-Up Meetings conducted with the IPS team in India and the Daily Huddles conducted three times a week with the entire IPS team all over the world. On Friday, I was assigned my first screen-the Bank Information Screen.

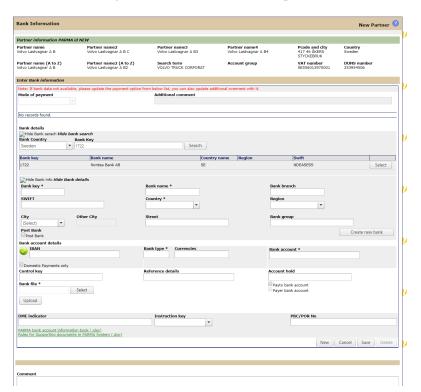


Fig 2. Bank Information Template

No deadlines were assigned to me since this was the first time Volvo had a freshman intern and the expectations were not clearly known. Despite this, I asked the technical lead for an official deadline. He said Wednesday would be most ideal. I worked on the code all day on Friday and had the first draft ready but I was not satisfied with the way it looked. I reported my progress of the day to my mentor before leaving and he suggested that I learn Bootstrap to improve the design of the form.

Being a freshman coder and having the chance to code for a real end-user project, I was intimidated for week two. Monday was bootstrap learning day. I am so happy my mentor asked me to learn this because it is a great tool, it has the power to turn a hideous website into a beautiful masterpiece! I spent all day Tuesday working on the code and presentation, I was finally happy with the design of the form but its length, in my perspective, was not user friendly. Two am, Wednesday morning a solution for the overwhelmingly long form striked and I started working on it immediately. I divided the form into four main parts and made a concise version using Drop down boxes and accordions.

I was finally satisfied with my work. I presented version three of the bank form to the team during the stand-up meeting and the team loved it!

The team lead and tech lead appreciated me for my great work.

Week two, so far so good! While I was waiting for the next task to be assigned, I began working on the angularJS part of the form. The back end was not up and running yet but my mentor wanted my form to have a full cycle so he asked me to learn how to data-bind the data on my form. The completed form was submitted at the end of week two, three business days in advanced! The team lead appreciated my work and remarked that I delivered it way earlier than promised.

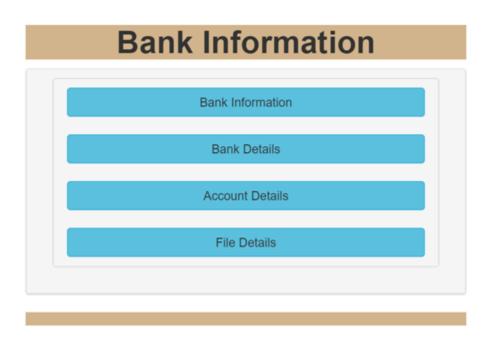


Fig 3. Final Bank Information Form

This week, I also found out that the IPS team consists of both developers and business analysts. All of my projects were development projects but I was curious to learn more about the role of Business Analysts too. Mr. Belliappa volunteered to educate me about his role in the team, he also added me to a conference with one of the Volvo super-users in Sweden, I got to talk to the user and learn many new things. It was a great experience. It's been great two weeks!

During week three, I completed two more forms in two days- the General Information and Legal Information forms.





Fig 4. (a) Final General Information Screen (b) Final Legal Information Screen

I had a great opportunity of working with Mrs.Oruganti Priyanka, the front end developer on the SPORTS project. It was a pleasure working with a great developer like her. I learnt a lot of new technical skills and made a new friend.

A request for the development of six new mobile apps was created in Volvo. Volvo Group IT India, decided that they needed to bring the app development team here! The cost of development would be way less than the other countries and the skill set will be enhanced. For the first time, the Delivery Manager Mr.Sreenu Kondrapu had an ad-hoc meeting with two developers and two interns of his team. It was decided that on the first day of week four, the SPORTS project will be put on hold. It was time to bring the app development team home.

I pushed the code of my three forms to Priyanka for integration with the rest of the forms and began preparing for the app development. Ravi, my mentor was kind enough to give the team a crash course on Android Studio. We finally began learning how to code on android studio when the higher ups decided that using React Native would be a better option. Since React Native can be moulded to fit an android app as well as an iOS app, it is a more efficient choice. This was the moment I realized, life in IT is dynamic. If you want to be a successful part of it, you must be ready to update your skills and learn new things at every point of your career. A

career in IT is literally the real life form of the saying "Change is the only constant."

Amidst the change in projects, ignITe arrived. Volvo Group IT's very own hackathon, solutions expo and workshop series. It was a two day event that started with the display of various problems faced at the organization and the team's world class solutions for their problems. It was a great opportunity, I got to learn about all the other teams at the company and the latest technology in the industry.

My co-intern Niranjana and I began learning react-native. We realized that we would have to master Javascript and react before we get a chance to master react-native. We tried setting up node Js but the volvo proxies got in between our process. We got information from Sudheendra and Ravi, fixed network proxy issues on our computers and began coding.

Week Five arrived and so did our first Supplier Quality Engineer (SQE) app development screens! The SQE app project was created with the goal to simplify and make the auditing experiences of on-site engineers effortless. The app begins with a login screen, followed by a set of thirteen screens. These screens have a series of questions that the auditor will answers while on site, the answers will be saved into the database and can be accessed by employees all over the world. Through the SQE App Project I had a chance to work with the Direct Products Services Department of

Volvo Group IT since this app was originally a part of their domain.

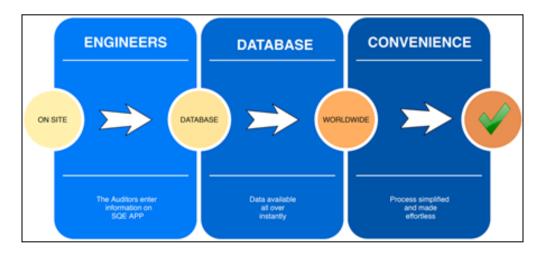


Fig 5. SQE APP Process Flow Chart

I got assigned the login screen by the end of Monday and I was done with version one of the screen on Tuesday. The screen I received, designed by the UI/UX designer looked like



Fig 6. SQE App Login Screen Template received from UI/UX Designer

Coding in React Native was a completely new experience since it is a dynamic language that uses JSX, very different from the static language background I come from. I worked on refining the code and received critique from my mentor.

Coding is a small part of the whole process. A small but integral part. I was done with the coding for my screen but running the app on the expo, an app that can be used to run both native android and iOS applications, was nearly impossible thanks to the Volvo network proxies! The team temporarily resorted to using expo snack, it can be used to test code instantly on a device, thank god for liter versions of applications! The last week consisted of working with the team and everyone's joint effort in getting through the network proxies to run our screens on an emulator. My final screen looked like this



Fig 7. SQE App Final Login Screen

The first app is almost complete and so is my time at Volvo Group IT India!

During the last couple days, I received one of my greatest opportunities as an intern. I was asked to present my technical growth during my tenure along with my perspective of the organization. I created a presentation and got to speak at two different occasions!

I believed that it was my duty to bring in my different perspective into this prestigious organization. I really appreciate that the managers and employees were open to listening to my experiences and opinions. I have not only developed technical skills but also developed life skills and made good friends. I will forever be grateful for this opportunity.

SUMMARY

My experience as a project trainee consisted of many roles including, but not limited to developing screens for real time projects that belonged to both the legacy systems and the new wave of app technology.

On numerous occasions, I was appreciated for the efficiency, accuracy and swift delivery of my work. As the first freshman intern, I grew from a novice to a decent programmer with several technical advancements in a few weeks, thanks to the patience and guidance of the VOLVO Group IT team. I had a great opportunity to learn the method of operation of a remarkable organization. Working on real runtime projects has helped me see IT in a new light.

Over these past six weeks I have not only learnt a lot about the IT life, its constant technological advancements and its brilliant people but I have also developed as a person.

I am very thankful for this opportunity. I will hold onto these experiences and surely grow from them.

SOURCES

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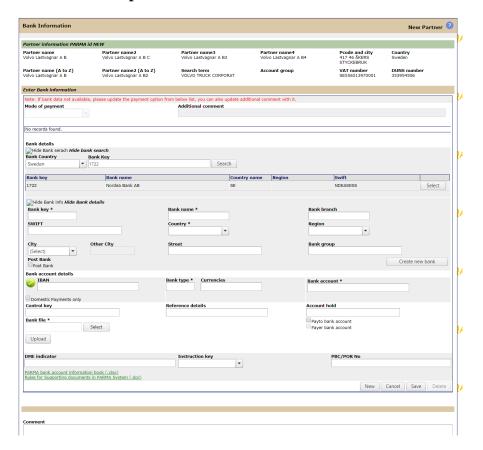
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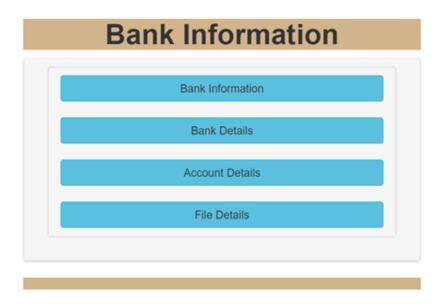
APPENDIX-I

1. Bank Information Screen

A. Template Received



B. Final Screen Designed

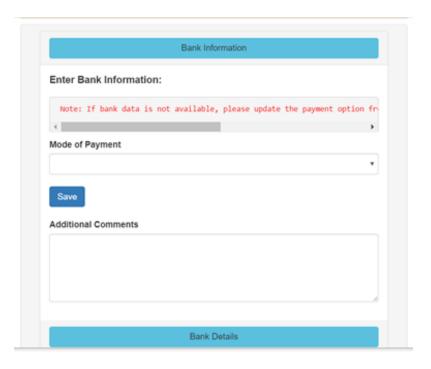


First Look of the Bank Information Screen

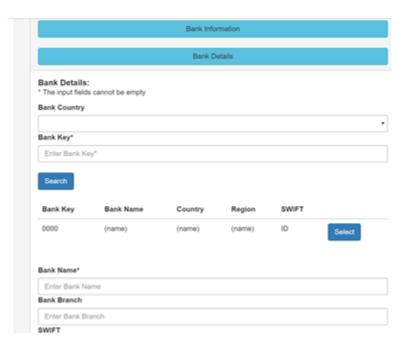
C. Screenshots of each drop down box in the following order

- a. Bank Information
- b. Bank Details
- c. Account Details
- d. File Details
- e. Save Pop-Up
- f. Cancel Pop-Up

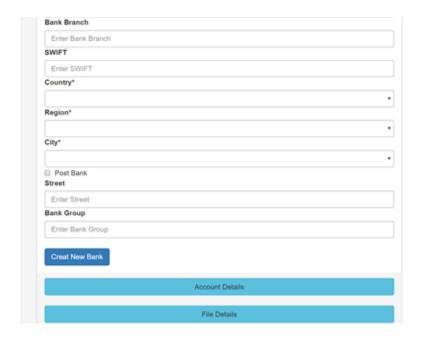
a. Bank Information Accordion



b. Bank Details Accordion

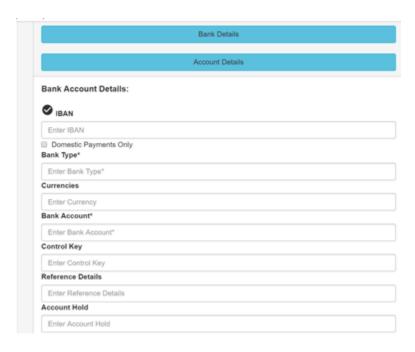


First Half of Bank Details Accordion

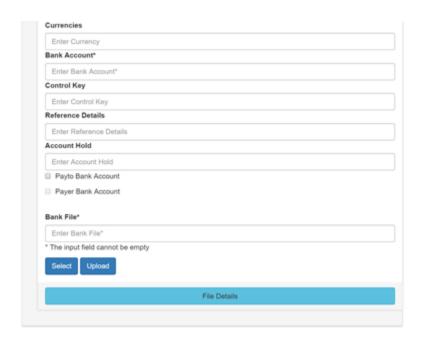


Second Half of Bank Details Accordion

c. Account Details Accordion



First Half of Account Details Accordion



Second Half of Account Details Accordions

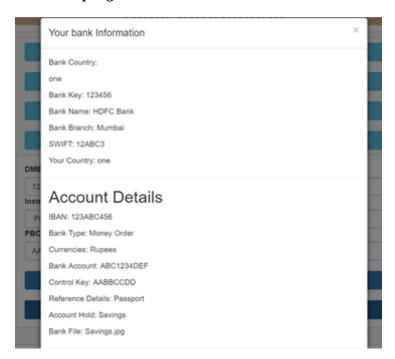
d. File Details Accordion



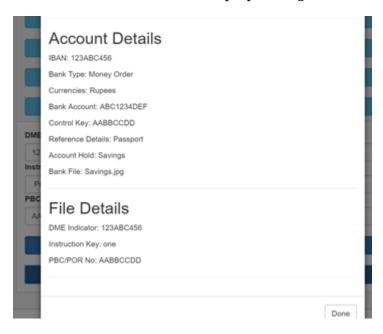
This is the final accordion of the Bank Information Form. When we click Save or Cancel, an appropriate Pop-Up Message is displayed.

e. Save Pop-Up Message

A Pop-Up message with all the information entered by the user is displayed for verification. If the information is right, the user can click "Done". If the user needs to correct any information, they can click the "x" on the top right, edit the information and save it.



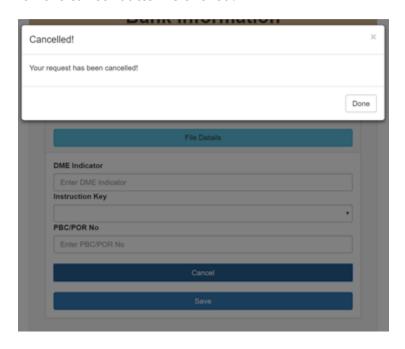
First Half of the Save Pop-Up Message



Second Half of the Save Pop-Up Message

f. Cancel Pop-Up Message

A "Your request has been cancelled!" Pop-Up message is displayed when the cancel button is clicked.

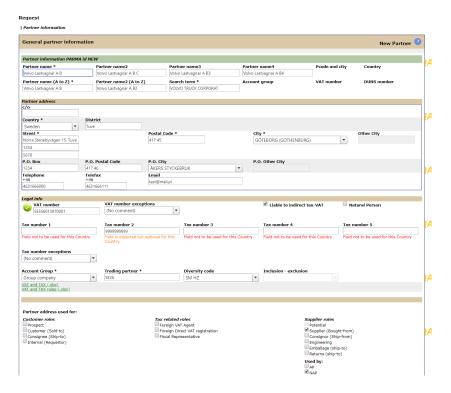


Cancel Pop-Up Message

2. General Information and Legal Information Screen

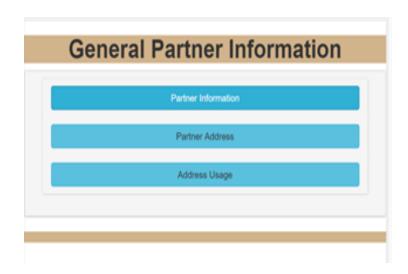
A. Template Received

A single Template was received and I was asked to split it into two separate screens- General and Legal Information



Screen Two Template

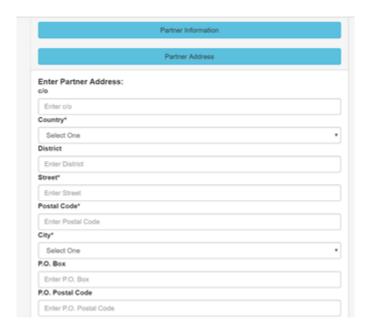
B. General Information Screen



a. Partner Information Accordion



b. Partner Address Accordion

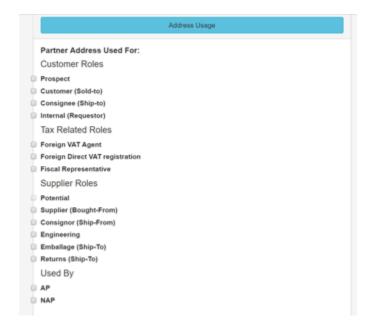


First Half of Partner Address Accordion

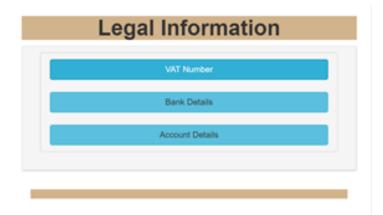


Second Half of Partner Address Accordion

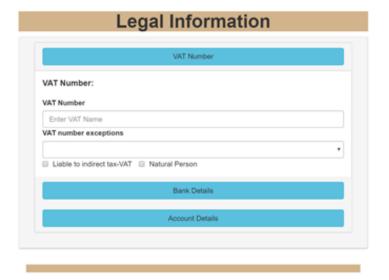
c. Address Usage Accordion



C. Legal Information Screen



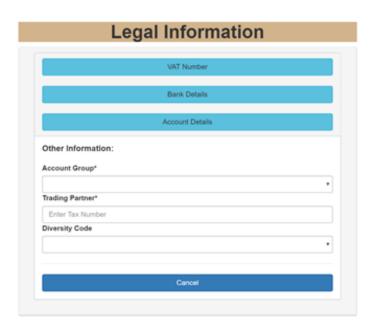
a. VAT Number Accordion



b. Bank Details Accordion



c. Account Details Accordion



APPENDIX-II

SQE APPS Screens

A. Screen Template Received



Screen Template Received from UI/UX Designer

B. Version One of Login Screen



Version One created on Expo Snack Using React Native

C. Final Version of Login Screen



Final Version of Login Screen