

Angular and Native Script

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in

COMPUTER SCIENCE AND TECHNOLOGY

By

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To



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DECLARATION

I hereby declare that the work presented/written in this report entitled “ANGULAR NATIVE-SCRIPT PROJECT” in partial fulfilment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering/ Information Technology submitted in the Department of Computer Science &Engineering and Information Technology, Jaypee University of Information Technology Wagnaghat is an authentic record of my own work which carried out over in the period from February 2019 to May 2019 under the supervision of Mr.Jatin Kapil (Tech Lead, Click Labs).The matter embodied in the report has not been submitted for the award of any other degree or Diploma.

Parushi Sharma (151415)

(Dept. Of Computer Science and Engineering)

CERTIFICATE

This is to certify that the work presented/written in this report entitled “ANGULAR NATIVE-SCRIPT PROJECT” in partial fulfilment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering/ Information Technology submitted in the Department of Computer Science &Engineering and Information Technology, Jaypee University of Information Technology Wknaghat is an authentic work which carried out over in the period from Feburary 2019 to May 2019 under the supervision of *Mr.Jatin Kapil(Tech Lead, Click Labs)*.

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It was very nice experience and I learned a lot about how actually the work is done at industry. My sincere thanks to my Project Supervisor **Mr. Jatin Kapil** who constantly monitored and guided me.

May 20,2019

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ABSTRACT

The project report is based on four month training at Click labs, Chandigarh. The basic technology of FRONT END DEVELOPMENT was being taught and trained. Our learning included three months training plus one month live project working.

As today's technology has acquired a fast and quick development of apps and web pages, so front end adds a basic layman layout for customers to use the features and function making day to day work easy.

As a development trainee we excelled in AngularJS, Angular and Native Scripts along with necessary GIT and Routing protocols. Streaming of live project and delivery of products to customers included the wide knowledge of DOM manipulation and technical implementation of the front end development languages and tools learnt.

CHAPTER 1

ABOUT THE COMPANY

Click Labs

A Chandigarh based company that offers high grade technology solution with a focus on mobility. The company conveys versatility answers for business people and endeavors hoping to give an Omni channel to their clients with a mission to build and augment portable ROI. The major business approach is to create on interest custom business arrangements in sort of apps over restrictive IP items providing a versatile work power the board.

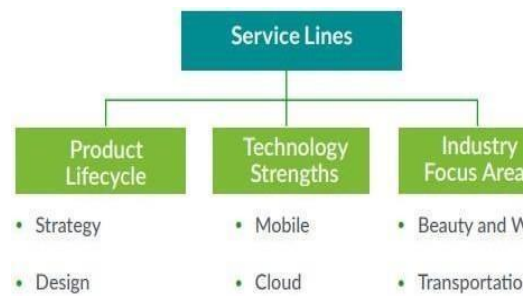
Main Branches of Click labs

1.1 Jugnoo

Jugnoo, an integerated app that was started for auto rikshaw, it is now one step-solution for all local needs. The main ideology behind is to make life hassle- free by delivering the best of every city to its residents.

This is Indian base app that facilitates the quik pick of auto-rikshaws in customers location with benefitting the rikshaw drivers along with the customers

Founded in November 2014



Handful of IITians, added a fire to new popular Indian base app Jugnoo became as India's first auto rickshaw aggregator with the objective of making daily life communication easy and reliable. After bring the on demand revolution to daily commute,we expanded our vision and dream of touching everyday lives in a much bigger way.

Fig 1.1(Service-Links)

With 10lac transactions per month across 48+ cities,but began as a small company in 2014 is now pear heading the evolution of local Indian market place into a digital.Jugnoo had given a tough compitition to mobile app like Uber,Ola etc

Jugnoo is not only the product but also the service provider.The basic product has reached a heights of success and not only in India but its services are even demanded in abroad.Adding a profitable functionality to the app.

Jugnoo now gives a wide scope of neighborhood benefits on interest auto rides, perishables, sustenance conveyance, dinners, coordinations and even an area based nearby interpersonal organization! Jugnoo is a provides on-request multi-specialist co-op based out of Chandigarh, which utilizes auto rickshaws as its strategic accomplices.

It provides on-demand transportation and logistic services across 38 cities in India via their mobile application which can be downloaded on Android, iOS and Windows based phones.

1.2 JungleWorks



JungleWorks is a suite of revolutionizing products that focuses on every step of an on- dem and business journey. Our mission is to create the best user experience at every step. It has various product that has really provide new user experience to both end user and as well as the entrepreneurs. It provides various products that has revolutionized the world and has brought a big change in the world itself.

JungleWorks is a department that deals with the customer on demand service making. Various projects are under taken and created as per the general requirements of customers. Templates, features, updates and services to the the made apps are dealt by this department.

Products like Fugu chats, InstaSpeaker, Yelo, Bulbul etc are the major accomplishment of the company in which services are provided up to date. Major work is done on AngularJs, Angular, Python, Nodes, Networks in the development side.

Sales and Marketting section is also consideed as a part of JungleWorks. Clients for national-international bussiness come to fetch the services under the had of Jungle Works.

The various Products of the JungleWorks are:



Simplified communication for efficient team work

Communicate and collaborate using a single place for messaging, sharing ideas, files and more. Save time and increase your efficiency with Fugu.



Sales CRM

AI-powered CRM for smart sales teams. Get insights about your business, predict customer behavior, and build a scalable sales organization.



Delivery Management

Manage all your delivery operations by tracking vehicles, optimizing routes and automating dispatch, delivery and scheduling. Get visually rich reports powered by Tookan's geo-analytics features.



BI Analytics Dashboard

Easily prepare, analyze & explore big data from multiple sources. Give power to every user to easily discover meaningful business insights.



Field Communication

Simple and easy chat platform for sales and support for mobile and web. Empower your support team to work together and resolve customer issues instantly.



Online Marketplaces

A hassle-free platform to build your own marketplace apps/website that suits your business within minutes.

1.3 Front End Development

A front-end web developer is probably what most people think of as a “web developer”. To implement basic UI templates and represent the designs along the flow of background algorithm front end developers comes to front foot . They are typically upheld by back-end web designers, who are in charge of server-side application rationale and mix of the work front-end engineers do. The Logics for UI are implemented by Front End Developer with the help of different frameworks present in the market.

As for now NativeScript is getting the market to its corner but still ANGULAR plays a Vibrant Role.

Responsibilities

- Develop new user-friendly features
- Build reusable code and libraries
- Making the technical feasible UI/UX designs
- Optimize application on basics on speed and scalability
- Validated before submitting to back-end
- Efficient handling of data from Backend
- Collaborate with other team members and stakeholders

CHAPTER 2

INTRODUCTION

AngularJS used to be the "child" among JavaScript systems, as it was at first presented by Google organization in 2012. It was worked in light of the Model-View-Controller idea, however creators of the structure regularly called it "Model-View-*

The framework, is coded in JavaScript, It accomplishes decoupling an application's logic from DOM manipulation, and creates the dynamization of feature. Majorly the market is now coded in Angular JS. The framework facilitates with various powerful features allowing the developer to create rich, single-page applications quite easily.

AngularJS undoubtedly is popular but now faces a competition with updated version of Angular which provides CLI facility along with broadened features. In flow to smooth friendly AngularJs, developers decided to take another step further and proceeded to develop a new version which was initially named *Angular 2*. The framework received a new name: surprisingly but actually, it was fully re-written and redesigned, while many concepts were reconsidered.

2.1 ANGULAR-7 POC PROJECT

Angular POC Project was developed on Angular Framework with version-7. The Project was designed by the mentor to give full overview of the framework so the intern can align on further live Projects running in the company.

A section of playing with API hit is one of major concern. Locally along with dynamically dealing with 'GET', 'POST', 'PUT' api's. On every small step including normal sign-up to data rendering api hits were used. A system setup of local storage was also used.

It included the knowledge of integration of HTML-CSS with logical Angular. Entire web app with proper dealing with backend was used.

Authentication parameters with guards to stop the direct entry in next page was properly learnt and implemented.

The Basic Purposes were to get the intern familiar with concepts such as

- User Authentication
- Services
- Use Of Database
- Feature Module
- Controllers.
- Auth Guards
- Dynamic Header

The Web Application Consists of different Pages in it such as:

- Registration Page
- Login Page
- Profile Page
- Booking Page
- FAQ Page
- Contact Us Page

2.2 KEY TERMS

2.2.1 HTML: Hypertext Markup Language (HTML) is the standard markup language for making website pages and web applications. With Cascading Style Sheets (CSS) and JavaScript, it shapes a group of three of foundation advancements for the World Wide Web. Internet browsers get HTML archives from a web server or from neighborhood stockpiling and render the records into sight and sound site pages. HTML portrays the structure of a page semantically and initially included prompts for the presence of the archive..

2.2.2 CSS : Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language like HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript..

2.2.3 Angular (web framework) : Angular (regularly alluded to as "Anglur 4) is a TypeScript-based open-source web application structure driven by the Angular Team at Google and by a network of people and companies. Angular is hybrid fabricated version of AngularJS. AngularJS was the most well known customer side structure among JavaScript engineers for a long time. Google presented AngularJS in 2012. It depends on a variety of the exceptionally prominent Model-View-Controller design which is called Model-View-*

The dynamicity of sity with a collaborative frameworks of Angular and DOM it adds a spice to the dsplay and feature functionality.

2.3 Screenshot

2.3.1 REGISTRATION PAGE

The Registration Page included in application to get the information of new user and save in the Database Using a Post Service. The Post API gathers whole of the

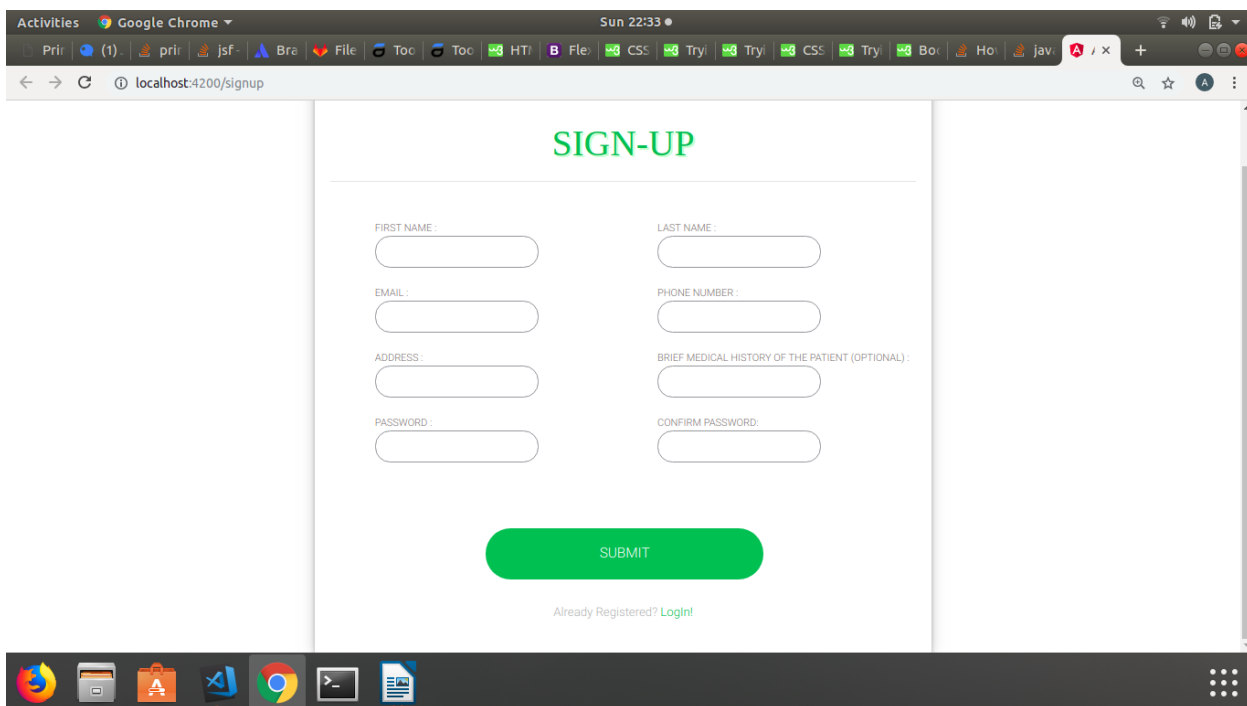


Fig 2.1 (Registration Page)

information and save it in the database created (JSON-SERVER) was used. The Registration Page is a Part of Public Module.

If the User is already registered can directly go to Login Page.

Registration Page includes the labels and different input fields. The field of Password and confirm Password is connected to Custom Validator. The Register button will be disabled till all the fields got some value. The Login HREF Shows you the Login Page.

Command for creating a Feature Module: **ng generate module module_name**

2.3.2 LOGIN PAGE

The Registration Page included in application to get the Profile of registered and authentic user and Using a GET Service. The GET API gathers whole of the information and if it matches any record in database the Profile Page of that record gets loaded. The Condition check on response of get service was kept to check If the USER is authentic or not.The Login Page is a Part of Public Module.

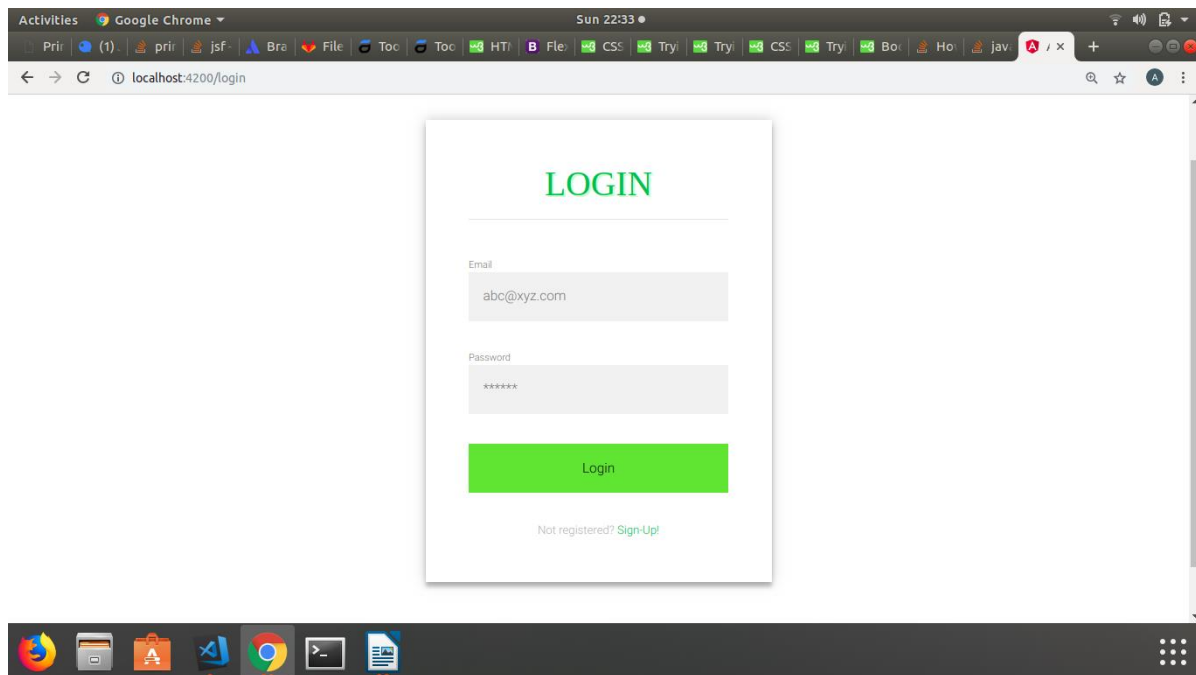


Fig 2.2 (Login Page)

The Login Button Will be disabled till it get the required credentials.If and New User get directly to Login Page the link to register, is also given in the template.If any user is not registered and tries to login The Alert comes up with message “You are not registered”.

Command for creating Component:**ng generate component component_name**

2.3.3 PROFILE PAGE

The Whole Information of Logged-in user get displayed on the screen. The Profile Page includes a UPDATE button to update the profile. The Update button escalates the Patch Service in code to Update the User information in the Database.

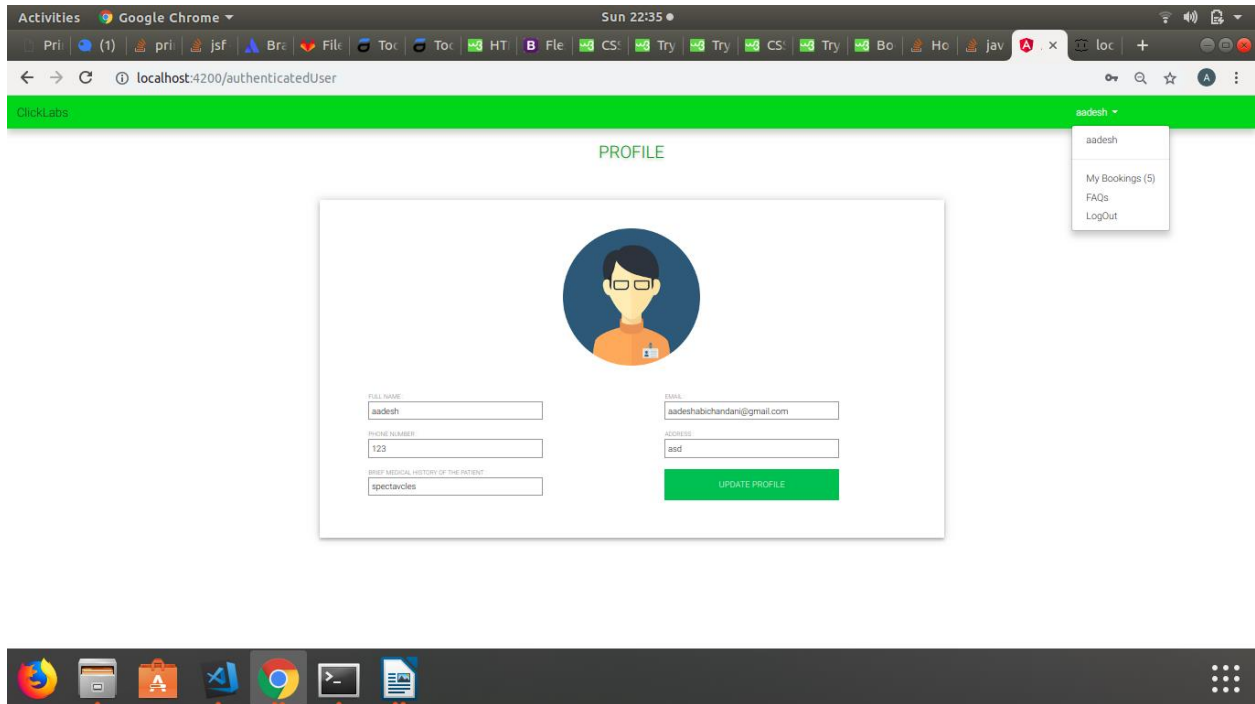


Fig 2.3 (Profile Page)

The Name of the current Present User get displayed on the right corner via TWO WAY binding.

The Navbar Consists of a dropdown Button. Dropdown consists of different Pages. Different Routes get escalated when clicked on something. The Child Parent routing is there, in which Navbar component is made Parent and rest of the Pages as child routes. These Pages Comes under the Private Module. Authorization Guard are there if there is no user logged in the Private Module Pages cannot be escalated.

2.3.4 AUTH-GUARDS

Angular route guards are the router interfaces that stops and permits the navigation to particular page. Only a proper authenticated user is permitted to enter the second page of web app. These are the authentication parameters in front-end in which data is checked from data coming from back-end.

CAN-ACTIVATE auth guard is used in the application with a condition that if a user is logged in, navbar component and profile component get render on the screen. If anyone tries to get into the Application without logging, the person cannot. Auth Guards helps to save the application from the unauthentic user.

Many Different Auth Guards are there in angular for different authentication purposes:

- CanActivate
- CanActivateChild
- CanDeactivate
- CanLoad
- Resolve

2.3.5 BOOKINGS PAGE

Bookings Page runs a Get Service and get the Json Object which contains Bookings data.

Bookings Page consists of two Href :

1. Past
2. Upcoming

Both these Href are connected to Get Service getting the data rendered on Page.

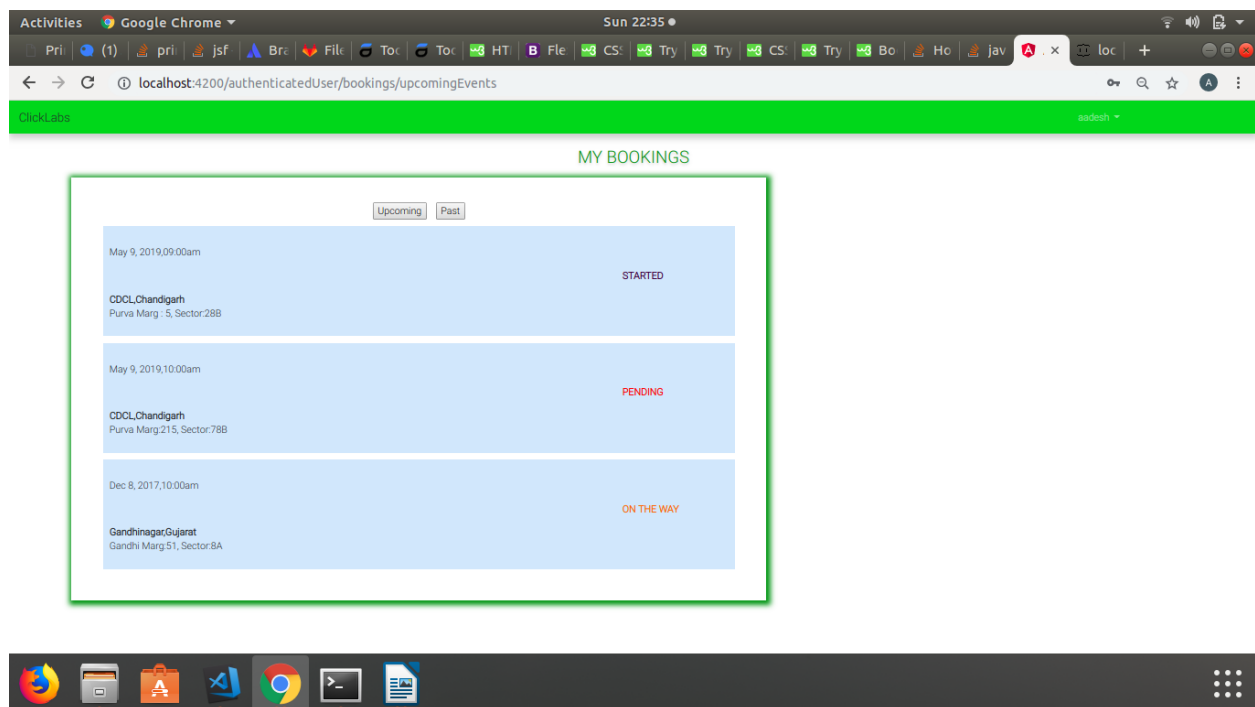


Fig 2.4 (Booking Page)

Past and Upcoming components are child for Bookings Component. Past and Upcoming Component render different Views

2.3.6 SERVICE

Service is a broadly categorizes its values, function, or feature on the basis of need of app development. A narrow class for promoting the modularity service was made. Angular distinguishes components from services to increase scalability and reusability. Component to component common view rendering can be done using the services.

A component provides a user friendly experience. A component should present properties and methods for data binding, along with acting like mediator between the view (rendered by the template) and the application logic (notion of a *model*).

A component can delegate certain tasks to services, such as fetching data from the server, validating user input, or logging directly to the console. By defining such processing tasks in an injectable service class, you make those tasks available to any component. You can also make your app more adaptable by injecting different providers of the same kind of service, as appropriate in different circumstances.

Through dependency injection Angular encompasses an efficient development in code base. Angular has a supportive framework for CLI that also adds an easy and portable way to enhance the ease of use of the functionality of Angular making web app or mobile app.

Command for creating Service:

ng generate service service_name

CHAPTER-3

NATIVESCRIPT

NativeScript is an open-source framework to develop apps on the Apple iOS and Android platforms. It was originally conceived and developed by Progress. NativeScript apps are built using JavaScript, or by using any language that transpiles to JavaScript, such as TypeScript. NativeScript supports the Angular and Vue JavaScript frameworks.

NativeScript alongwith angular has given a tough compition to android as apps are made for phone,tabs,web etc under single frframeworks

Usage of third-party libraries from CocoaPods, Android Arsenal, Maven, and npm.js are used without wrappers. The NativeScript technology can be presented as built upon several major parts - Runtimes, Core Modules, CLI, Plugins. Consider the following diagram:

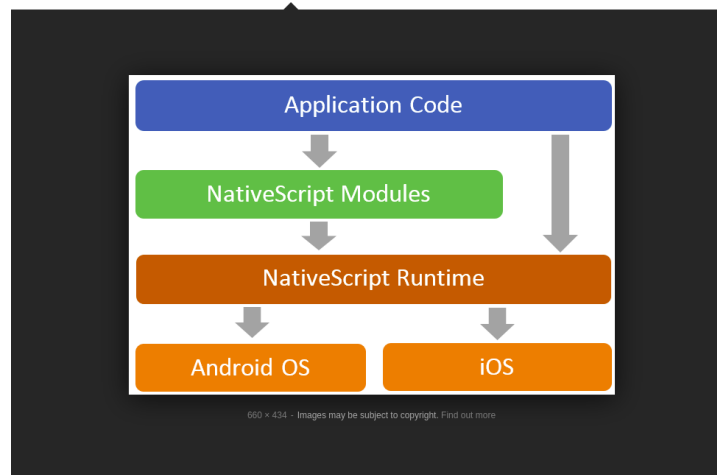


Fig 3.1 (Structure)

3.1 Core modules

application: Application abstractions for apps.

console: code message printing

application-settings: restore and save information

http: sends-receives request and API hits

image-source: abstraction of platform for images

timer: tracability of events

ui/image-cache: handles cache for downloaded images

connectivity: Lets you check the type of Internet connection

3.2 Layouts

ui/layouts/stack-layout: single line interface using Stack

ui/layouts/grid-layout: using grids to desing area by GridLayout

ui/layouts/absolute-layout: to arrange children in arbitrary areas

ui/layouts/wrap-layout: sequentially positioning left-right top-bottom of child withnrespect to parent.

ui/layouts/dock-layout: the DockLayout class arranges the children of the layout at top, bottom, left and right

3.3 About the Project

Sales-Master Project was developed on NativeScript version 5.3.2 and Angular Framework with version-7 .The Project was designed by the mentor to give full overview of the framework so the intern can aligned on further live Projects running in the company.

The project included the making a shared app. It was designed in such a way that a common background functionalities were made for eg. Login,update,showing list of entries etc. and itegrating the same code in mobile app made by usage of native script and web app made with bootstrap.

The background core coding fundamentals are made on Angular 7 which is equally compatible with both the native and bootstrap.It withdraws various logic building inorder to data and efficient usage of it.

A section of playing with API hit is one of major concern.Locally along with dynamically dealing with 'GET', 'POST', 'PUT' api's.On every small step including normal sign-up to data rendering api hits were used. A system setup of local storage was also used.

The Basic Purposes were to get the intern familiar with concepts such as

- User Authentication
- Services
- Feature Module
- Controllers.
- Auth Guards
- Code Integration The Web Application Consists of different Pages in it such as:
 - Login Page
 - DashBoard
 - Add Team
 - Update Team

3.4 Screenshots

3.4.1 Login Page The login page comprises of the username , which is the mail id assigned to every employee of our organization and password given to that employee.

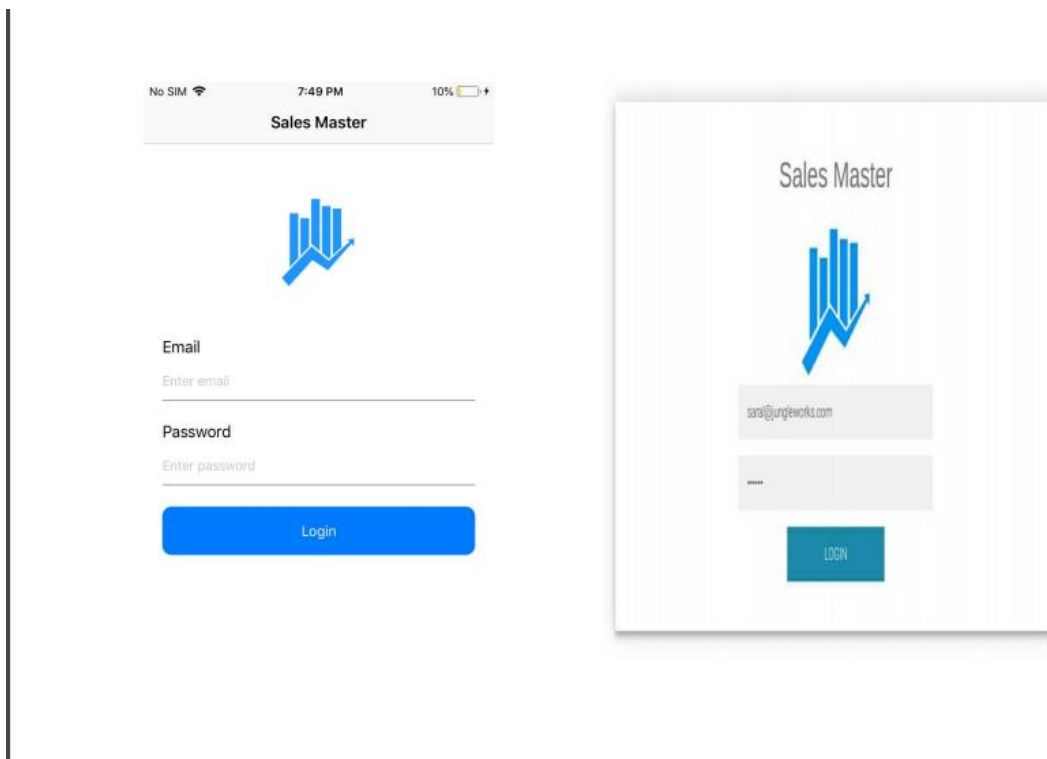


Fig 3.2 (Login Profile)

To create a new code-sharing project, we need to use the Angular CLI's `ng new` command, with `@nativescript/schematics` as the source collection and the `--shared` flag. `ng new --collection=@nativescript/schematics project-name --shared`

3.2.2 Dashboard

This page comprises of the team data which is being rendered by hitting the api to get teams over the dashboard, a header and a footer. The entire web and mobile app was designed.

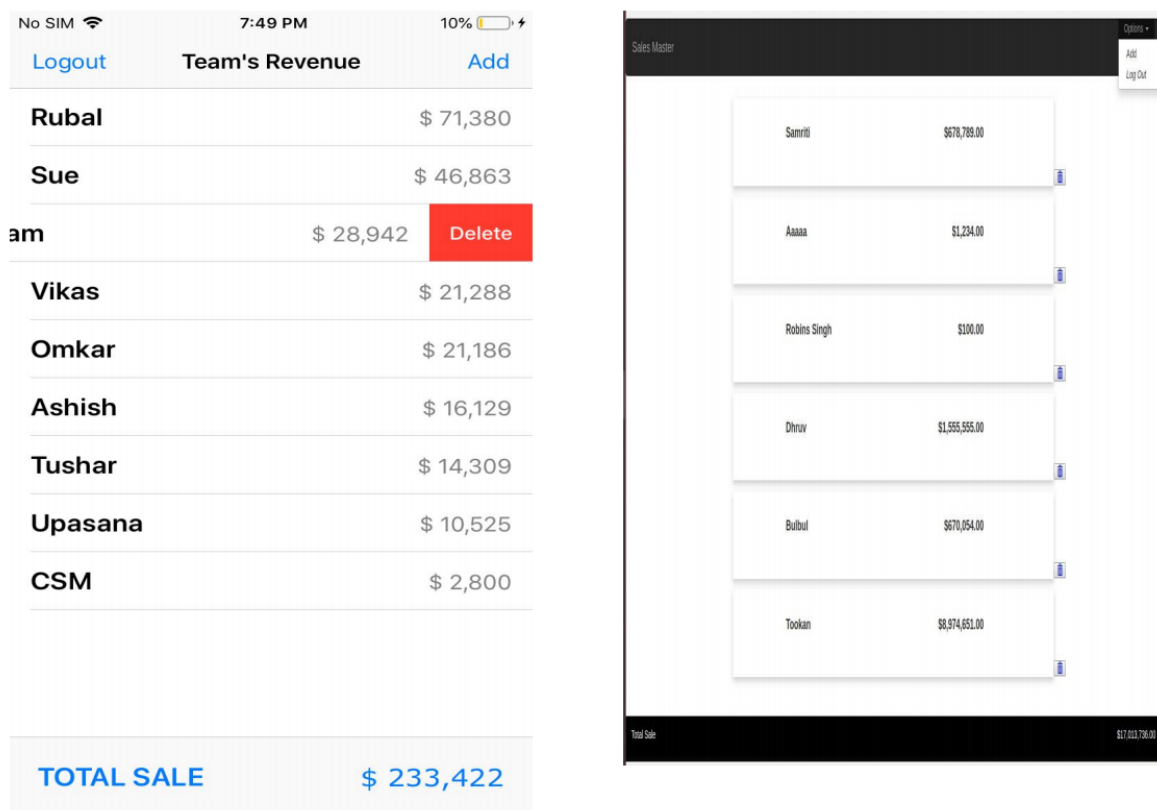


Fig 3.3(Dashboard page)

3.2.3 Add Team

New Record of the teams can be added from here. In the left app was made for phones and on right web app is made.

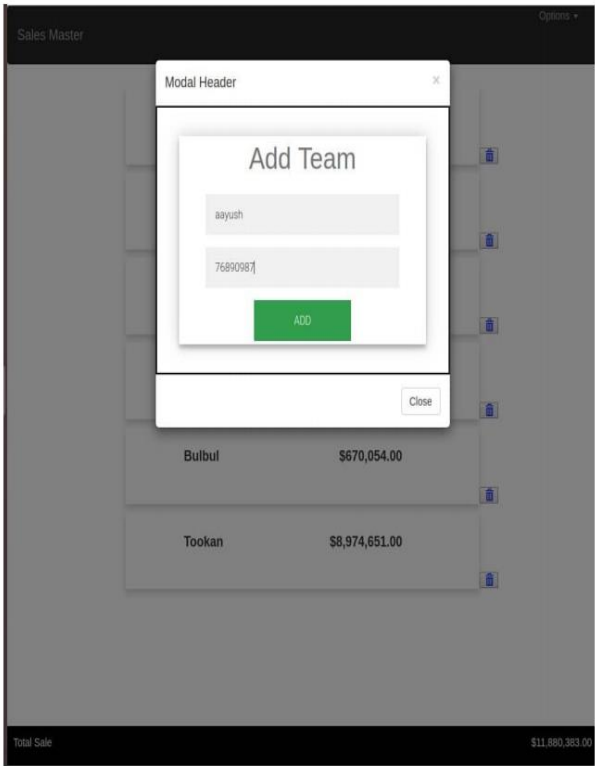
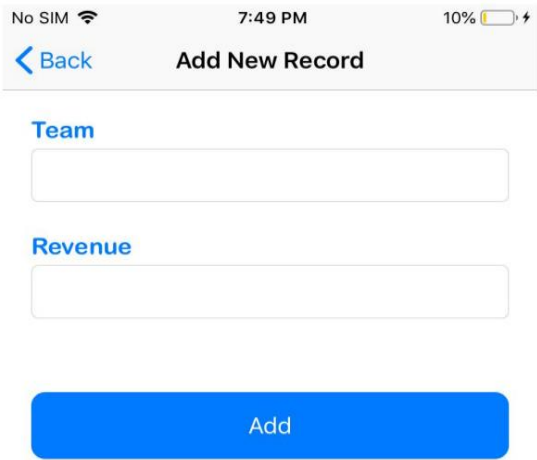


Fig 3.4 (Add Records page)

Team Add Code Splitting

When building a code-sharing app, you will share a big part of your code across all platforms. However, you will encounter situations where you need to provide different code for the web app and for the mobile app. The most common scenario is with Angular components, where you need to define different markup for your web and mobile apps.

file.tns.ts file.tns.html file.tns.css file.tns.scss

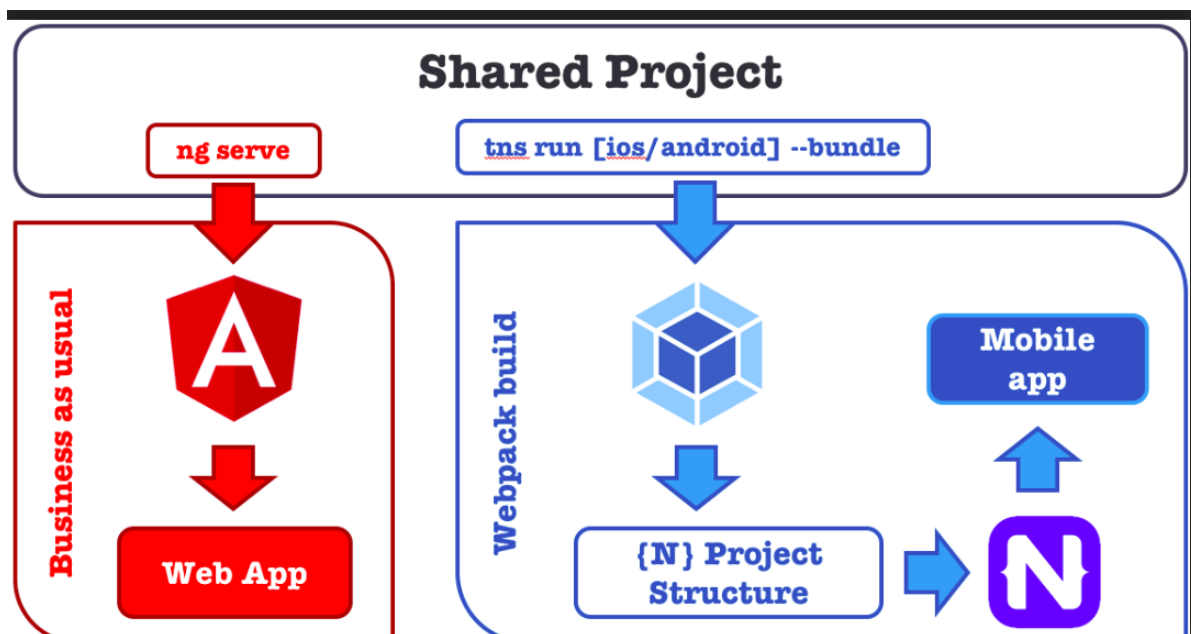


Fig 3.5 (Structure)

3.2.4 Update Team

In order to update the team direct api hit was made which initially rendered the previous data and over-writing took place on same id of data.

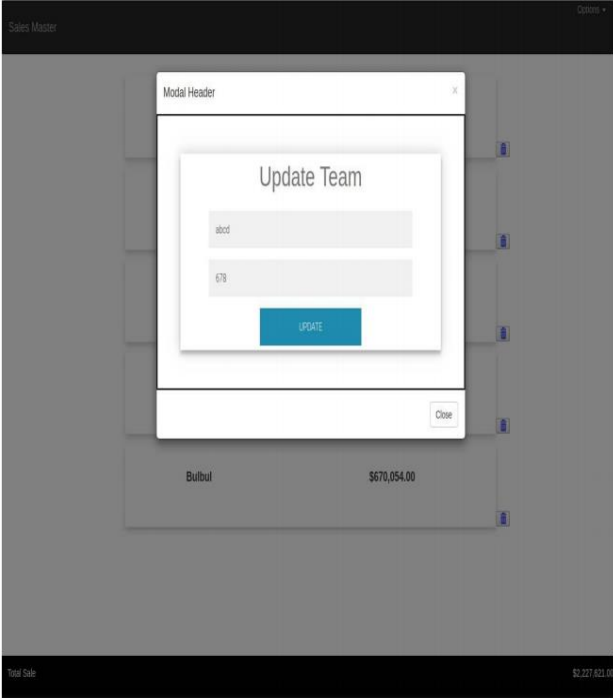
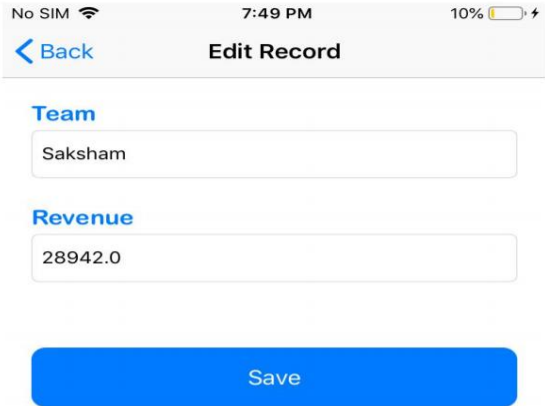


Fig 3.6 (Update Page)

By clicking on the record we can update that particular record.

CHAPTER 4

Live Project

4.1 About the Project

The translation and localization industry today is driven by technology and has a robust R&D sector and the interpreter is major challenge to built. But it facilitates the user to deal on international basics whether bussiness deals

InstaSpeakers is a product of Jungle works department of Click labs. It was designed for providing a translation in diferent languages. Broadly 10 languages were used for translations.

The app offered transaltion between ten languages. This adds a cutting tool edge and user can express his-her views in languages like Spanish, French, Japanese etc.

4.2 Basic Layouts

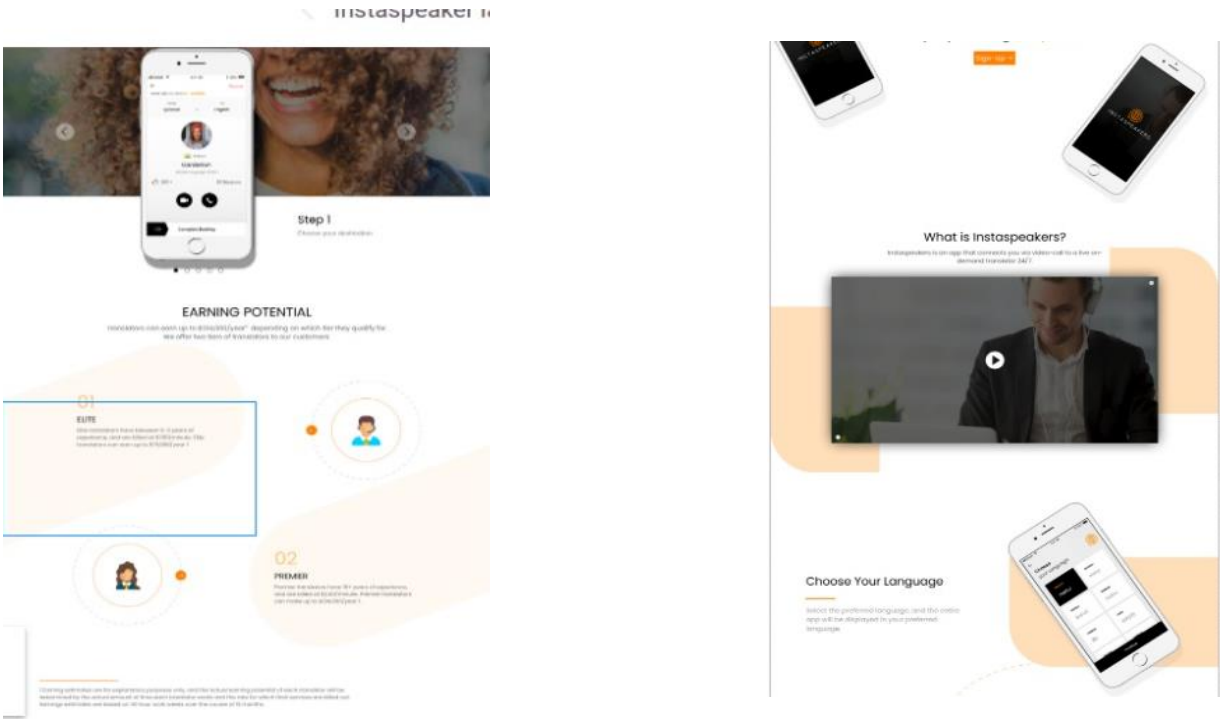


Fig 4.1 (Landing Page)

Basically shows the web app of the designed app delivered as a product.

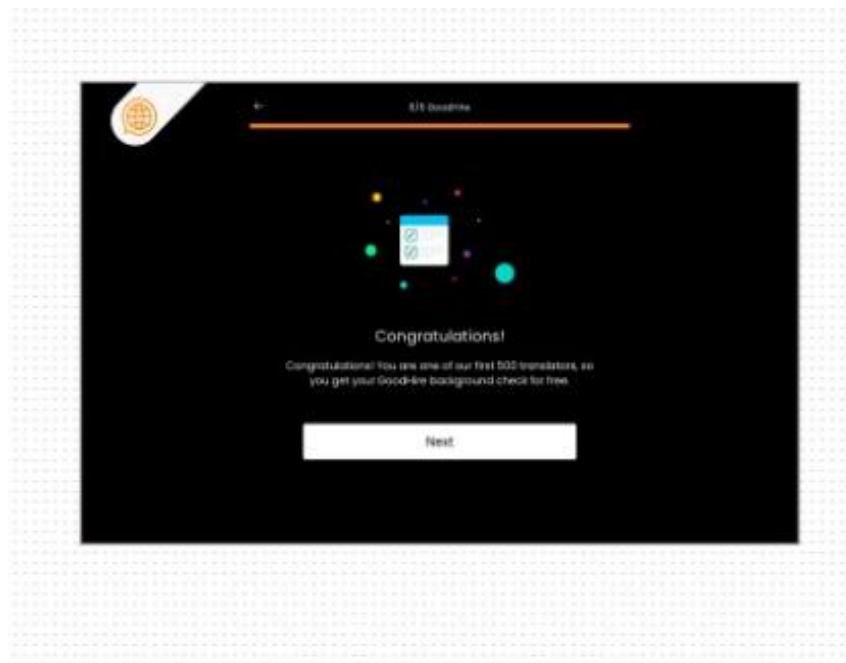


Fig 4.2 (Subscription Page)

Basic Sign-Up form and welcome screen for user

CHAPTER 5

DETAILED EXPERIENCES

5.1 Description of Work Performed:

The work that I performed was mainly on Angular. Angular is a platform that makes it easy to build applications with the web. Angular enforces the combination of templates, dependency injection, end to end tooling, and put in best practices to solve development challenges.

Angular empowers developers to build applications that live on the web, mobile, or the desktop. Supporting the easy and efficient way to manage the app release online.

5.2 Major Challenges :

Being new to Front-End development, everything was a challenge at first, but gradually the picture was being clear pixel by pixel.

The major challenge that I faced was to write a developer friendly code, which should meet the community guidelines.

Another challenge I faced was learning CSS, and making the web page responsive, because while make a responsive page we need to keep in mind all the size of screens available in the market.

5.3 Key Learnings:

The key learning that I had during this internship was how many developers write code for the same platform and how that code is merged bit by bit (using GIT).

Next, obvious learning was Angular. Making API hits, responsive pages, auth-guards etc. These are the key topics one should know while making a webpage which communicates with the backend.

Making a web app compatible in all the platforms. Along with this designing web app and mobile based on same common background functionality but rendering different views on web app and mobile device.

CONCLUSION

Overall, I would describe my internship as a positive and instructive experience. In the initial phase I faced a bit issues, as it was a whole new field for me. With time I figured it out and finally get started with it.

It was inspiring to see how some of the developers were able to mostly independently carry out their interests and plan and perform their own experiments. It was entirely a amazing experience to be a part of constructing the app which we use and learn the background functionality how user view things and what hand in hand actually goes in back hand.

It was also interesting to experience a whole new IT environment, where many developers were contributing their best and helping each other out to achieve long and short term goals set by the company. On the other hand, getting a chance to work on a live project was another exciting and challenging experience. If I have to sum up my internship in one line, I would say this was a boosting start of my career.

REFERENCES

1. JungleWorks:
<https://jungleworks.com/>
2. NativeScript:
<https://www.nativescript.org/>
3. AngularJs:
<https://angularjs.org/> , <https://en.wikipedia.org/wiki/AngularJS>
4. Angular:
<https://angular.io/>
5. Bootstrap:
<https://getbootstrap.com/>, <https://www.w3schools.com/bootstrap/>
6. Routing:
<https://blog.angularindepth.com/the-three-pillars-of-angular-routing-angular-router-series-introduction-fb34e4e8758e?qi=fb317461cb0f>
7. GIT Hub:
<https://github.com/>