

Technical documentation

TECBox

Web, Services & Mobile

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Implemented methods

TECBoxWeb

[admin-view.component.ts] reloadTables(dataType:string): Receives a string and reloads the DataTables.

[client-view.component.ts] addToCart(product): Receives a products, adds it to cart and to the Cart service.

[footer.component.ts] topFunction(): When the user clicks on the button, scroll to the top of the document.

[reports-view.component.ts] dropDownPressed(reportType: string): Sets attribute reportType to parameter reportType. Reloads tables.

[reports-view.component.ts] searchRoute(): Sets the route Id. Reloads tables.

[reports-view.component.ts] selectDate(): Sets the initial and final dates of the calendar.

[reports-view.component.ts] generateReport(): Calls method getReport in reportsService.

[data-tables.service.ts] getElements(type:string): Assigns a type to every observable that is received and returns this typified observable.

[data-tables.service.ts] httpGet<T>(resource:string, options = {}): calls http.get() with the corresponding resource url.

[reports.service.ts] getReport(type: string): switches between the three cases for the available reports and gets the requested report.

[data-tables.service.ts] private httpGet(httpParams: HttpParams, httpHeaders: HttpHeaders): Gets the report from the server and displays the pdf on a separate window.

[table.component.ts] onElementClick(element): Sets the attribute item_selected_id to the parameter element's id.

[table.component.ts] private getApiData(): Gets the data from the api and sets the information for the Tables.

[table.component.ts] private loadDataTable(): loads the dataTable.

[table.component.ts] private setDataType(): Sets the type for the data.

TECBoxService

[JSONtoXML.cs] public static void GenerateTop25Products() : Generates xml with the top 25 sold products.

[JSONtoXML.cs] public static void GenerateRoutes() : Generates xml with the packages ready to deliver in certain routeId

[JSONtoXML.cs] public static void GenerateDelivered() : Generates xml with the delivered packages between two dates

[ReportController] public HttpResponseMessage Get(string type): Receives a string type that can be top25, route or delivered; then returns a report PDF.

[ReportGenerator.cs] public static void ExportPdf(string filename, ReportClass crReport): receives the file name and report to write on the disk.

[ReportGenerator.cs] private static string GetPath(string filename): Gets the real path of the project to save the PDF in disk.

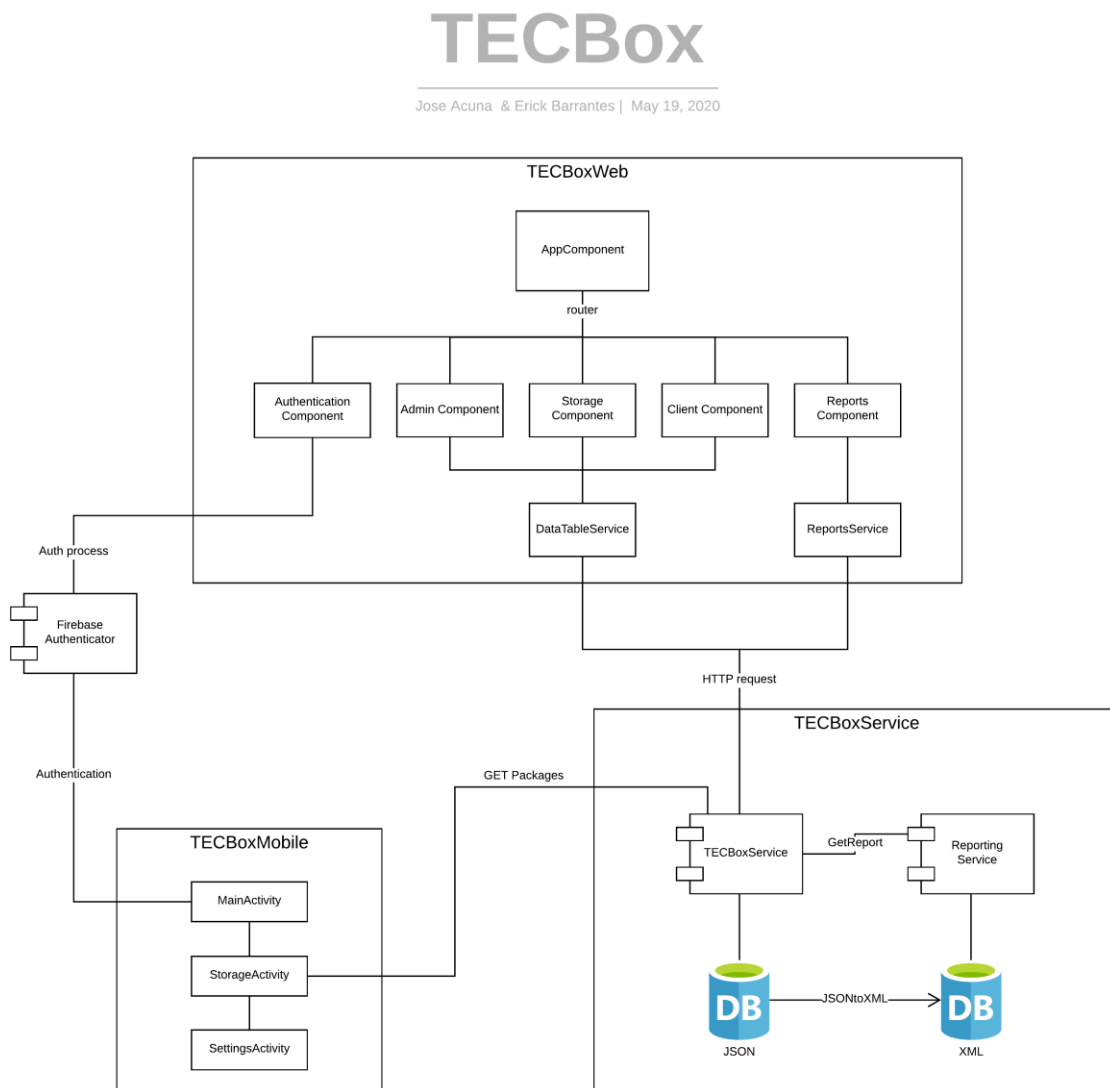
Entities and Structures implemented

- Data tables are an easy to use self-managed data structure to contain data. Useful to show our data base information in a user-friendly way.
- Services in Angular uses the observer pattern to manage asynchronous task, just as the API calls to our TECBoxService.

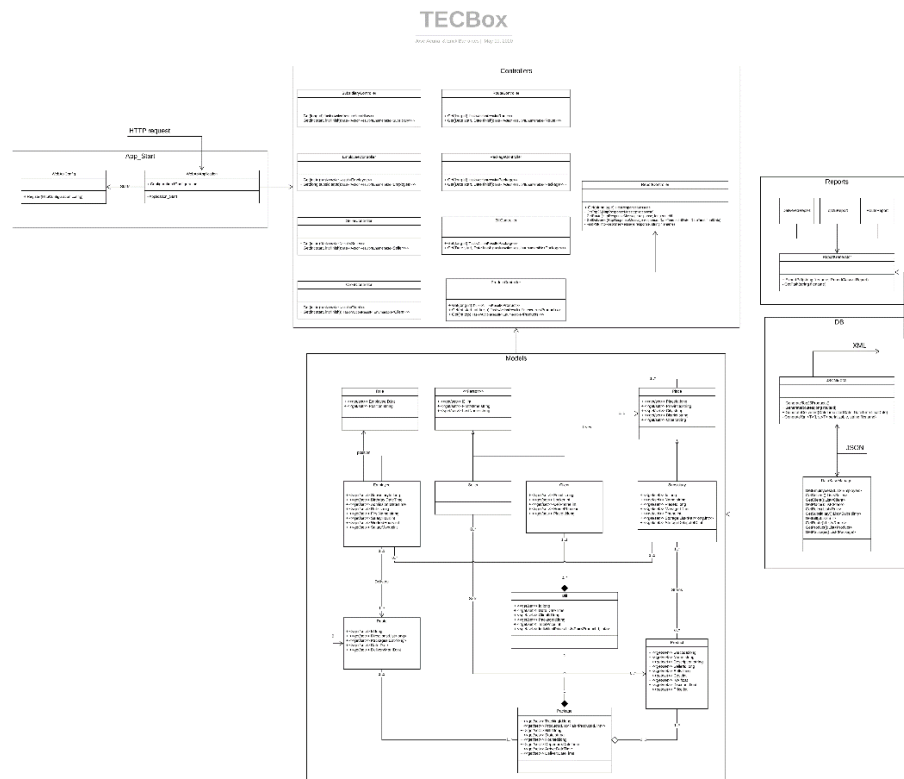
Architecture

Project architecture

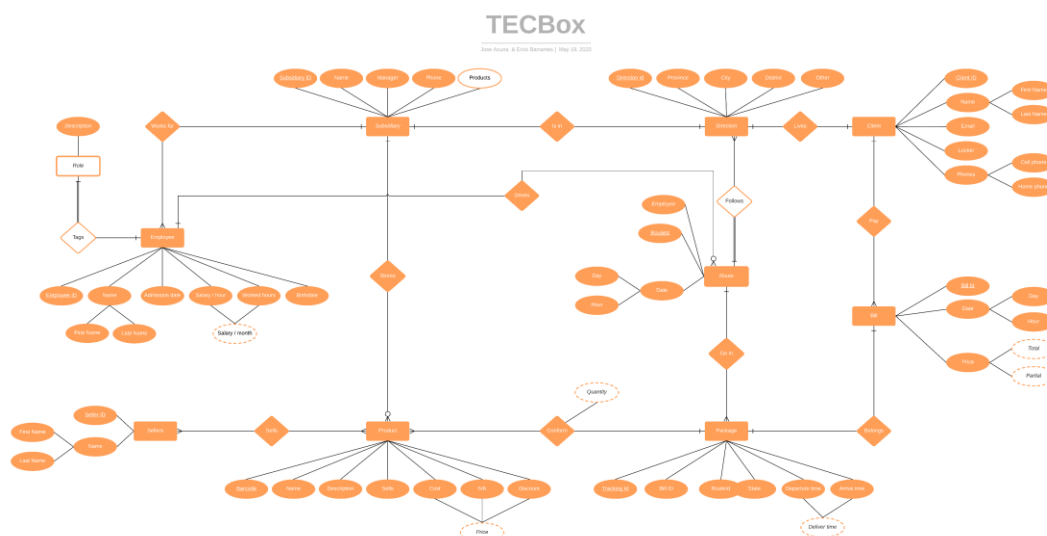
Three applications were made, TECBoxWeb is the front-end application developed on the Angular framework and contains an Authentication, Store (Client), Administrator, Storage and Reports page; the web app gets data and the reports from the TECBoxService data base. The Service is a REST API which class's diagram is ahead. The mobile app is a simple app with authentication for user and package view for the storage department. Both web and mobile apps are connected to the Fire Base authentication service for managing the user's credentials.



Class diagram



Data Base conceptual diagram



Bugs and problems

Open issues

TECBoxWeb

- Storage view tables shows the last data selected on the Admin view and are treaded as the same table-entity, instead of the separated tables.
- Data editor on the Data Tables doesn't work.
- When buying products from cart nothing happens.
- Store search bar doesn't exist.

TECBoxService

No issues active.

TECBoxMobile

- The packages view doesn't allow to administrate the packages.
- When using the navigation bar, the packages list will appear blank, use the return button on the device to refresh the package view.
- In the setting view the return button doesn't work, user the return button on the device.

Closed issues

TECBoxWeb

- Data Tables weren't updating the data when new information arrived. The solution was to store the data in the local storage and refresh the page.
- Authentication, the Auth page wasn't connecting to firebase and it was throwing `<this.afa.SignInWithEmailAndPassword is not a function>`. The solution was updating `@angular/fire` to `@angular/fire^6.0.0`. Reference to the fix: <https://github.com/AnthonyNahas/ngx-auth-firebaseui/issues/523>
- Double scroll bar at the left, this happened cause the footer component was outside the main nav container. The solution was placing the footer inside the main nav component.

TECBoxService

- CORS (Cross Reference Resource Sharing) this error happened when trying to send the reports to the web app, caused because the request didn't have the security requirements. The solution was to disable CORS verification in the API, it's a security flout but a temporary fix while the connections still under a safe localhost.
- Crystal Reports implementation, this report service only works with XML documents, to create a dynamic link between the report class and the XML data. The solution was to create a class to convert JSON to XML and store the new file on the data base, after that we could create the reports classes.

TECBoxMobile

The issues found are still open.

Team

Work plan

App	Components	Characteristics	Priority	Hours	Assigned
WebApp					
	Admin View				
		Roles	High	2	Erick
		Subsidiaries	High	2	Erick
		Employees	High	2	Erick
		Sellers	High	2	Erick
		Products	High	2	Erick
		Routes	High	2	Erick
	Storage View				
		Package creation	High	4	Jose
		Package tracking	High	4	Jose
	Reports View				
		Top 25 products	High	3	Jose
		Routes report	High	3	Jose
		Delivered report	High	3	Jose
	Client View				
		Log in / Sign in	High	3	Jose
		Edit account	High	1	Jose
		Store page	High	4	Jose
		Package tracking	High	1	Jose
		Buying cart	High	3	Jose
Mobile App					
	Authentication View				
		Log in as delivery man	Medium	1	Jose
	Client View				
		Report packages state	Medium	1	Jose
APIs					
	Firebase (Auth Service)				
		Create user	Medium	3	Jose
		Account verification	Low	1	Jose
		Password recovery	Low	1	Jose
	DBMS API				
		GET data as JSON	High	2	Jose
	Billing/Package Manager				
		Package administration	High	2	Jose
		Time to market	Medium	1	Jose
		Package creation	High	2	Jose
		Rout delivery	Medium	1	Jose
		Products import	Medium	1	Jose
	Reporting Service				
		Reports generation	High	5	Jose

Documentation					
	User manual				
		Admin view usage	Medium	0.5	Jose
		Storage view usage	Medium	0.5	Jose
		How to make reports	Medium	0.5	Jose
		Clients view usage	Medium	0.5	Jose
		Mobile app usage	Medium	0.5	Jose
	Installation manual				Jose
		Mobile app	Medium	0.5	Jose
		Drop API on IIS	Medium	0.5	Jose
		Dependencies	Medium	0.5	Jose
	Work plan				Jose
		Task distribution	Medium	2	Jose
		Timeline	Medium	0.5	Jose
	Technical documentation				Jose
		Source code	Medium	2	Jose
		Implemented methods	Medium	2	Jose
		Structures/entities	Medium	3	Jose
		Architecture	High	3	Jose
		Open issues	Medium	1	Jose
		Closed issues	Medium	1	Jose
		Team work	Medium	0.5	Jose
		Conclusions	Medium	0.5	Jose
		Bibliography	Medium	0.5	Jose
		Class diagram	High	6	Jose
		DB conceptual diagram	High	6	Jose
				Total hours	Jose
					Erick

Code manager

As version control we used Git Hub, the repository is <https://github.com/JoDaniel1412/TECBox>

Conclusions

Angular and .NET are powerful frameworks with already built in components, design pattern, project structures, huge documentations and write entire classes or scripts with one command line. Using Angular it's a very different experience, it's not like your typical Java application built from bottom to top. Software developers in this decade don't even write code anymore, with this agile development techniques, frameworks and microservices there is not much space to write your own code, because there already someone else's already existing better version. Microservices and APIs allow the developers to relax more, since you don't have to maintain that code, publish servers to the cloud it's as easy as pressing one or two buttons.

Built optimized and maintainable apps today, relies more in making good diagrams than caring in your memory and pointers. Keep your documentation updated; create the Architecture Diagram before start coding; planning and conceptualizing the data base to then make a Relationship Diagram; planning and dividing the work; those are steps required for any software developer.

Biography

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