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Interactive Web Application For Travel Agencies

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The main goal of this final year thesis was to make a detailed report on a web application designed for a travel agency to search traveling tickets online. There are plenty of such web applications and ticket searching optimized engines available at the moment. This very application was made depending on the requirements and demands made from the owner of the travel agency called Travel Paradise

The customer had his own requirements, ideas of few new features and something unique to offer according to his mind. An effort was made to make a reflection of all his requirements put together and build the application with the best possible ways using the most recent technologies. JavaScript has been used in the front end for the development. Angular Js , HTML, Bootstrap, Express Js all combined together helped it make a good application.

Throughout the thesis, the development processes, theoretical backgrounds, technologies used, functionalities and further development scopes will be discussed. An illustration will also be made of how it is a fast and compatible application among the existing applications at the moment.

Keywords	API, Web, Application, JavaScript, Angular, Node

List of Abbreviations

API: Application Programming Interfaces

GDS: Global Distribution System

HTML: Hyper Text Mark-up Language

JS: JavaScript

CSS: Cascading Style Sheet

VPS: Virtual Private Server

CPU: Central Processing Unit

URL : Uniform Resource Locator

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1 Introduction

At this current age of Internet, human efforts of performing different tasks have been lessened in many ways. Internet has made life way easier, comfortable and time saving. A smart device with internet connections to it can perform tons of tasks which would take longer time, effort and complicacy before the internet age. Along with rapid growth and improvement of different sort of software and web applications, efficiency has improved significantly. New additions and dimensions are being added every now and then to the tech world and all we can see is massive growth of virtual life.

A significant number of businesses and services have been moved to virtual environment over the last few years. There is many business running at the moment from a different corner with customers interacting virtually. An engine for searching, booking and buying air tickets is a good example of business and services that has gone virtual. Customers can search for their needs without any face to face negotiation with the sellers which is time saving and satisfactory. This facility has been very popular and thus a trend of buying online tickets has been increased extensively over the past few years.

An interactive web application for travel agencies means travel agencies can create interactive website easily with a some programming knowledge and using by using proper tools in a simple way.

The goal of this thesis is to write details about an application built for online ticket booking and buying. Throughout the thesis, the development processes, technologies used, theoretical backgrounds, functionalities and future development possibilities will be discussed.

2 Technologies Used

2.1 Angular Js

Angular Js is a structural framework of JavaScript for making dynamic web app. It allows developers to use HTML template and lets them extend HTML's syntax to express web applications components thoroughly. This framework is made for client side solution and it can manage all the DOM and AJAX glue code in a systematic organized way so in that way it is very useful to create web based application on a large scale. Leading companies in the world such as The Guardian, PayPal, Netflix, Lego are making their website using angular Js because of it's robust nature and fluid performance. [1]

2.2 HTML

Hyper Text Mark-up Language or HTML defines the structure of a web page with mark-up. It is widely used among developers because of it's fast learning curve for making a webpage. HTML is created with a bunch of short code written on a note file which is saved as a html file and helps viewer to view it on the website. [2]

2.3 Cascading Style Sheet (CSS)

CSS is often used to add design layout to a certain webpage. It organises information in a presentable way to the end client. Developers uses various CSS syntax to alter font, background colour, margin even sometimes beautiful animations with simple code. In today's world CSS plays an important role when it comes to designing website. [3]

2.4 Bootstrap

Bootstrap has become a hype in today’s world when it comes to design responsive webpage and with the help of JQuery this became the most popular front-end library now a day. It contains HTML and CSS based design templates to create beautiful design in short time. Twitter developer Mark Otto and Jacob Thornton has created the bootstrap on mid 2010. Since then it used to call ‘Twitter Blueprint’. It makes HTML and CSS much easier and powerful then ever before. [4]

2.5 Node Js

Node Js framework has the biggest library in Open Source development world. It is a [5] standalone framework which works flawlessly using V8 JavaScript runtime engine. V8 JavaScript runtime engine is an open source runtime environment from google which can run standalone application and can embedded in any C++ based programs. This runtime engine is used in google chrome, Opera and Vivaldi web browsers, Couchbase database, Node Js runtime environment etc. This V8 runtime engine converts node Js JavaScript code into low level machine code to run seamlessly. Node Js has a non blocking I/O model which is capable of receiving and handling multiples entries simultaneously and as a result when it comes to multitasking then node Js excels in every way. [6]

2.6 GetSiteControl

GetSiteControl offers various kinds of widgets to make a website more useful. Research shows that 81 percent markets believe that interactive web applications keep an user interested to a certain website, where 79 percent believes that it will keep up the brand value and make a brand stand out from the others [8]. GetSiteControl has wide range of widgets to choose from and developers can embed their code on their website to make their webpage much more interactive.

2.7 DISQUS

Disqus is a web tool which gathers all the online community in a same place. Most of the community bloggers are using Disqus because here one can find and talk with people with similar interests. Disqus is more than a forum. On a typical forum people have to register themselves in a forum in order to open their own thread or talk with members on other threads. Disqus brings forum into website. People can discuss issues in a forum by logging with Facebook, twitter or google account and can continue the discussion further. Also user can agree or disagree other user's opinion by clicking up vote or down vote option. [10]

2.8 Express Js

Express Js is a stack of feature and packages to built mobile and web application faster and easier. it is the best HTTP framework for node Js as it handles most of the http module for Node js by handling cookies and sessions. Express js is most popular for building RESTful API because of it takes less time to build API. [11]

3 Environment Setup

Web application consists a lot of process to be taken care at the same time. To set up a web application certain application and packages need to install and properly configure in able to function properly. Here I am going to briefly explain what I have composed to make my web application

3.1 Installing Text Editor

One can choose lots of text editor to work with but here I am choosing ATOM text editor because of it’s simplicity and ease of using. Though there are various text editor to choose and work with so one can start coding with any of text editor they are comfortable with.

As I am using Unix kernel system so I can run my commands through terminal. But for Windows users there is Git-bash which will allow bash commands in windows environments.

3.2 Installing Node Js and Express Js

Installing Node Js is pretty much simple things to do. One can download the node Js package manager from their website and install it like any other normal application installer or can run few commands to get them downloaded as well. Here I have downloaded node Js via terminal by entering the simple command given below.

```
curl "https://nodejs.org/dist/latest/node-${VERSION:-$(wget -qO-
https://nodejs.org/dist/latest/ | sed -nE 's|.*>node-
(.*)\.pkg</a>.*|\1|p')}.pkg" > "$HOME/Downloads/node-latest.pkg" && sudo
installer -store -pkg "$HOME/Downloads/node-latest.pkg" -target "/"
```

or

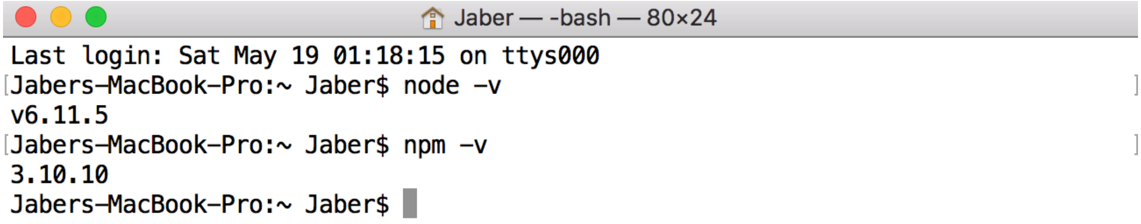
```
brew install node
```

Figure 1 : Installing Node Js

As shown in Figure 1 mac os users can use curl or brew command to install node Js on their computer. But keeping in mind that when installing node Js sometimes it needs the approval of admin so adding 'sudo' before command line will give the privilege to run that program as an admin to successfully install Node Js.

Express Js combines with node Js to make robust standalone application with JavaScript. It adds more functionality on the server side and being as a lightweight framework express Js is popular among the JavaScript developers. It helps node Js to build a website by it's own because node Js is not capable to build a website alone. Express Js handles the server side application with node Js. To install express Js via npm package manager we can install it like the code shown below

```
$ npm install express –save
```



```
Last login: Sat May 19 01:18:15 on ttys000
Jabers-MacBook-Pro:~ Jaber$ node -v
v6.11.5
Jabers-MacBook-Pro:~ Jaber$ npm -v
3.10.10
Jabers-MacBook-Pro:~ Jaber$
```

Figure 2 : Node Js and npm package manager

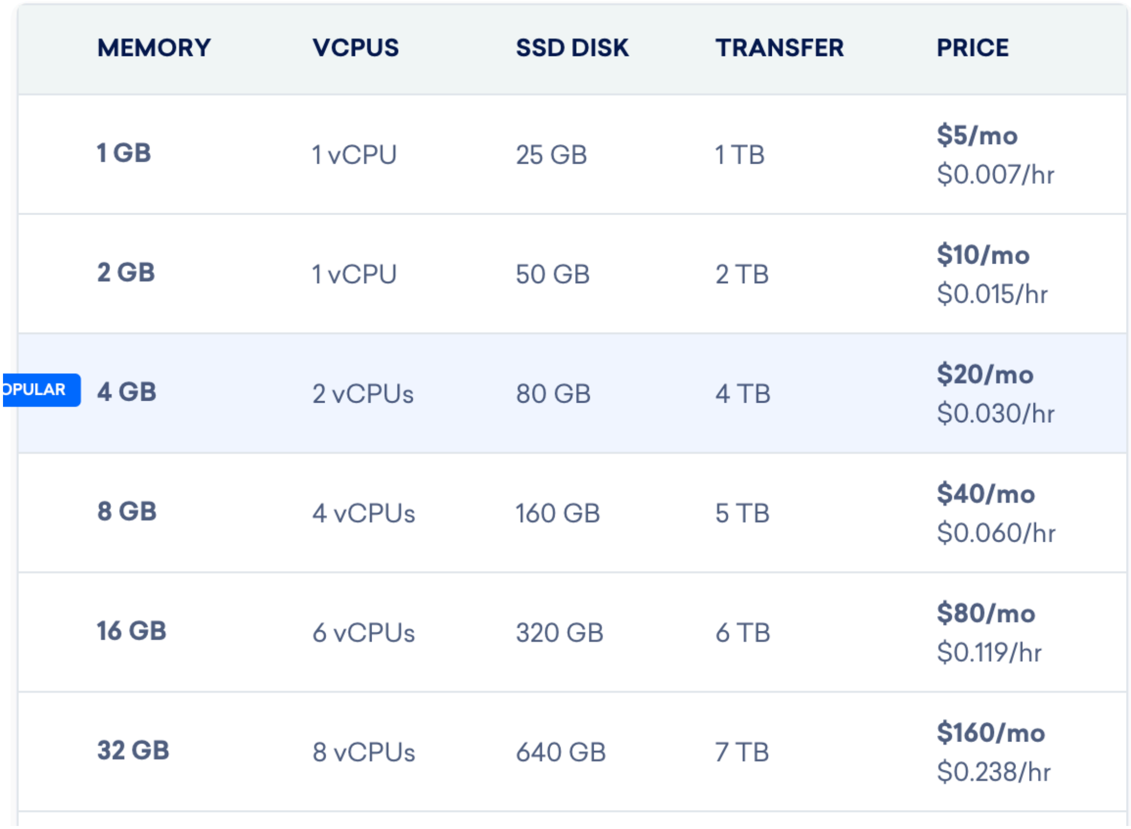
On Figure 2 here is a demonstration to view the version of node js and npm package manger installed on the computer. Here, node – v represents the version of node js and npm –v represents the version of npm package manager. To install the latest npm package manager I have used the code given below

```
npm install npm@latest -g
```

3.3 Virtual Private Server (VPS)

3.3.1 Digital Ocean

Digital ocean is a VPS provider which will help developers to deploy website or web application in no time. A VPS is basically an extra computer which is allowing user to connect and disconnect any other computer in the world. It will also provide the desired bandwidth one might need and it is able to run processes while keeping files safe and secure and comes at a low cost comparing in today's world.



MEMORY	VCPUS	SSD DISK	TRANSFER	PRICE
1 GB	1 vCPU	25 GB	1 TB	**$5/mo** $0.007/hr
2 GB	1 vCPU	50 GB	2 TB	**$10/mo** $0.015/hr
OPULAR 4 GB	2 vCPUs	80 GB	4 TB	**$20/mo** $0.030/hr
8 GB	4 vCPUs	160 GB	5 TB	**$40/mo** $0.060/hr
16 GB	6 vCPUs	320 GB	6 TB	**$80/mo** $0.119/hr
32 GB	8 vCPUs	640 GB	7 TB	**$160/mo** $0.238/hr

Figure 3 : Digital Ocean Prices [13]

From the figure 3 we can see that users can rent virtual servers from provider's like digital ocean and they can choose their desired memory, CPU, disk sizes, transfer rates and prices.

3.3.2 Digital Ocean with Nginx

Nginx is an asynchronous, event driver web server which runs at less memory and can perform multiple tasks in a single thread. Here I could even choose apache server which is quite popular but because of Nginx's high concurrency, reverse proxy and load balancer I think it will be beneficial to implement a web application like a travel agency because when various data requests are coming from all the world the web application might tend to slow down because of lots of process handling. Nginx Developers says it can hold up to 10 thousand connections at a same time without crashing down [7].

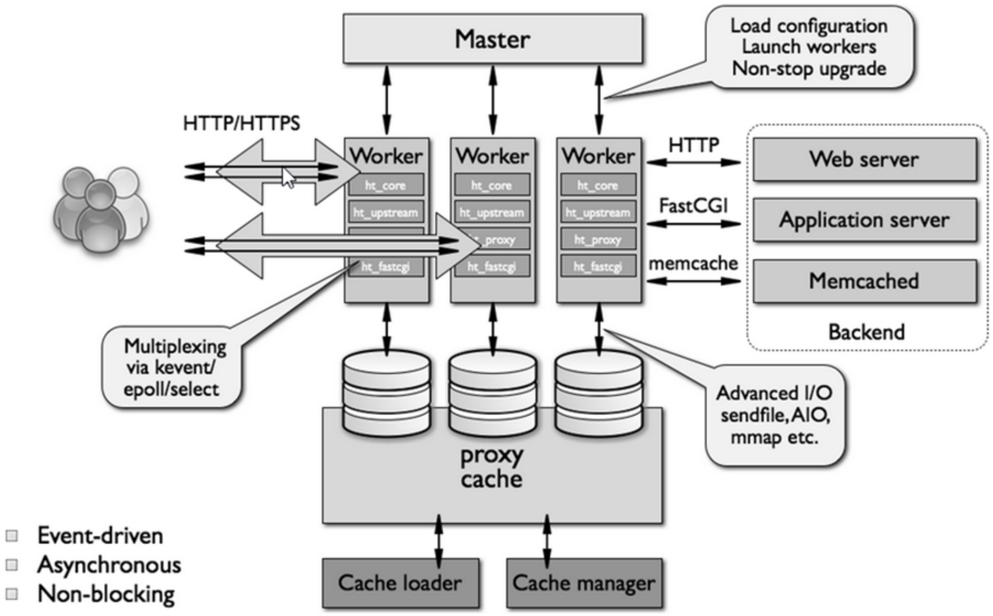


Figure 4 : Nginx Architecture Diagram [14]

Here we can the see the Nginx Architecture Diagram which includes a master process, worker process and nginx cache. The main purpose of master process is to read and evaluate the configuration files and after that it will spawn to the worker processes which is defines in it's configuration file. Worker processes on the other hand deals with client request and response related data (Shown in figure 4).

Master process doesn't interfere with anything related to worker process as long as it not concerned to special client request. Worker process does everything for master process. From Figure 4 we can see that two worker process deals with all the 'http/https' client request and caching contents at the same time and another worker process deals with the web and application server as well as backend processes as well.

Content cache observes everything between the client pc and server and saves all the content and as a result when the server get's same request from the client he shows the content previously stored on client's pc so it doesn't need to request same content from the server. This improves performance significantly on client's side [12].

Thus, implementing Nginx web server to Digital Ocean VPS I became able to:

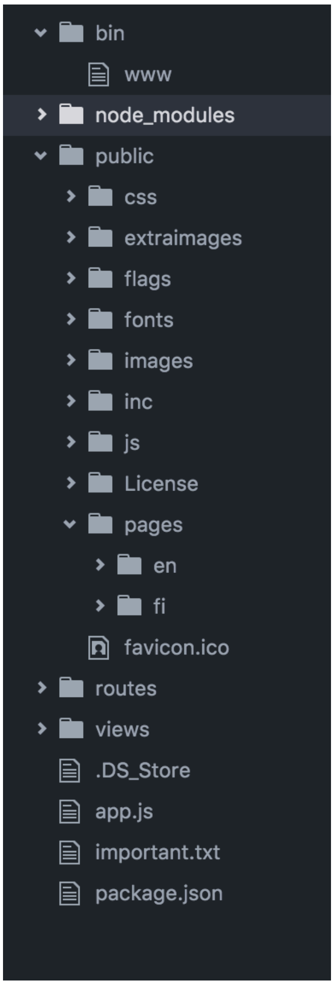
- Prevent root force attack by blocking root access
- Created a new user
- Disable unused connections for increased security
- Allowing HTTP, HTTPS and SSH with ufw command which automatically comes with Nginx
- Clone the web application into the server through github
- Encrypting SSL certificate to make it more robust and secure.

4 Deployment

Deploying a web application needs proper knowledge to create bridge between different functions and work as a team. This deployment section will focus on some of the core functions.

4.1 Application Structure

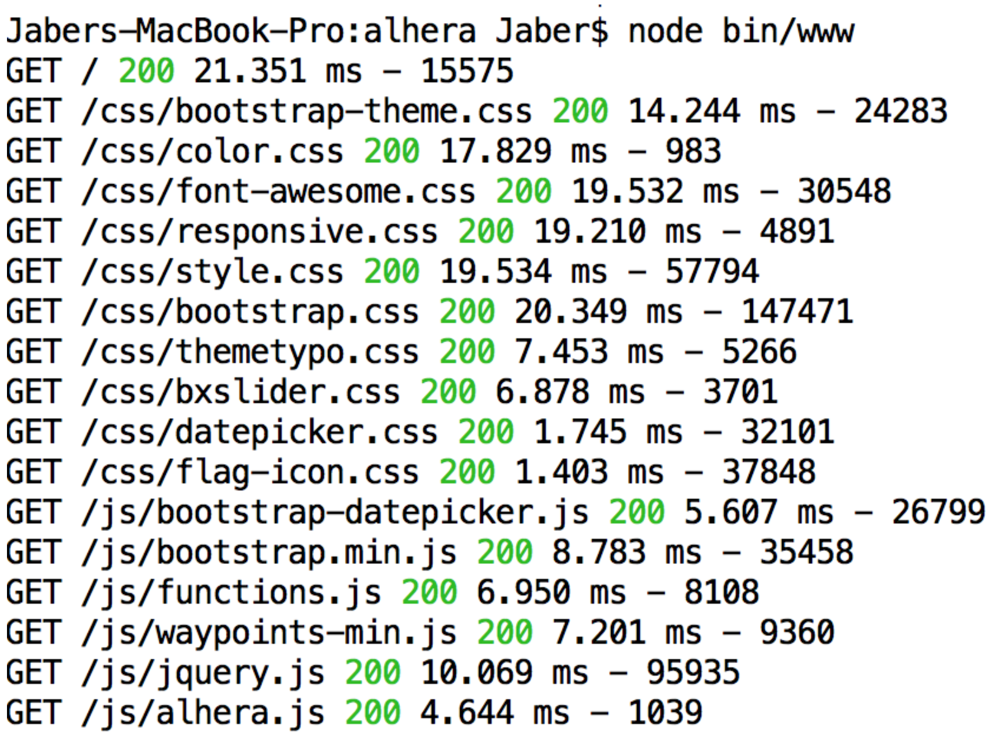
Here on figure 5 we can see the basic structure of my web application. Here I have inaugurated all the technologies discussed on Chapter 2. On the 'bin' folder there are all the strap up script to execute the app (shown on Figure 6) from the terminal. 'Node _ modules' contains all the node js dependencies needed for a standalone application. 'Public' folder has all the style sheet pages, Images for the website, fonts, JavaScript files etc.



```
bin
    www
node_modules
public
    css
    extraimages
    flags
    fonts
    images
    inc
    js
    License
    pages
        en
        fi
    favicon.ico
routes
views
.DS_Store
app.js
important.txt
package.json
```

Figure 5 : Application Structure

‘Pages’ folder contains html files for each tab. As the web application is bilingual right now so under the ‘Pages’ section English files are kept in English and Finnish files are kept in Finnish folder. ‘Routes’ handle all the node js route and ‘View’ have the app.js and package.json configurations.

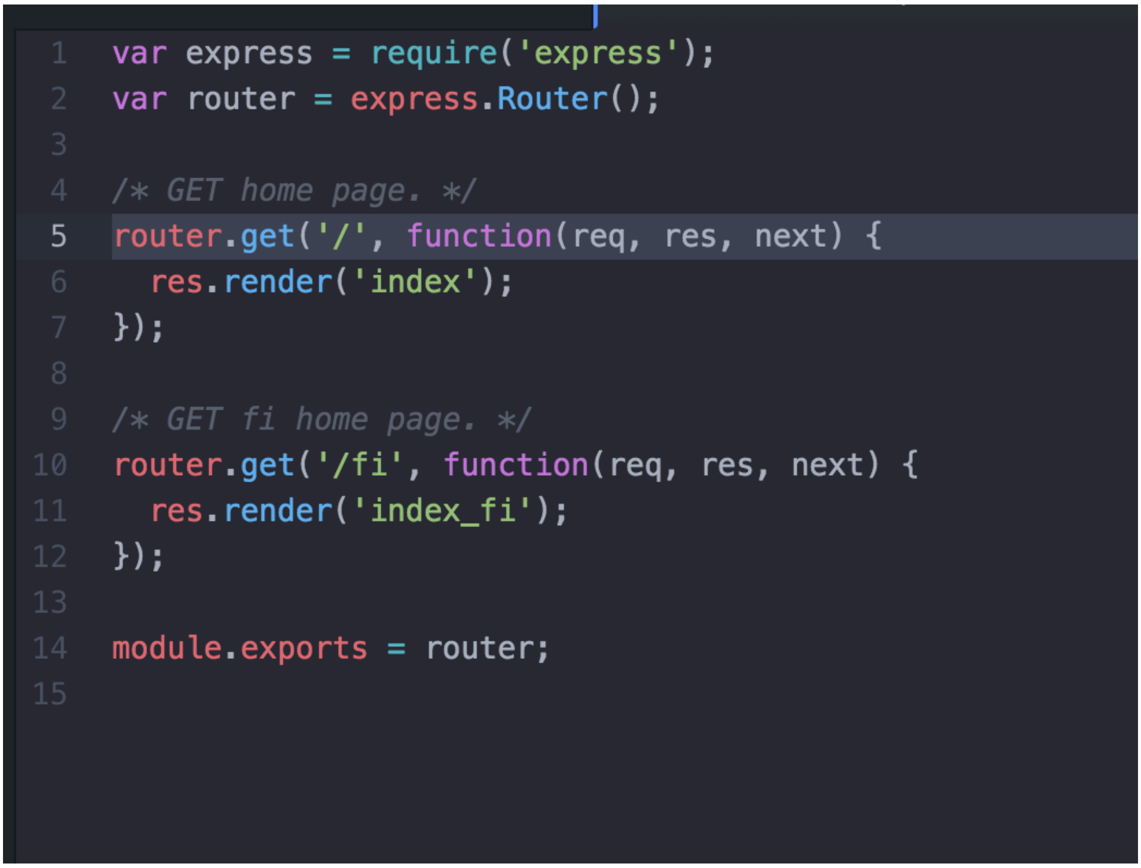


```
Jabers-MacBook-Pro:alhera Jaber$ node bin/www
GET / 200 21.351 ms - 15575
GET /css/bootstrap-theme.css 200 14.244 ms - 24283
GET /css/color.css 200 17.829 ms - 983
GET /css/font-awesome.css 200 19.532 ms - 30548
GET /css/responsive.css 200 19.210 ms - 4891
GET /css/style.css 200 19.534 ms - 57794
GET /css/bootstrap.css 200 20.349 ms - 147471
GET /css/themetypo.css 200 7.453 ms - 5266
GET /css/bxslider.css 200 6.878 ms - 3701
GET /css/datepicker.css 200 1.745 ms - 32101
GET /css/flag-icon.css 200 1.403 ms - 37848
GET /js/bootstrap-datepicker.js 200 5.607 ms - 26799
GET /js/bootstrap.min.js 200 8.783 ms - 35458
GET /js/functions.js 200 6.950 ms - 8108
GET /js/waypoints-min.js 200 7.201 ms - 9360
GET /js/jquery.js 200 10.069 ms - 95935
GET /js/alhera.js 200 4.644 ms - 1039
```

Figure 6 : Starting the web Application

4.1.1 Express Routing

Express routing is used here to listen user’s request. As we see from figure 7 we can see that this web application is multi lingual so the get request plays two roles in the same web application. Whenever the router receives request to go back to it’s root directory then it immediately check the path and take action according to it.



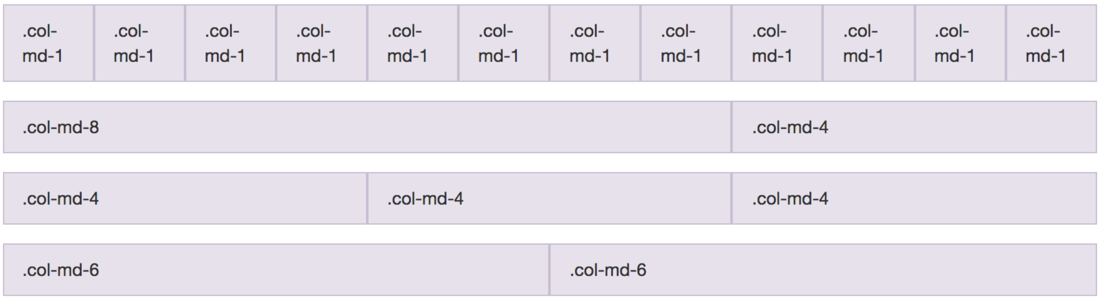
```
var express = require('express');
var router = express.Router();

/* GET home page. */
router.get('/', function(req, res, next) {
  res.render('index');
});

/* GET fi home page. */
router.get('/fi', function(req, res, next) {
  res.render('index_fi');
});

module.exports = router;
```

Figure 7 : Express Routing

Routing in Express Js is actually helps to run it as a standalone application. Whenever it finds get request from the server it will render information according to it’s given command. Here in Figure 7 we can see that in my code I have set the command for the get request will direct the user into root directory.

4.1.2 Responsive Layout

The beauty of bootstrap layout to make the website responsive in an easy way. Usually bootstrap layout consists of containers, rows and columns. Here ‘.col’ class specifics the columns and their sizes. ‘.col’ is a prefix in bootstrap which indicates column classes.



.col-md-1 .col-md-1 .col-md-1 .col-md-1 .col-md-1 .col-md-1 .col-md-1 .col-md-1 .col-md-1 .col-md-1 .col-md-1 .col-md-1

.col-md-8 .col-md-4

.col-md-4 .col-md-4 .col-md-4

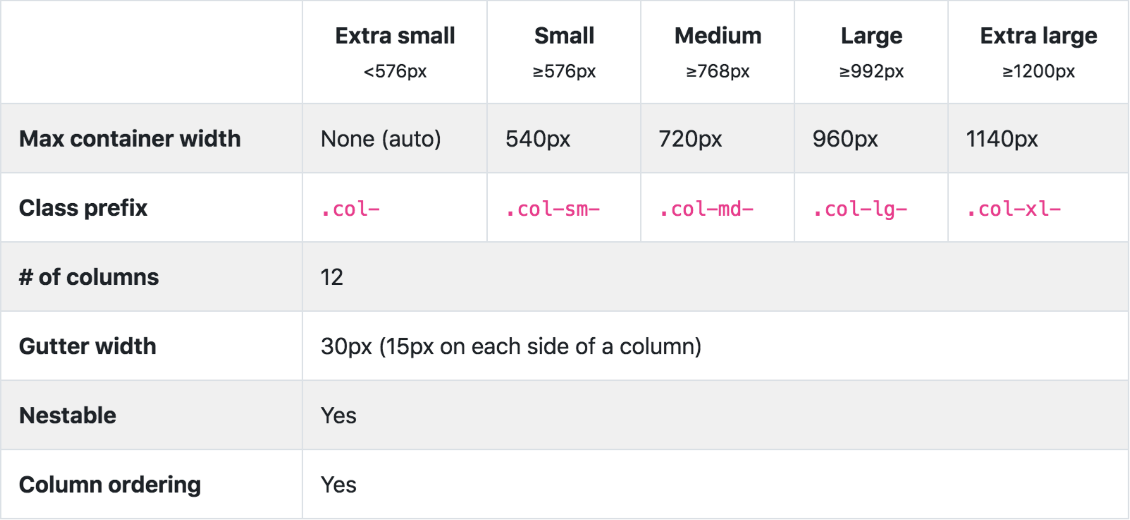
.col-md-6 .col-md-6

Figure 8 : Bootstrap Grid System [15]

In bootstrap a row essentially behaves as the parent element that contains a number of columns. So from figure 8 as we can see a row is divided into 12 parts of column grids because bootstrap works with 12 columns grid system. Here these column class prefix defined as '.col-md-1'. 'md' means the column is made for devices with a resolution of ≥768px.

When it comes to choose a layer user can always divide these 12 columns into as many parts as they want but the sum of divided columns must be 12. [9] if we examine figure 8 more elaborately then we can see there are three examples given here for better undestanding about how we can design our layout by aligning colums.

The first example shows a content area where the column that spans 8 colums next to 4 columns, the second one the colums are divided into three equal parts where in every parts each spans 4 colums and similariry the third expamle shows the 12 grid column system is divided into two parts where each part spans 6 column.



	Extra small <576px	Small ≥576px	Medium ≥768px	Large ≥992px	Extra large ≥1200px
Max container width	None (auto)	540px	720px	960px	1140px
Class prefix	`.col-`	`.col-sm-`	`.col-md-`	`.col-lg-`	`.col-xl-`
# of columns	12				
Gutter width	30px (15px on each side of a column)				
Nestable	Yes				
Column ordering	Yes				

Figure 9 : Grid Layouts Copied from [16]

There are 5 kinds of column class prefix available in bootstrap for different screen resolution. From figure 8 we can see that there are Extra Small, Small, Medium, Large, Extra Large and the prefix for these resolutions are .col-, .col-sm-, .col.md-, .col-lg-, .col-xl- respectively. Gutter width is 15px on each side of column. Gutter width represents space between columns. Columns created in bootstrap are nestable means users can create new grid into a column of set of column.

4.1.3 Angular Routing

Angular Routing is necessary for Single web page application where their users can navigate webpage without reloading the page. With the help of ngRoute module it is possible to do angular routing.

```
var app = angular.module("AlheraApp", ['ngRoute'])
.controller('FrontController', ['$scope', function ($scope) {
var s = $scope;
s.scrollDown = function() {
}}])
.config(function($routeProvider, $locationProvider) {
$locationProvider.hashPrefix('!');
$routeProvider.
when("/", { Url: "pages/en/front.html" }).
when("/aboutus", { templateUrl: "pages/en/about-us.html" }).
when("/offers", { templateUrl: "pages/en/package-list.html" }).
when("/news", { templateUrl: "pages/en/blog-large.html" }).
when("/contactus", { templateUrl: "pages/en/contact-us.html" }).
when("/terms", { templateUrl: "pages/en/terms.html" }).
otherwise( { redirectTo: "/" });
});
```

Listing 1: Angular Routing

For every page I triggered the ngRoute module into the main module along with certain conditions which will allow users to switch between pages to pages. From Listing 1 we can see that routes are provided in $routeProvider and similarly locations are provided in $locationProvider.

If we examine the code, then we see that each routes are assigned to different Url. When it get command from the browser then the route inspect the URL and provide component according to it. In this example the route will redirect to a certain page.

5 Functionalities

A web application is just not a normal website. Inside of a web application there are lots of functions which will make it work like a real application. Here I am going to briefly explain about some of core functionalities of my web application.

5.1 Multilingualism

The website has designed bearing in mind that the contents will be viewed in different languages. As this web application is based in Finland so here I implemented English and Finnish version of the webpage.

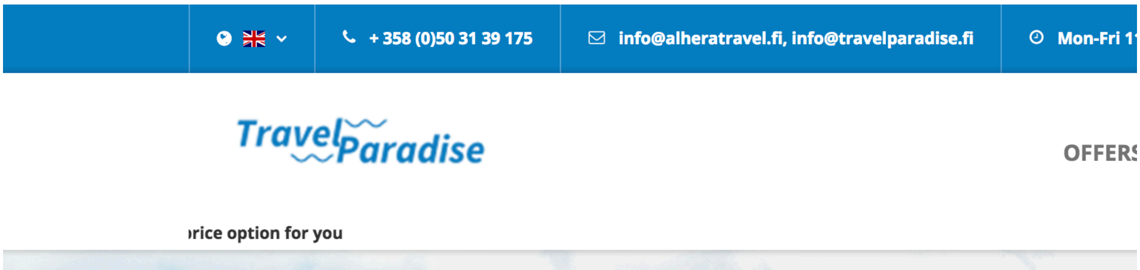


Figure 10 Multilingualism

When users go to the website they will be introduced to the English webpage but from figure 10 we can see on the top left corner there is an option from choosing languages by clicking the flag icon and flag always indicates the language on action.

Multiple language is a great feature to have now a day but managing multiple language could be a challenge when there will more and more languages. For example, a user wants to make an ‘about us’ page in Finnish language. So User need to make a copy from original ‘about us’ page and should translate each and every part of English words into Finnish.

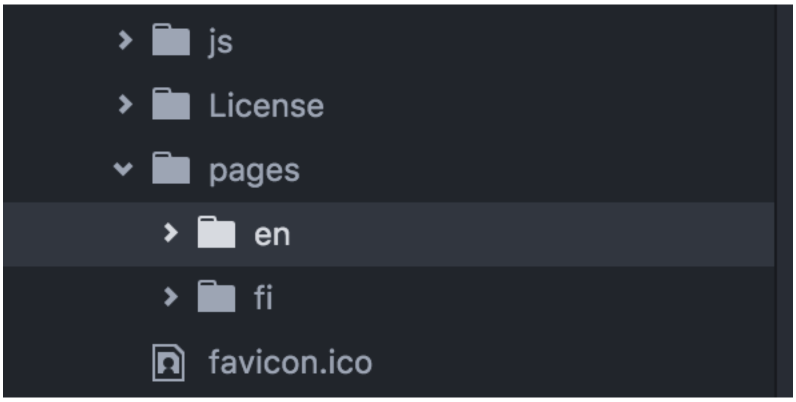


Figure 11 : Multilingual Pages

To keep it more synchronised I have put all the English pages to one folder and all Finnish pages to another as we can see in Figure 11. In future this will help me to add more language.

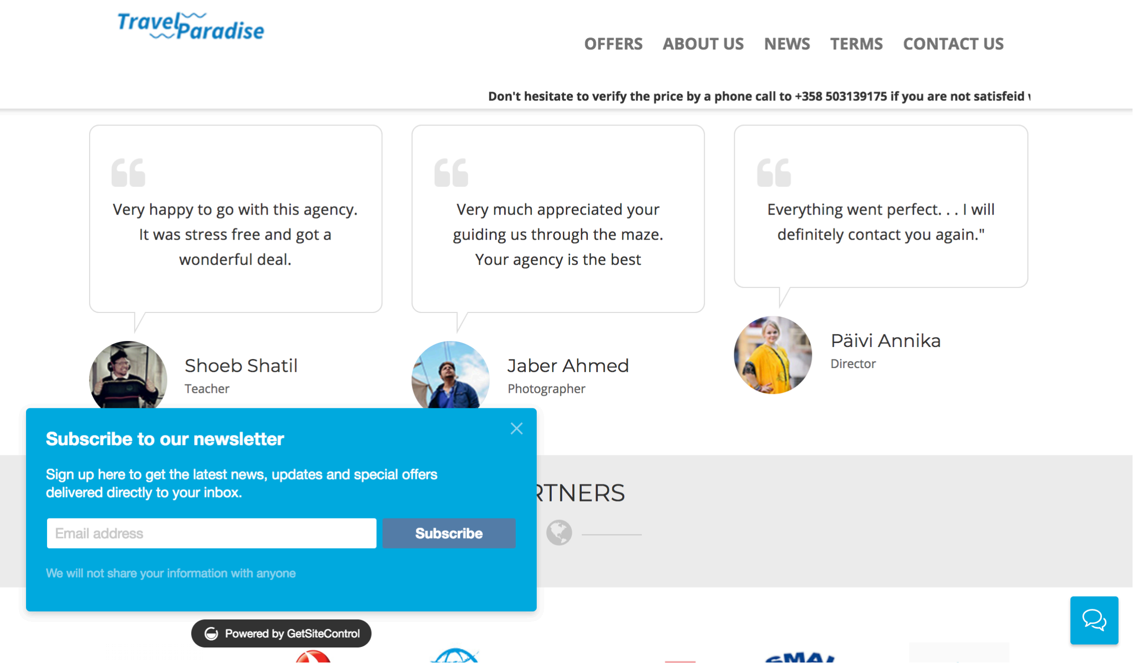
5.2 Widgets

Widgets are attractive and useful features in modern web application. It adds new dimension when creating a web site. Web widgets are the great way to adding value added contents to a website. From creating a blog, personal portfolio or company website, widgets are using everywhere. Now a day's people don't like browsing on simple webpages where there are only a few texts and pictures here and there. Adding a few widgets by embedding codes is one of the easiest job to give any page a newer look.

Here I have implemented some widgets from GetSiteControl to make my web application more interacting. Websites like travel agency adding a newsletter, real-time chat, important notification pop-ups, smart contact us feature is a must needed. Among all other widgets around the web GetSiteControl provides the simplest clean look so I choose it to add some features in my web application.

5.2.1 Newsletter

Newsletter are meant to have filled with various offers regarding products and often sent to the subscribers once in a month. Service providers like travel agents always send newsletter to the subscriber to make more sales at the end of year. From the business point of view newsletter is a popular way to online marketing. In my web application I have deployed newsletter perhaps as can be seen in Figure 12. So when customer is almost finished scrolling a pop up will come out asking for subscription.



Don't hesitate to verify the price by a phone call to +358 503139175 if you are not satisfeid

Very happy to go with this agency. It was stress free and got a wonderful deal.

Shoeb Shatil
Teacher

Very much appreciated your guiding us through the maze. Your agency is the best

Jaber Ahmed
Photographer

Everything went perfect. . . I will definitely contact you again."

Päivi Annika
Director

Subscribe to our newsletter

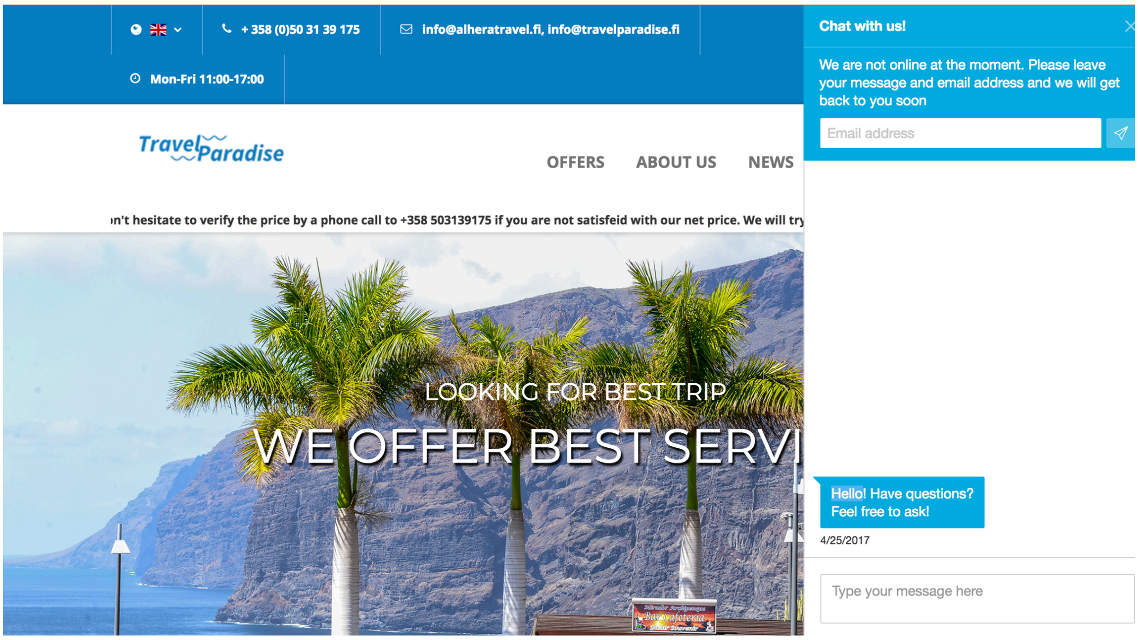
Sign up here to get the latest news, updates and special offers delivered directly to your inbox.

We will not share your information with anyone

Figure 12 : Newsletter

5.2.2 Real-time Chat Service

Real-time Chat is another widget taken form GetSiteControl. It provides customer service when necessary. Users can chat real-time with a real person on regular work times which differs from agent to agent. Chatting is a great way to answer any queries whether they are available or unavailable on the web application. In Figure 12, we can see on the bottom right corner there is a small minimized button for chatting. When the user clicks on the bubble then the pop up will appear as shown in Figure 13.



n't hesitate to verify the price by a phone call to +358 503139175 if you are not satisfeid with our net price. We will try

Chat with us!

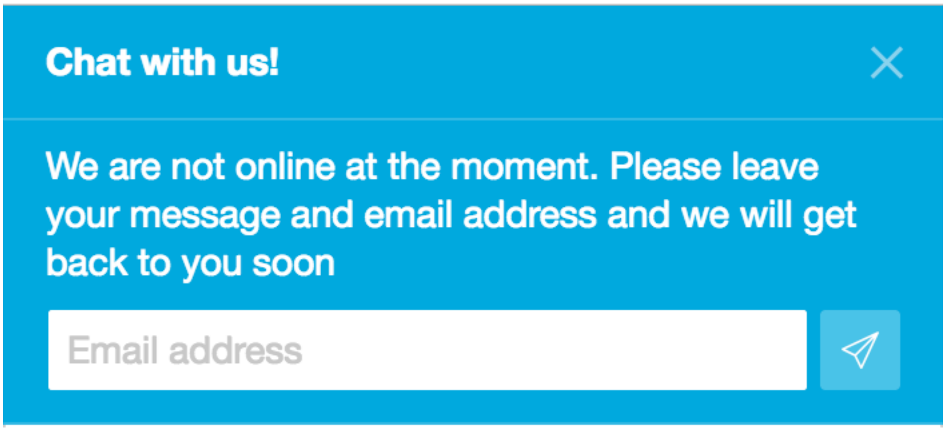
We are not online at the moment. Please leave your message and email address and we will get back to you soon

Hello! Have questions? Feel free to ask!

4/25/2017

Figure 13 : Real-time Chat

Travel agents when they are online can chat with customers and when they are not available they can still reply to the user's answer. As shown in Figure 14 users need to give their email address and submit their queries and an agent can get to the user as soon as they can see the email. This service can greatly help small businessmen to get new clients and fulfilling their needs.



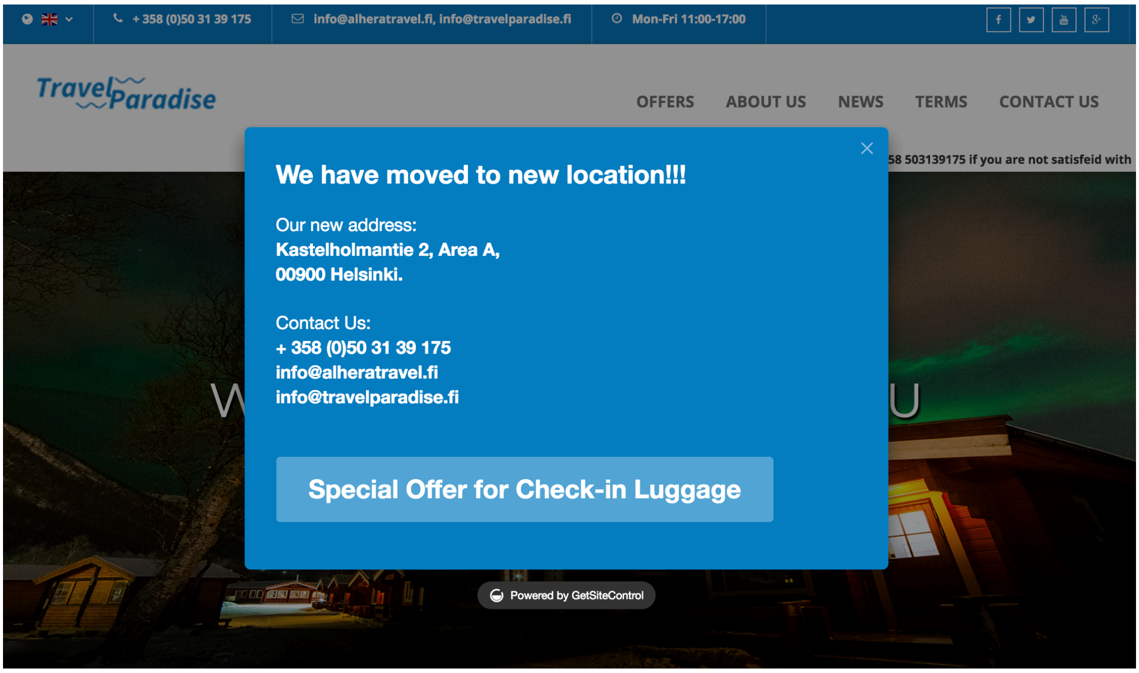
Chat with us!

We are not online at the moment. Please leave your message and email address and we will get back to you soon

Figure 14 : Offline supports

5.2.3 Notification Pop-Ups

Travel agents are often getting various offers from the airlines specially in off-peak season and they always want to inform their users every time. One can always send newsletter to the subscripted user but the occasional visitors might miss the tempting offers if they are displayed some corner of webpage. Often we see on websites most agents choose the traditional option which is showing offers to the main website slideshow. Slideshows are a mixture of couple of slides rotating one after one in couple of seconds duration. Most of the users tend to scroll down on a webpage for more options rather than viewing the slideshow and thus they might miss any offer. By making a pop up notification can solve the problem. Every user can see it so there are very small chances they can miss any important information like change of address or extra luggage offer on certain airways.


+ 358 (0)50 31 39 175
info@alheratravel.fi, info@travelparadise.fi
Mon-Fri 11:00-17:00
TravelParadise
OFFERS
ABOUT US
NEWS
TERMS
CONTACT US
58 503139175 if you are not satisfeid with
W
U
Powered by GetSiteControl

We have moved to new location!!!

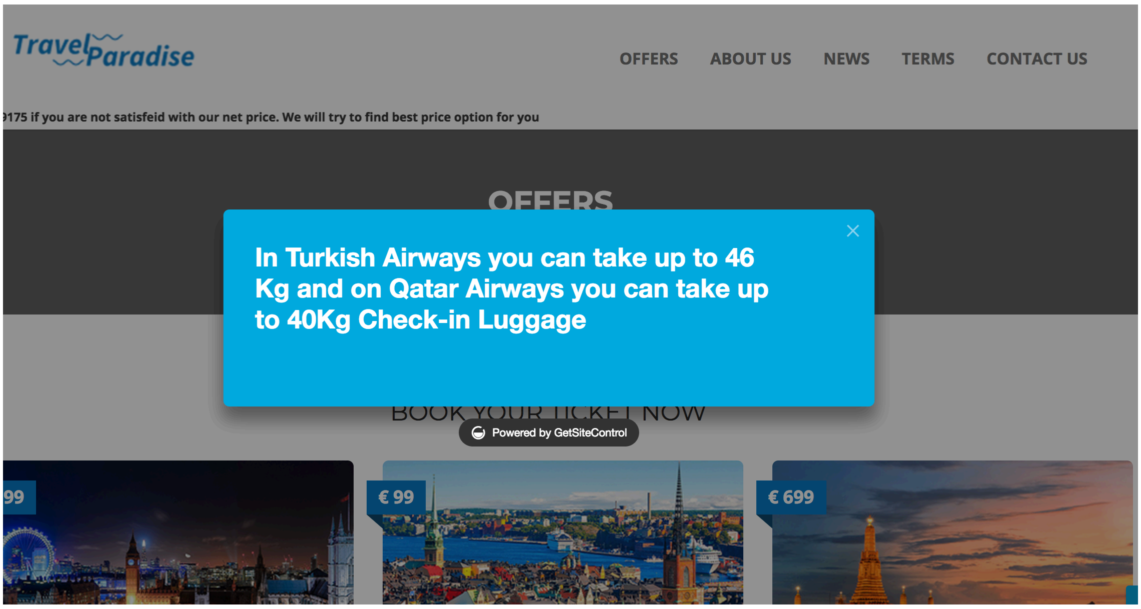
Our new address:
Kastelholmantie 2, Area A,
00900 Helsinki.

Contact Us:
+ 358 (0)50 31 39 175
info@alheratravel.fi
info@travelparadise.fi

Special Offer for Check-in Luggage

Figure 15 : Popup for address change

On figure 15 the pop-up can be viewable to the customers as soon as they enter the website so they know that the travel agent moves to a new address



9175 if you are not satisfeid with our net price. We will try to find best price option for you

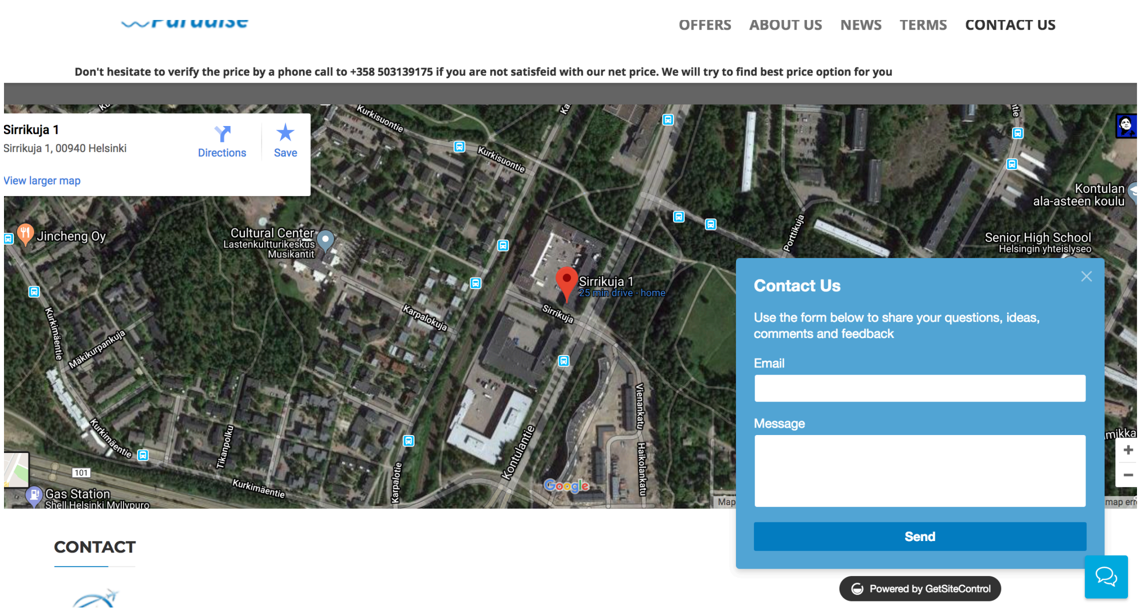
In Turkish Airways you can take up to 46 Kg and on Qatar Airways you can take up to 40Kg Check-in Luggage

Figure 16 : Offers

Figure 16 is an example when user navigate to the offer section and see some tempting offer before making any decisions.

5.2.4 Contact Page

Instead of having a typical contact form I have used contact popup from GetSiteControl. The speciality of this popup is that it will appear automatically when user go to the contact us page and it will keep hovering on the bottom left corner on the web application as we can see it on Figure 17. It is scaled as a way so that it won't distract the audience from browsing the web application as well as helps the user to easily contact.



Don't hesitate to verify the price by a phone call to +358 503139175 if you are not satisfeid with our net price. We will try to find best price option for you

Contact Us

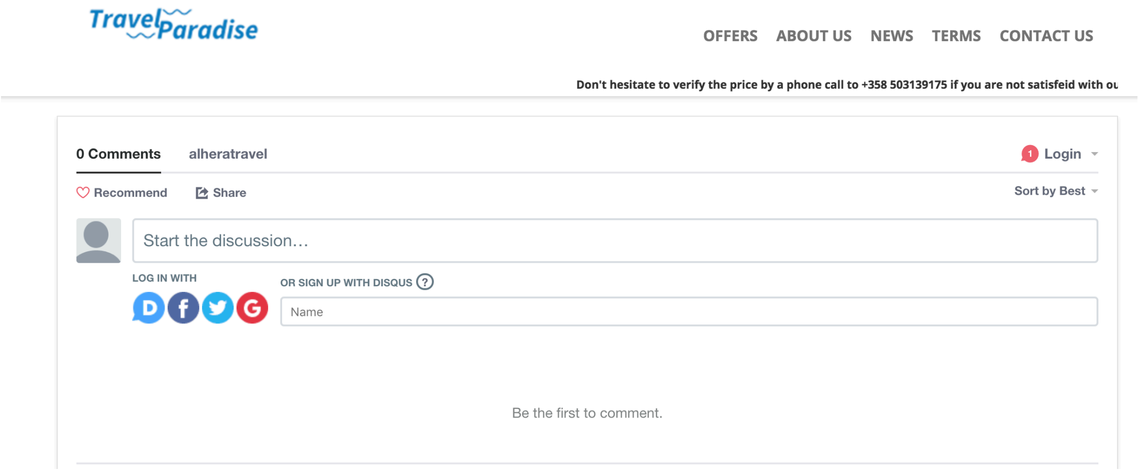
Use the form below to share your questions, ideas, comments and feedback

Figure 17 : Contact Us

5.3 Social Communication

When making this web application I want to make it useful as a mirror so when users are using this web application they feel engaged to the agent and similar users as well. Here I have implemented one to many communication medium using Disqus. Disqus works here as a forum where users can share their opinion by using their Facebook, google or twitter account and keep a discussion alive.

As we can see on Figure 18, with the help of discuss we can see a forum like environment where user can login and make a new comment. There is a option for like and share post so users can share others post in social networking sites and get more people into a conversation.



Don't hesitate to verify the price by a phone call to +358 503139175 if you are not satisfeid with ou

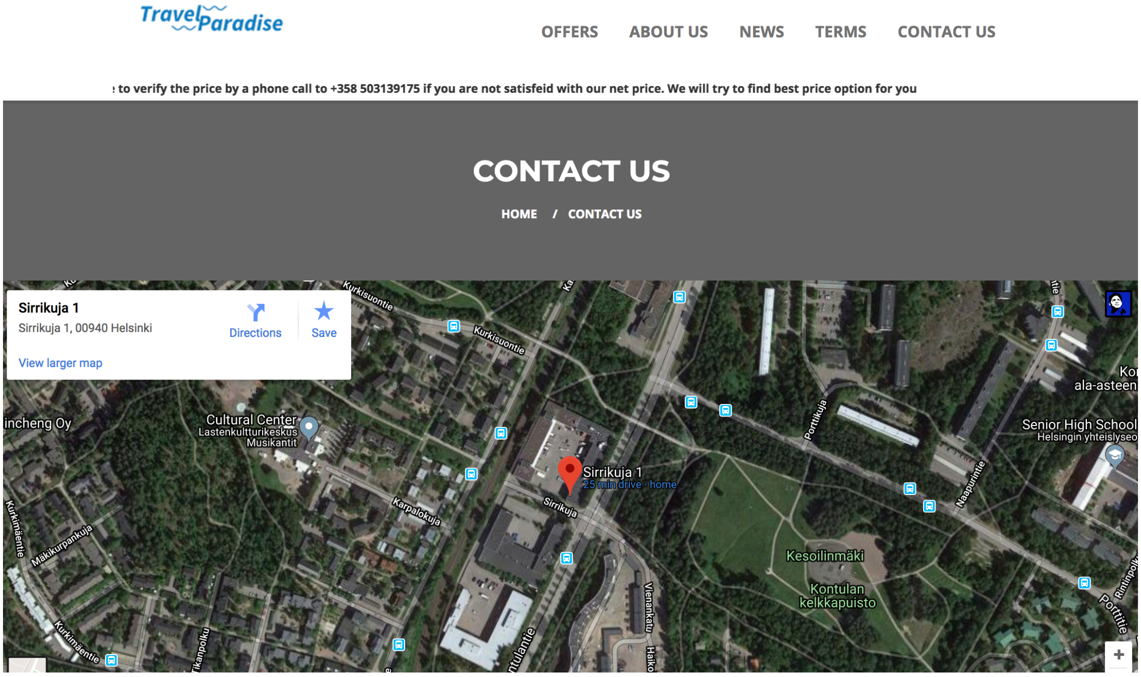
Be the first to comment.

Figure 18 : Social Communication

For instance, a travel agency has recently changed their location and put this information on their latest news section but users having a hard time to find the place when they go there in person. In this kind of situation, they can open a discuss thread just right under the post and fellow users who had similar problem can help that specific user. This is called passive communication where the host's appearance is not necessary at all time. Agent is the admin here so the agent can handle the comments and make it as a stared post so that everyone can see the popular answer at first.

5.4 Integrating Google map

In the contact page I have integrated google map using Google's own API. Usually on typical service web pages, addressed are given on the contact page. People usually search the address in their map in order to reach the place. To remove this hassle, I implemented google map on the website. From Figure 19 we can see that there is a red marker on the middle of the map. This is the destination of the company which is already predefined on the code.



TravelParadise

OFFERS ABOUT US NEWS TERMS CONTACT US

: to verify the price by a phone call to +358 503139175 if you are not satisfeid with our net price. We will try to find best price option for you

CONTACT US

HOME / CONTACT US

Sirrikuja 1
Sirrikuja 1, 00940 Helsinki

Directions Save

View larger map

Figure 19 : Google Map Integrated on the website

On the top left corner, the address is clearly written and the directions are already given so if anyone wants to navigate, he/she can do it by just once click.

The idea of putting a ma in my web application is to keep the user interested into it. The longer a user surfs a website chances are the more likely a user is going to buy any services. Besides adding this feature upgrades the value of this web application.

6 Discussions

The main goal of making this web application is to create a new way for travel agents all around the world and showing them how can they improve their website by converting them in a working web application. My model web application was used to built for a new travel agency in Finland named Travel Paradise.

Bigger sharks in travel agency business like supersaver, ticket.fi etc. are using the traditional way to communicate with customers. Their website is full of necessary and unnecessary information which is sometimes clumsy and giving users a hard time when browsing their websites. My ideas were make a clean a simple interface where people can find all the necessary information needed and don’t feel clustered at all.

Communication is the key to rise in the competitive market so I have tried to add enough options to make a window between users and vendors. Here users have to chance to say what they do like and what they don’t. Also there isn’t possible to put each and every information about the company and their rules. End users won’t be fully satisfied with given information. But they can place their queries over the chat or email and the system behind chatting service is working seamlessly on both mobile and desktop platforms. Whenever an agent is not available to chat they can respond quickly from anywhere and it’s definitely better than email.

There are options I created where users can talk to each other in a forum like system. It adds transparency to any travel agents because here user can give their review and leave a short comment as well. Other users can share their opinion so it will definitely add a new dimension.

7 Future Development Scopes

In current state of this website users can see ticket and destination prices only defined from the agent. For real-time price update the agent should contact service provides like travel port or IATA to access their API. These will give developers to show prices of tickets real-time and customers can successfully book ticket online. From this state customer can only view and book tickets via chatting or visiting the agent by person.

Online payment can be implemented in the web application so it will help customers to buy tickets from the web application. With the help of API and online payment a customer will barely need to go to the agent and the agent can focus more on service quality and expanding business furthermore.

8 Conclusion

The purpose of this final year project report was to write details about the project made for a travel agency for booking and buying air tickets and hotel tickets. This application helps customers to book tickets at ease and provide them with good offers and tariffs. This very application was made with care with user friendly interfaces so that they can easily find their queries and meet their desires.

To conclude, in this document, a clear illustration was made of how this application is useful for the customer, functionalities it offers, the development processes and future development scopes. Since its an application made for customers, a detailed analysis followed by an efficient development process, it has been a successful effort so far. It can be hope that this application will be able to meet all criteria's and demands set by the customers to provide and satisfy them with the best outcome.

A detailed explanation has been made throughout the report work including every major parts. Finally, it can be said that, with proper maintenance and market analysis and further developments this application will grow stronger and a good business growth can be seen for this endeavour in future.

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