
Touring System

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About this project

Abstract A brief description of what the project is, in about two-hundred and fifty words.

Authors Explain here who the authors are.

Chapter 1

Background

[1] Galway City originally formed from a small fishing village located in the area near the Spanish Arch called ‘The Claddagh’ where the River Corrib meets Galway Bay. Galway later became a walled town in the year 1232 after the territory was captured by the Anglo Normans lead by Richard De Burgo. The town walls, some sections of which can be seen today near the Spanish Arch, were constructed circa 1270. A charter was granted in 1396 by Richard II which transferred governing powers to 14 merchant families, known locally as the 14 tribes of Galway. The 14 tribes relished their independence but retained their close links to the British crown. Galway’s strategic coastal location and natural harbour area resulted in a successful trade with both Portugal and Spain and the city prospered for centuries. However in 1651 with the arrival of Cromwell the region entered a long period of decline. Other prominent sea ports emerged on the east coast, namely Dublin and Waterford and trade with Spain came almost at an end. Many years would pass before Galway would again enjoy such prosperity but the legacy of the cities long and colourful history is evident in the character and style of the city. Galway City is a thriving, bohemian, cultural city on the western coast of Ireland. Along with being a popular seaside destination with beautiful beaches and long winding promenade, it also has a buzzing cosmopolitan city centre. The city is a joy to explore with its labyrinthine cobbled streets, colourful shop facades and busy café/ bar culture. The city is also well known for its many festivals throughout the year with huge crowds gathering for the annual Galway Arts Festival, Races and numerous other events. Old Ireland is present too with turf fires and traditional music featuring in many pubs to compliment your enjoyment of a well-earned pint of Guinness. Take an evening stroll along the promenade and watch the sunset over Galway Bay or watch the salmon fishermen in the River Corrib from the perfect vantage point of the Salmon Weir Bridge. [2] Galway is certainly one

of the best tourist attraction in Europe because of its rich cultures, traditions, festivals. Galway is bidding to become the European Capital of Culture in 2020. The bid represents an opportunity for everyone to join their hands together as a community and reflect and spread the uniqueness of our Galway culture and the richness, vitality and diversity of our shared European culture. [3] Failte Ireland has provided the regional tourism performance of 2014. The overseas visitor to counties in 2014 shows that, there were total of 1235 people visiting Galway, and ranks 3rd in Ireland after Dublin (4,119) and Cork (1,542). Failte Ireland has also provided the result of Overseas visitor revenue (€mn) by county in 2014. Adapted from :

INSERT IMAGE HERE

About Galway Civic Trust: [2] Dúchas na Gaillimhe - Galway Civic Trust is committed to protecting and enhancing Galway's natural, built and cultural heritage for the benefit of all. The Trust adopts a hands-on approach and undertakes improvement projects which otherwise would not happen. Our offices are located in the Latin Quarter at the Red Earl's Hall archaeological site. Established in 1992, we have completed over 50 projects, ranging from the erection of historic wall plaques to the refurbishment of Rusheen Bay Bird Sanctuary and restoration of the Fishery Tower at Wolfe Tone Bridge. In partnership with the Department of Social Protection, Galway City Council and Galway County Council, Galway Chamber of Commerce and Industry, The Heritage Council of Ireland, and the local community, we undertake works for the enhancement of Galway city and county.

Chapter 2

Introduction and Context

2.1 General Problem Statement

Galway Civic Trust is an organisation arranging tours around Galway City. They came to us with an issue with which they have been struggling for a while. Any change or addition to their touring program necessitated creating new application or at least updating the existing one. This was impractical as it required Galway Civic Trust to stay in constant touch with GMIT. We have been therefore tasked to develop a cross platform mobile application for the Galway Civic Trust by integrating the backend for content management. The mobile application will be used by the consumer and all the data (tours) will be pulled dynamically from the API. Admin (Galway Civic Trust) can add new tours from the admin panel and all the tours will be synchronised across the consuming devices via Application Programming Interface. The goal of this project is to allow instance synchronisation between the API and the consuming devices so consumer can receive the changes in real time. Developing such an application would certainly solve the issue of Galway Civic Trust. Proposed application will eliminate time consuming visits to GMIT and allow GCT to easily and efficiently make any changes to existing or new tours in the cross platform mobile application through the admin panel.

2.2 Previous work

There were multiple apps developed for Galway civic trust for every new tour. All the content used in the app was static contents therefore It made it impossible to update existing tours or add more tour as needed in the feature.

2.3 Purpose

The whole purpose of this application is to facilitate Galway Civic Trust to CRUD tours or any locations of interests via admin portal. System admin is able to manage the content and this will be reflected in the mobile app. The end user will be able to use their mobile phone to have a look at different places of interests in Galway. The hybrid mobile app will provide end user information regarding the tours. Mobile app can be very useful to tourist travelling to Galway.

2.4 Scope Objective and Goals

The project is separated into three different independent parts. 1: Backed (Admin Panel): Allows system user to perform Create / Read / Update / Delete operation using graphical and interactive user interface. Different roles has been added assign admins, example Super Admin have permission to manage other admin accounts whereas regular admin don't. 2: RESTful API: Allows mobile devices to consume the JSON data. Changes made in the database is reflected by an API and consuming devices automatically receive the changes in real-time. 3: Ionic Mobile App: Cross platform hybrid mobile app has been developed using Ionic framework. App communicates with the API and pull the data.

Objective and Goals: Our objective and goals comes from the previous which work which was carried out by the past Software Development Students of GMIT. Our main objective and goals is to solve the problem stated in the problem statement. Our main goals and objective of this project are as follows:

- Develop Backend for content management.
- Develop Restful API so that the client app can consume data in real time.
- Cross platform hybrid mobile app for consuming the API.
- Google Maps navigation and direction services.
- Instant synchronization of data between API consuming devices and backend.

2.5 Roadmap

So, at this point, we have discussed about what the project is, and the reason for taking this project. Now, let me explain few sections/chapters of this review briefly so you will have a better understanding of a project.

Methodology - This section provides the development methodologies we used to develop this project, including project meetings, collaboration tools used, interaction with the client and weekly meeting with the project supervisor.

Technology review : This section provides the research that was carried out when choosing the technology . This section also provides the selection criteria and the particular reason for choosing the specific technology.

System Design : This section gives detailed information about actual system, and the way it is functioning. This section also talks about the architecture of a project, Data models, use cases etc.

System Evaluation : This section provides evaluates the system based on the following attributes. Scalability Efficiency Robustness Maintainability Extensibility Reliability

Conclusion and Recommendation: This section summarises the context of a project, objectives and goal achieved. We have talked about different sections of this project briefly and now I would like to include the resources url of this project. Due to the nature of this project, we have created three different repositories in Github as because they were developed independently of one another and at the end they are talking using the middleware technologies and different protocols. This is explained in detail in the technology review section. Following are the repositories in the github.

The introduction should be about three to five pages long. Make sure you use references [4]

Chapter 3

Methodology

About one to two pages. Describe the way you went about your project:

- Agile / incremental and iterative approach to development. Planning, meetings.
- What about validation and testing? Junit or some other framework.
- If team based, did you use GitHub during the development process.
- Selection criteria for algorithms, languages, platforms and technologies.

Check out the nice graphs in Figure 3.2, and the nice diagram in Figure ??.

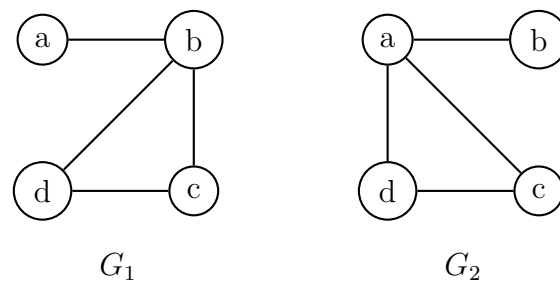


Figure 3.1: Nice pictures

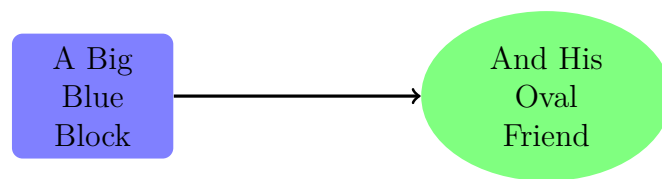


Figure 3.2: Nice pictures

Chapter 4

Technology Review

4.1 Prototyping Tool - Justin-mind

4.2 MEAN-Stack

4.2.1 NoSql Technology - MongoDB

4.2.2 Express.js

4.2.3 Node.js

4.2.4 AngularJs

4.3 REST- Architecture

4.4 JWT - JSON Web Tokens Authentication

4.5 Send-grid - Email Delivery

4.6 Cross-Platform Development

4.7 Google Maps

About seven to ten pages.

- Describe each of the technologies you used at a conceptual level. Standards, Database Model (e.g. MongoDB, CouchDB), XML, WSDL, JSON, JAXP.
- Use references (IEEE format, e.g. [1]), Books, Papers, URLs (timestamp) – sources should be authoritative.

Chapter 5

System Design

As many pages as needed.

5.1 Architecture

5.1.1 Presentation Layer

5.1.2 Business Logic

5.1.3 Data Layer

- Architecture, UML etc. An overview of the different components of the system. Diagrams etc... Screen shots etc.

Column 1	Column 2
Rows 2.1	Row 2.2

Table 5.1: A table.

Chapter 6

System Evaluation

As many pages as needed.

- Prove that your software is robust. How? Testing etc.
- Use performance benchmarks (space and time) if algorithmic.
- Measure the outcomes / outputs of your system / software against the objectives from the Introduction.
- Highlight any limitations or opportunities in your approach or technologies used.

Chapter 7

Conclusion

About three pages.

- Briefly summarise your context and ob-jectives (a few lines).
- Highlight your findings from the evalua-tion section / chapter and any opportuni-ties identified.

Bibliography

- [1] “Galway tourism.”
- [2] “Galway2020.”
- [3] “faillteireland.”
- [4] A. Einstein, “Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies],” *Annalen der Physik*, vol. 322, no. 10, pp. 891–921, 1905.