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| --- | --- |
| **Are u query-ous?**  From Queries to Maps: A New Way to See the World | |
|  | |
| Shape, rectangle  Description automatically generated | TFG - Localization Based Systems and Intelligent Spaces  Bachelor's degree in Techniques for Software Application Development  **Author**  Nicolas D’Alessandro Calderon  **Project supervisor**  Joaquín Torres Sospedra  **Coordinating professor**  Antoni Perez-Navarro |

  
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This paper addresses the gap between the availability of geospatial data and its pragmatic application by investigating the difficulty of making open data more easily available to the general audience. Designed to let anyone, regardless of technological background, investigate and comprehend geographic and demographic data naturally, Are U Query-ous is a web-based tool. The system lets users examine areas depending on economic activity, population distribution, and local trends by combining interactive maps and easy-to-use visualization tools.

By means of a streamlined interface, individuals can investigate and filter publically accessible data, therefore spotting trends pertinent to their interests. Those who are interested in urban growth, looking for ideal sites for either personal or business events, or examining demographic patterns for study or decision-making are targeted candidates for the application. The research also looks at how artificial intelligence might be used to help data retrieval via natural language searches, hence improving accessibility.

This study advances the more general democratizing of data access goal by making sure location-based insights are not constrained to professionals, companies, or legislators. The project uses an iterative development method to provide an interesting and user-friendly application by the end of the semester, therefore proving the value of geospatial intelligence in supporting wise decision-making for common users.

The development and results of the analyses in this data scientific report are intended to address all of the concepts targeted in the foregoing. The author also expect to depict some fundamental principles underlying web apps development and data science.

**SUMMARY OF THE FINAL PROJECT**

|  |  |
| --- | --- |
| **Title of the project:** | *The title should be informative to readers (avoid acronyms/one word titles)* |
| **Author name:** | *Full name* |
| **Project supervisor:** | *Full name* |
| **Coordinating professor:** | *Full name* |
| **Date of submission (MM/YYYY):** | *MM/YYYY* |
| **Name of the degree:** | Name of the degree |
| **Topic of the final project:** | *Name of the topic* |
| **Language:** | *English* |
| **Keywords:** | *At most 3 keywords, validated by the project supervisor* |
| **Abstract** | |
| A maximum of 250 words, detailing the purpose, context of application, methodology, results, and conclusions of the work | |

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Figure 1: Sample figure. It will be indexed in the “List of Figures”. 1

# Introduction

01

INTRODUCCION

This template aims to be a guide for students. This template can be adapted to the specific needs of each project if the project supervisor agrees with the changes.

**Figure 1:** Sample figure. It will be indexed in the “List of Figures”.

## Context and motivation

Starting point of the project (Which is the problem that needs to be solved? Why is it a relevant topic? How is the problem currently being solved?) and description of the contribution (What is the intended outcome?)

## Goals

List of the goals to be achieved in this project.

## Sustainability, diversity, and ethical/social challenges

This section should assess the positive/negative impact of the project in the following dimensions. It is not required to reach a positive impact in any/all dimensions, but it is necessary to consider and discuss whether there is an impact or not from the beginning of the project.

**Sustainability**

* In the development of the project or during its entire lifecycle (e.g., deployment, retirement), does the output of this project have an impact on sustainability and/or ecological footprint (energy/resource consumption/savings, waste, pollution, depletion of raw materials)? Is it affected by laws or regulations on this matter? Considering another perspective, does it affect any of the [Sustainable Development Goals](https://sdgs.un.org/) (SDG) related to these dimensions? (SDG 7 - Affordable and clean energy; SDG 9 - Industry, innovation, and infrastructure; SDG 11 - Sustainable cities and communities; SDG 12 - Responsible consumption and production; SDG 13 - Climate action; SDG 14 - Life below water; SDG 15 - Life on land;). If it does not have any impact, either positive or negative, you should explain how you reached this conclusion and justify your answer.
* If it has negative outcomes, which are they? For whom? In which geographic location? Can they be measured (consumed resources, ecological footprint)? Have they been considered in the design of your solution to minimize them?
* If it has positive outcomes, which are they? Can they improve or even solve any existing sustainability/environmental problems (such as improving reuse, recycling or a circular economy)? Is this outcome inherent to the proposed solution or does it have to be led by the users/owners?
* Are sustainability concerns one of the motivations of the project?

**Ethical behaviour and social responsibility**

* Is the outcome of the project too technical to have any positive/negative impact in ethical/social aspects (for instance, fraudulent use of the product/output to achieve financial, reputational or privilege gains)? Does it have an impact on laws/regulations (data, privacy, labour, intellectual property, personal security, …)? Does it adhere to the deontological principles of the profession? Does it endanger/improve/worsen any job position? Considering another perspective, does it affect any of the [Sustainable Development Goals](https://sdgs.un.org/) (SDG) related to these dimensions? (SDG 1 - No poverty; SDG 2 - Zero hunger; SDG 6 - Clean water and sanitation; SDG 8 - Decent work and economic growth; SDG 16 - Peace, justice, and strong institutions). If it does not have any impact, either positive or negative, you should explain how you reached this conclusion and justify your answer.
* If it has negative outcomes, which are they? Does the output of this project promote/facilitate unethical behaviour from the point of view of users/owners (with respect to society, organization, or individuals? Is the negative outcome inherent to the type of result/outcome or only to the user/owner? Which mitigation strategies have been used in this project to minimize this impact?
* If it has positive outcomes, which are they? Can the result encourage/facilitate ethical behaviours (addressing existing problems) in the users/owners? Does it contribute to the welfare of society? Does it produce benefits from a social perspective? Can it contribute to a reduction in social inequalities?
* Are ethical/social concerns one of the motivations of this project?

**Diversity, gender and human rights**

* Is the result of this project so technical that is has no positive/negative impact in terms of gender, diversity (race, religion, ethnicity, sexual orientation, functional, ideology, …) or human rights? And in any laws/regulations? And in terms of accessibility, disability, ergonomics and/or information security? Considering another perspective, does it affect any of the [Sustainable Development Goals](https://sdgs.un.org/) (SDG) related to these dimensions? (SDG 5 - Gender equality; SDG 10 - Reduced inequalities). If it does not have any impact, either positive or negative, you should explain how you reached this conclusion and justify your answer.
* If it has negative outcomes, which are they? For which groups? Have they been considered in the design or your proposed product to minimize them? Is this negative outcome inherent to the proposed solution or is it related to the users/owners?
* If it has positive outcomes, which are they? For which groups? Is this negative outcome inherent to the proposed solution or is it related to the users/owners?
* Are diversity, gender or human right concerns one of the motivations of this project?

## Approach and methodology

Describe which are the potential strategies to develop this project and explain which is the selected strategy (develop a new project, adapt an existing product, …). Discuss why the selected strategy is the most suitable one to achieve the project’s goals.

## Schedule

Description of the resources needed to develop the project, the tasks to be carried out and a schedule for each task using a Gantt diagram or equivalent. This planning should define the milestones that will be completed in each Continuous Assessment Test.

## Summary of the outputs of the project

It is not necessary to describe each output in detail: this will be done in the remaining chapters of the project.

## Brief description of the remaining chapters of the report

Brief description of the contents of each chapter and their relationship with the rest of the project.

# Methods and resources

In these sections, it is necessary to describe:

* The most relevant aspects of the design and development of the project.
* The methodology used in the development process, describing the potential alternatives, the decisions that have been taken and the criteria used to take these decisions.
* A description of the products that have been created.

**The structure of these sections may change according to the type of project being developed.**

For instance, in case it is required, you should also include a section on “Economic assessment”. In this section, you should include:

* A list of the expenses related to the development, deployment, and maintenance of the products.
* An assessment of the economic benefits achieved by the project.
* A final analysis of the viability of the developed products.

# Results

Describe the results achieved using the previously described methodology.

# Conclusions and future work

This section should include the following:

* A description of the conclusions of the work:
  + What conclusions can be derived from the results of the project?
  + Have the results matched your expectations? Are there any unexpected results? Why?
* A critical assessment of the degree of achievement of the initial goals
  + Have all the goals been achieved? If the answer is negative, why?
* A critical assessment of the schedule and methodology used in the project.
  + Have you fulfilled the planned schedule?
  + Has the planned methodology been suitable for the project?
  + Has it been necessary to make changes to the original plan to ensure the success of the project? Why?
* Considering the sustainability, diversity and ethical-social challenges linked to the project:
  + An assessment of their mitigation (for negative outcomes) or their degree of achievement (for positive outcomes)
  + A discussion of unexpected challenges that may have appeared during the development of the project
* A discussion of topics for potential future work that have not been explored in this project

# Glossary

Definition of the most relevant terms and acronyms used in this report.

# Bibliography

Numbered list of bibliographic references used throughout the report. Whenever one of these references is used in the text, it should be cited using the number of the reference. For example: [8]

It is very important to include all the references that have been used in the development of the project and to cite them properly, that is, including all necessary bibliographic information that can allow others to identify the source. The minimum information to be included depending on the type of reference is:

* **Book**: Authors, Title, Edition, Publisher, City, Year.
* **Journal/conference paper**: Authors, Title, Journal/conference name, Name of first and last page, Volume / number of the journal/conference, Year.
* **Website**: URL, Date when it was last accessed.

# Appendices

List of sections that are too long to be included in the body of the report and that are self-contained (for instance, user manuals, installation instructions, …)

Depending on the type of project, this part of the report may be unnecessary.