

Project Plan

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INST 490

Background Research and Context Analysis:

The City of New Carrollton has the main objective of creating a dashboard using data from different departments. An example of this would be parking and traffic violations from their police department. The main objective of this project is to allow the community of New Carrollton to see information from these different departments in a transparent and easy to understand way. The client's objectives are to have a dashboard that is cohesive and easy to access, has data from multiple departments in New Carrollton, has graphics and other images to show trends in the data, is easy to update after the semester by someone who is not as experienced with coding, and is accessible to the people of New Carrollton and meets ADA compliances. The strategies our client would like us to implement include merging, cleaning, and finding trends in the data between departments. These departments are siloed and typically do not share data with each other. This means that there could be trends in specific departments, but also trends between departments. The client would also like to have graphics that display these data trends, and for the dashboard to be easy to implement and update on New Carrollton's new website. The client has left the Tactics up to the team to decide on. They will send the team data from each department and it's the team's job to see what tools and skills or techniques they can implement to meet the specific needs of New Carrollton when creating this dashboard.

This project is important because it will allow the people of New Carrollton to see data from the departments of their city in an accessible and easy to understand form. This dashboard will show them trends and other important components to the data, as well as the raw data itself if they are interested in it. It will also be ADA compliant and meet other accessibility needs so that everyone can feel comfortable using it. Some challenges this project will face include cleaning and finding trends in the data between many different departments that don't often communicate with each other, turning the information into something that is easy to understand for everyone, getting this information onto the New Carrollton website, and having it all designed in a way where changing and updating information will be easy for the officials of New Carrollton. The client has also stressed that transparency is the main goal of this project and that the analytics and insights we provide will need to be clear to anyone who reads them.

It goes without saying that the main stakeholder that will benefit from the project is the residents of New Carrollton. This project will help them to understand the actions of the government, another stakeholder. As explained by Mr. Facey, if the people of New Carrollton are questioning why the government is spending money on a pedestrian crossing, they could look at the data dashboard to see a quantifiable amount of pedestrian incidents that led to the decision to add the crossing. The application will increase transparency between the people and the government. Privacy of the citizens and the government should be considered as to not adversely impact them. Any identifiers of individuals should be removed from the data, if they are sent. If the program is going to be made public, privacy of individuals, including stakeholders, should be removed. If need be, IDs can be created to hide names. However, a discussion with Mr. Facey should be had before this decision is made. There seems to be no potential stakeholders that are unintentionally being excluded or overlooked.

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When considering the constraints for this project, we will need to make sure that DEI principles are upheld. New Carrollton has a fairly large multi-lingual population, so we will need to make sure that the people in this community will be able to understand the work that we put out. None of the members in our group speak Spanish, so appealing to this community may make our work more challenging. We could solve this by using translation software like Google Translate or we could get help from people who are fluent in Spanish. ADA compliance is another topic that was brought up in our conversations. Making our work accessible to all facets of the community is a must if it is going to be given to the public. Putting out work that is compliant may constrain what we can make. Certain visualizations may not be able to be made compliant. This is something that we may need to consult the city about solving. Another constraint we may have is the ability to uphold the transparency that the city wants. In our first meeting, it was said that the city wants to be more transparent with data from places like the police department. But, some of this data may be protected or they may be less willing to let it be shown to the public. If we are only given certain data or if information is limited, our ability to complete what they want could be constrained.

In order for our team to complete this project, we will need a variety of technical and substantive resources. Our main deliverable will be a data dashboard which will require raw data and data visualization tools. This data may be provided by our client and their stakeholders. For the creation of a data dashboard, our team will have to decide which data visualization tools and methods will be best fit for us. Some software resources available to us are our prior knowledge in Python, Tableau and R. From our understanding, this data dashboard will be available to residents and stakeholders on the City of New Carrollton's website. From this, we need to know what website platform the city uses as well as technical resources about how to incorporate our data dashboard onto their website. We may find these resources through the City of New Carrollton's website and through their website's platform. Another substantive resource our team will need to complete this project is data storage. Assuming we will be receiving data in CSV form, it is important to have a place for data to be shared amongst team members and the client. A data storage resource could be Google Drive. This is not an exhaustive list of resources that we may need to complete this project. As the project develops, new resources may be added and utilized.

Our dedication to a smooth delivery of the finished product to the client is crucial. Our team will be creating comprehensive documentation that goes beyond simple instructions. Anticipating the need for continual access and usability as stated by our client, the document will capture the fundamentals of the database creation process and provide a clear roadmap for efficiently navigating and maintaining the system. Due to the potential of working amongst a team that might not have technical proficiency, we acknowledge the significance of offering background documentation in addition to user guides for the database. We will provide a report that will enable future teams to understand the intricacies of the creation of the database to foster a smooth transition. Once the database is finished, we will transition the final project by holding a meeting to provide a detailed overview of the deliverables. This will give New Carrollton a thorough rundown of the database, guaranteeing user familiarity and proficiency. Our strategy will be customized to close the gap and promote confidence in the database's utilization, taking into account the particular issue presented by our point of contact about our clients technical experience.

We are committed to keeping up regular contact by email in order to provide continued communication and assistance. As the database is integrated into New Carrollton's operations,

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this will act as a channel for updates, answering any questions, and offering technical support. We anticipate that in-person support may be required, and we are prepared to help in any way we can to provide a seamless transition experience. We will strongly urge New Carrollton to offer input on the functionality and performance of the database as part of our dedication to quality. In addition to improving the current project, this cooperative feedback loop will be a useful reference for any upcoming revisions or enhancements. We will present a thorough project report that explores the technical aspects of the database as we approach the end of the project. This report will demonstrate our commitment and be an invaluable tool for New Carrollton, providing information on decision-making procedures, difficulties encountered, and solutions implemented. We will carefully plan and record the transfer procedure so that teams or people in the future can access the database. As we work to make a long-lasting contribution to the New Carrollton neighborhood, we are persistent in our dedication to meeting the requirements and expectations of the community.

Requirements Interview and Document:

Abstract

The project aims to create a data dashboard for the City of New Carrollton, leveraging databases to provide insights. Improving data accessibility and visualization for stakeholders is the main goal since it facilitates well-informed decision-making.

Executive Summary

The project's goal is to work collectively to create a system that makes it possible to analyze data and create visualizations. The client challenges our group to be innovative in designing a system that ensures insights are extracted from the dataset.

The project will consist of the following deliverables:

1. Project completion timeline.
2. New dashboard meeting client requirements.
3. Database Administrator portal.
4. End user documentation and manual.
5. Final presentation to client and other stakeholders.
6. Final report.

Project Details

1. Constraints

- 1.1 Time constraint: Project completion by May 9th, 2024.
- 1.2 There will be no financial constraints, the team will be utilizing free software and publicly available resources to complete the project requirements.

2. Facts and Assumptions

- 2.1 All data for the dashboard will be provided by our client.
- 2.2 The dashboard built will need to be able to be changed by the staff of New Carrollton.

3. Current Situation

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- 3.1 We are now awaiting data from various City of New Carrollton agencies associated with our client. Our team will be in charge of preparing the data after it is received so that we can determine the best way to create and deploy a data dashboard.

4. Scope of the Project

- 4.1 The project scope consists of an initial project brief, an assessment of the current database, the provision of further tools and services if needed, and the use of databases to give the residents of New Carrollton insights.

5. Functional Requirements

- 5.1
 - a. The dashboard has to take CSV files and visualize the data.
 - b. Users should be able to customize visualizations.
 - c. New data should be able to be inserted by an administrator.
 - d. The project must be written using HTML.
 - e. The team will utilize tableau and embed the visualizations created into

HTML.

6. Non-functional Requirements

6.1 Look and Feel Requirements

- 6.1.1 The appearance of the website should follow the appearance and design queues of the New Carrollton website.
- 6.1.2 The style of the dashboard should match the New Carrollton website as closely as possible. Like the website, the color scheme should be red, white, black, and gold, with an emphasis on red.

6.2 Usability and Humanity Requirements

- 6.2.1 The data dashboard must be ADA compliant and meet accessibility needs for the people of New Carrollton.
 - 6.2.1.1 Must have high color contrast, not use color alone to give information, have alternative text for images, have captions on videos, labels for where form information should be entered, clear instructions on how to use forms, error indicators, and a way to navigate besides a mouse.
<https://www.ada.gov/resources/web-guidance/>

6.3 Operational and Environmental Requirements

- 6.3.1 The data dashboard must be appropriate for the public and give an unbiased view of the data displayed.

7. Maintainability and Support Requirements

- 7.1 We'll work to make the database and software user-friendly and accessible.
- 7.2 As the project develops, data should be updated, and once it's finished, the city should maintain the dashboards using its own data.

8. Security Requirements

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- 8.1 (Access) The team members and the project lead Andrew Facey will have access to the information and work finished by the group.
- 8.2 (Integrity) The team will not share the data received with anyone to ensure the utmost privacy for our client and its residents.
- 8.3 (Privacy) Personal identifying information will be redacted or not used to reduce the risk of privacy violations.

9. Open Issues

- 9.1 We are waiting on six more datasets needed for the project. Once this data is provided, the issue will be resolved.
- 9.2 Communication may be a problem in the future. We have had minor issues with communication so far, so it could potentially be a future problem too.

10. New Problems

- 10.1 Lack of access to any current system; future groups or the city may need an interactive database or site.

11. Mitigation to the New Product

- 11.1 The team will establish proactive communication with the clients' to address any potential data delivery issues.
- 11.2 The project team is dedicated to upholding a high degree of flexibility throughout the project's completion process, giving top priority to changing our approach to suit the client's changing needs.
- 11.3 Our foundation is that our client has the final word of our execution, and we will stop at nothing to ensure that our work consistently meets or exceeds their expectations.

12. Risks

- 12.1 Possible delays in receiving data from the various departments in New Carrollton.

13. User Documentation and Training

- 13.1 A guide will be given to the city or will be included in the software. This will hopefully make it easier for them to update the data and dashboards.
- 13.2 Training may be needed to show them how to change and manage the dashboard, but with the proper documentation this shouldn't be a large issue.

14. Future Requirements

- 14.1 The client should consider potential user requirements and system enhancements.

15. Glossary

- 15.1 A glossary will not be needed for this project.

Deliverables List:

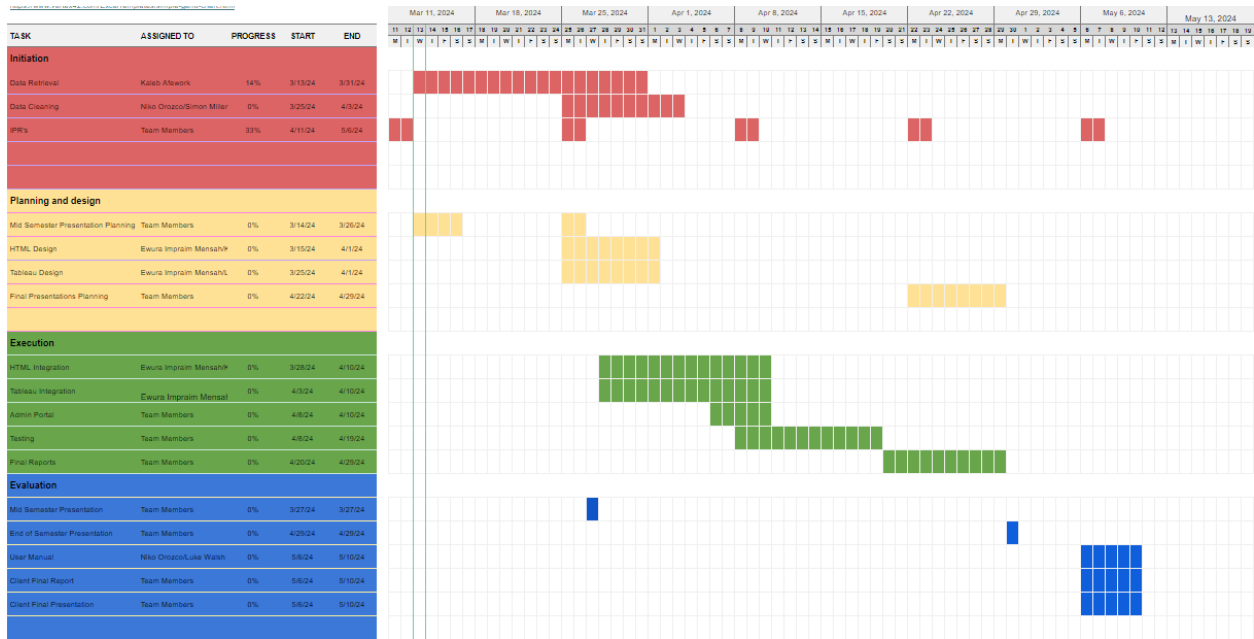
1. Project completion timeline
2. New dashboard meeting client requirements
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Tasks and Schedule:

Gantt Chart:

Detailed schedule and work assignments.



Work Breakdown Structure:

Basic overview of work.

