Chapter 3

**Problem Definition:**

Visual representation of information helps with the annotation associated with the concept of deriving meaningful insights from raw numeric values. The raw data for the visual representation is often cultivated through various warehouses of information. This storage affiliated system is characterized by its ability to derive an understanding of the underlying paradigm. Infographic representation of information helps with the case study of various stakeholder’s resources and forecasting their outcomes. The entire model of graphic annotation is based on understanding trends and improving relations to get the desired yield from the underlying system.

Infographics often uses algorithmic methods to derive the forecast of information from a system and projects this forecasted dataset onto the graphical representation. The advantage of this is that it helps users with making informed decisions that may help them. Though often these forecasts are not able to capture in enough information for processing and end up being inaccurate, they assist with an overall purely computational insight for decision making.

Infographics is not only used for research purpose but also for portraying information in a much more readable and easily understandable format. The current infographic representations are very attractive and makes the interface stand out in which they are implemented. Simple and straightforward notations can give meaningful insights about the system as well, hence using checkpoints and markers are very essential in infographic projects.

**Requirements Specification:**

Informatic representation primarily requires a set of data or values from a reliable source. The data should also be of numeric type or else working with the data will need additional computation, which will increase the processing and resource management specifications. The computed set of data should contain checkers or fields so that it can be managed according to the graphical representation. Huge sets of data can create a latency in processing and will require massive storage. Using new and fresh datasets is essential for keeping the application or user interface relevant.

Redundant information can create unreliable graphs and hence should be scraped out to increase the precision of processing. Freely available API’s can make the task of processing simple, yet the entire project will in turn be contingent on whether the API is working or whether the API is reliable. The processed data set from an API will only be reliable enough for a prediction model or to exhibit it directly in the form of a graph. Analysis is essential for infographics project hence to make analysis easier the graphical notations should include proper notations. Using modern graphical representation methods are also very important as it is more appealing to the users.

**Planning and Scheduling:**

**Planning:**

The most important task in infographics is managing the data that we work with for the representation. To work with the data, we need to exactly know all its fields as well as how it should be represented. Storing, retrieving, and processing information should all be done in a sequential format that makes the formatting effective.

Proper execution of these steps needs a supporting framework. Along with the framework we need to create a simple user-friendly interface for the representation. The project also requires us to select the fields for which we create and represent the data in graphical formats. The individuality of all fields makes it necessary to work with them sequentially and use a bottom-top approach. Even though we need to work regarding the bottom-top approach we need to have a good foresight of the final result.

**Scheduling:**

**Gantt Chart:**

Gantt Chart is used to visually display the scheduling of the project phases in which the activities are broken down and displayed on a chart which makes it is easy to understand and interpret. It is commonly used for tracking project schedules. They help one to access how long a project should take and helps to monitor a project progress once it’s underway. The below shown Gantt Chart is for documentation (Chapter 1 to Chapter 4) which shows the time taken to complete each Chapter.

**PERT Diagram:**

PERT is the abbreviation for Project Evaluation Review Technique. It is a technique used for planning, scheduling, organizing, coordinating tasks within a project. It is a method to analyse the tasks involved in completing a given project, mainly the time needed to complete each task and to identify the minimum time needed to complete the total project. As this chart uses critical path analysis which helps to create schedules that will make the project to go in a smoother way. It is also useful to measure future consequences of activities in the project. The below PERT diagram shows the schedule of the Chapters.

Chapter 1: A, Chapter 2: B, Chapter 3: C, Chapter 4: D

**Chapter 1: A Chapter 2: B Chapter 3: C Chapter 4: D**

A

B

C

D

Figure 3.2: Activity - (A)

|  |  |  |
| --- | --- | --- |
| **Activity** | **Precedence** | **Duration** |
| A | - | 15 days |
| B | A | 14 days |
| C | B | 26 days |
| D | C | 23 days |

Table 3.1: Critical Activity - (A)

|  |  |  |
| --- | --- | --- |
| A | 0 | 15 |
| 15 | 0 | 15 |

|  |  |  |
| --- | --- | --- |
| B | 15 | 29 |
| 14 | 15 | 29 |

|  |  |  |
| --- | --- | --- |
| C | 29 | 75 |
| 26 | 49 | 75 |

|  |  |  |
| --- | --- | --- |
| D | 75 | 98 |
| 23 | 75 | 98 |

**Start**

**Stop**

Figure 3.3: Critical Activity of - (A)

Slack = 0 for all the activities.

Therefore, Critical Path = A-B-C-D

**Software and Hardware Requirements:**

**Software:**

1. Any OS(Linux/windows/macOS)
2. Any IDE for coding (Visual studio code/Atom)
3. Python (Flask and streamlit)
4. React (Nodejs)
5. SQLite & DB browser
6. Browser with Html5 & ES6 support
7. PHP version 6 and above

**Hardware:**

1. Laptop or PC
2. Any Processor (Intel/AMD) with 2 cores and 2ghz core frequency or more
3. At least 4GB ram (8/16 GB is preferred)
4. At least 250 GB local storage.

**Conceptual Diagrams:**

**Data flow diagram**

Diagram

Description automatically generated

**Level 0**

Diagram

Description automatically generated

**Level 1**

**Flow chart**Diagram

Description automatically generated