Project Design for Project 2

Functional Need:

The Main functional need of any project is the logic of the project.We can determine each person's particular role in the project and can easily determine the project's functional requirements. We also need to define the functional requirements during the gathering, analysis and planning phase, but before the modeling phase of the project lifecycle.

The functional need of this project is creating nationality in the nodes, adding health to the nodes and also adding a rate of death to the nodes. This is an addition to our previous project simcity and the functionality needs to work with the other functionality of the previous project. We need to be able to implement the nationality with each person in the simulation and we need separate lines of code for the more complex new functions, the health of the populus and the death of them. These different functionalities need to connect to each other and be able to be implemented simultaneously and seamlessly with our program.

Data Storage: For efficient data storage and management system in the project we need to check and maintain the following two things which are as follows:

Database architecture, Scope, Maintainability, and Reliability Data architecture represents the type of architecture we need to design the data and the way in which we store data for this project. We need to have fast retrieval and be effective with our security.

For this project the data structures we need to implement are stacks, arrays, linked lists, and queues. This way the data can be organized into these different forms and then can be placed into the different pieces of the project. The data that needs to be accessed by multiple components are the growth and starting pollution numbers of the citizens, before it is sorted into the growth of the different buildings and industries. Each of the separate files for death,health and nationality have to work seamlessly and be able to operate with our previous functions. The data can flow through components by using the different functions previously stated and making them separate files that all the different elements of the project can connect to. Growth conditions for each tile is different, which means cells within the city need to be able to reference the data stored in their cells to check whether growth conditions are met, so understanding and strengthening the connection between the database and the dynamic map are crucial for functionality. Using these tiles each component should be able to implement its intended functionality and be able to function using the old program and new program files.

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File Organization:

This plays a vital role in order to separate the logic layer with the presentation layer as file standards should be maintained in the project and the intermediate layer should be there for example controller to control over the presentation layer. For file organization each file would have specific comments showing what it can do. Organization is a very important aspect of any demanding project, and coding is no different. With the many different file types involved in creating a cohesive, deliverable code, it’s crucial that files remain organized and properly separated. In this project we have the files for nationality, health, and death. These files connect and correspond with functionality explained in the main function and work together to implement the wanted functionality. Using these comments at the beginning of our files can help distinguish related and intertwined files that are dependent on one another.

Accessibility, readability and standardization. File types must remain consistent to avoid errors, and they must use recognizable language. Keeping the files in an accessible bin, directory or folder provides a clear location for project resources/components so that project members can send and receive updates. The ultimate goal is to minimize the time we spend looking through previously completed code, or searching for misplaced project components.