Synopsis:

To-do List Application

**Introduction**:

To-do lists are not to be taken lightly, and task management has become one of the most  relevant practices for individuals and team players in order to stay effectively productive  in today's fast-pace, increasingly complex world. Keeping track of responsibilities,  deadlines, and priorities does tend to enhance productivity and organization. The idea of  a To-Do List Application is one of the essential tools to help the user manage his day-to day activities in such a way that nothing slips under their radar. This application will  attempt to create a very user-friendly application based on the console, which will enable  users to add, view, update, and delete tasks without any form of restraint. It hopes to  provide full support in managing tasks with features such as keeping track of the  completed tasks and not losing data.

**Objectives:**

**Task Management:** The application should make tasks easy to add, remove, and view.  Users need complete control over their tasks with no hassle whatsoever.

**Status Tracking:** This feature must allow users to mark the status of completed tasks. This  brings satisfaction along with a very clear view of what's ongoing and what has been  done.

**Data Persistence:** Adding a saving and reloading of tasks from a file means that the  information regarding the users' work is preserved even when the application is closed;  there is no chance of losing critical information.

**User Experience:** Creating user interface should be simple, interactive and easy to navigate  and understand it. The application will be straightforward in use by an average user of  any class skill.

**Future Scalability:** Creating the basis for further updation and feature addition, such as  tagging tasks, the setting of priority, reminder functionality based upon the user's  suggestion and requirement.

**Technology Used:**

**Programming Language:** C++ has been selected because of its excellent performance,  memory efficiency, and universal usage in the application development area. It provides a  fine operating environment for complex data structuring and file operation.

**Development Environment:** The application can be coded and tested using any  standard C++ IDE, either Visual Studio or Code::Blocks or even using a g++ compiler. **File Handling:** For appropriate management of the data regarding the tasks, the  input/output operations on files are supported by C++ library. This feature holds much  importance for the persistence feature.

**Methodology:**

For ensuring all-round development and delivery, a systematic approach has been followed in  this project:

**Requirement gathering:** This is the stage where the project begins with the requirement  gathering in terms of user requirements and project requirements through discussions  and surveys.

**System Design:** In this stage of application architecture detailing, it also includes data  models for attributes of the task; thus, it will consist of description, due date, and  completion status.

**Implementation** : The entire application is coded using C++. All the important functions  such as adding or removing tasks, marking them done, and dealing with files have been  implemented through structured classes and functions.

**Testing:** Testing is done on a large scale to verify if all the things are proper.

**Deployment:** This is after the application is passed through testing, for access by users it  is put in place, it also comprises of guidance on its installation and user documentation to  assist in interaction with users.

**Feedback and Iteration:** Active seeking for users' feedback post-deployment would  reveal where is room for improvement, hence guiding on how the application should  change to better updates and improvements in the future.

**Conclusion:**

The Application, To-Do List Application, develops practical and effective  approaches toward the management of tasks, letting the users maintain  organisation and productivity in day-to-day life. In that regard, with the usage of  C++ and the most suitable file-handling techniques it supports the notion that  software development is a significant activity in establishing common problems  which a user may face. For instance, not only does it ascertain that there would be  higher output with the accomplishment of major goals, but it also presents a  platform for further facilitation, like assigning priority settings, reminding settings,  and can include a graphical user interface.

The To-Do List Application will handle users' tasks, aid them to be more productive  and thus dominate all areas of life. As the project goes ahead and unrolls, so is its  chances of changing according to the need of changing the users at whom it is  targeted and thus gaining relevance in tasks and utility.

Name : Shravani Sonawane

PRN : 2124UCSF1105

Dept : Cyber Security