**TASK MANAGEMENT APP IN JAVA**

*Dissertation submitted in fulfilment of the requirements for the Degree of*

**Bachelor of Technology**

**in**

**Computer Science and Engineering**

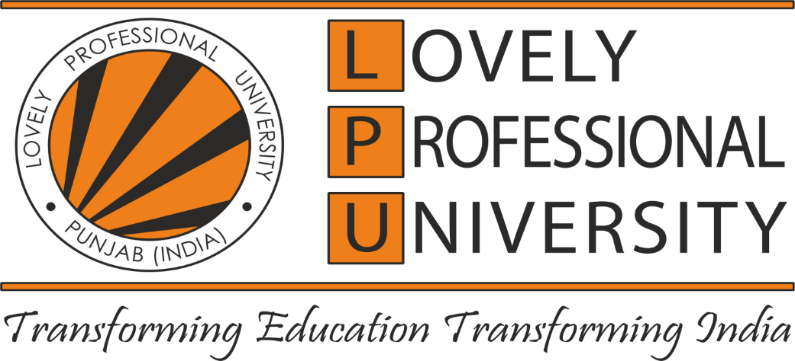
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Abstract

The Task Management App is a console application designed to help users manage their tasks, deadlines, and priorities efficiently. This application has been developed in Java and operates without the use of a traditional database system. It utilizes data structures and algorithms to provide users with a simple and effective way to keep track of their tasks and deadlines, ensuring a streamlined and organized approach to task management.

Introduction

The Bill Generator Project is a comprehensive software application designed to simplify the billing process for businesses. It leverages cutting-edge technology to automate the generation of bills and invoices, ensuring accuracy and efficiency in financial transactions. The project encompasses various features and functionalities to cater to the diverse needs of businesses across different sectors.

Related Work

Studying how taxation systems work, especially in countries with complex tax structures, provides insights into compliance requirements. Understanding how tax-related information is processed and integrated into billing systems is crucial for any comprehensive bill generating project.

Problem Statement

WorkItWise aims to tackle the persistent problem of maintaining consistency in exercise routines and a lack of insights into personal fitness progress. Individuals often struggle to stay motivated and informed about their exercise journey. Fitness trainers require efficient tools to manage multiple clients' data effectively. WorkItWise addresses these challenges with its user-centric approach and multifaceted functionality.

Approach

Data Storage

The primary challenge in this project is data storage without a traditional database. We opted to use in-memory data structures like ArrayLists and HashMaps to store and manage task-related data.

Algorithms

Hashing :

Purpose: Hashing can be used to create fast data lookup tables, such as mapping product IDs to their details.

Graph Algorithms:

Purpose: Graph algorithms can be used in scenarios where you have complex relationships between entities, for instance, finding the shortest path between different customers.

**Tree Structures:**

* **Purpose:** Tree structures can be useful for hierarchical data representation, for example, categorizing products into different categories.
* **Example:** Binary Search Trees (BST) or Balanced Binary Search Trees (like AVL trees) can be used for efficient search and retrieval operations.

**String Matching Algorithms:**

* **Purpose:** String matching algorithms can be applied for tasks like searching for a product by its name or description.
* **Example:** Algorithms like Knuth-Morris-Pratt (KMP) or Boyer-Moore can be used for efficient string searching.

Conclusion

In the dynamic landscape of business, a reliable and efficient billing system is paramount. The Bill Generator System stands as a fundamental solution that simplifies financial transactions, enhances accuracy, and fosters professionalism within enterprises. As we reflect on the core attributes and impact of a Bill Generator System, several key points come to light:

**1. Accuracy and Efficiency:**

* The Bill Generator System ensures accurate calculations of invoices, eliminating errors associated with manual processes. Automation leads to efficiency, saving time and resources for businesses.

**2. Professionalism and Brand Image:**

* Customizable invoice templates lend a professional appearance to business transactions. Consistent branding and structured invoices enhance the credibility and trustworthiness of the business in the eyes of clients and partners.