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STUDENT KNOWLEDGE ASSESSMENT SYSTEM

SYSTEM DESCRIPTION OF RTU.STUDPROJ.VERTSIST.SA

version 1.0

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Contents

1. Introduction

The aim of the To-Do List Application (TDLA) is to increase productivity by assisting users in efficiently managing their activities. It offers functions like creating tasks, setting priorities, sending out reminders, and syncing data between devices.

2. Software description

2.1. Scope

The TDLA allows users to:

- Organize and effectively store tasks.
- Remind yourself and others when chores are due.
- Ensure smooth access by syncing tasks across several devices.

2.2. Input

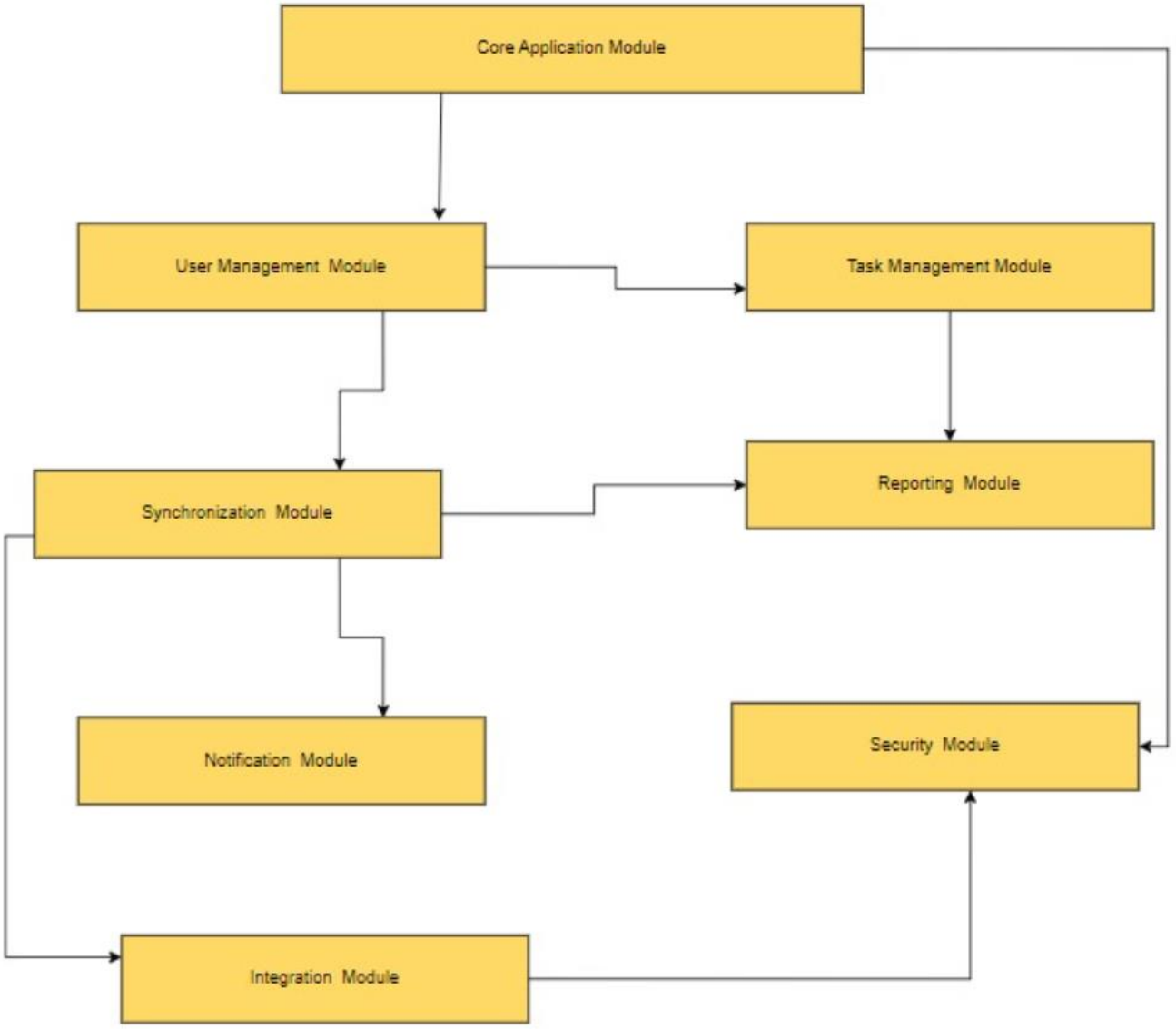
A user-friendly interface allows users to enter tasks and add data such the task name, description, deadline, and priority level.

2.3. Output information

The system offers daily summary, task list exporting for external usage, and notifications for impending chores.

2.4. Modular structure of the system and description of modules

2.4.1. Schematic of the modular structure of the system



2.4.2. Faculty module

Faculty Module is designed for administrative users who manage the system. It allows faculty members to:-

- Make sure that staff and students have their own user accounts.
- Users can assign and modify permissions to access different functionalities.
- Track and document user activity and task accomplishment.

2.4.3. User Management Module The

Comprehensive control of user profiles and responsibilities inside the system is made possible by the User control Module. It gives administrators the ability to:-

- Import user data from external systems in XLSX format.

- Edit user details such as names, roles, and permissions.

- Add new users and delete existing users as necessary.

2.4.4. Test management module

In order to create and manage tasks, or "tests," within the program, this module is necessary. It enables users to:-

- Make new tasks with fields and due dates that you may modify.
- Modify completed tasks to add new information or extend due dates.
- Delete any jobs that have been finished or are no longer relevant.
- Assign work to certain individuals or teams and monitor their progress.

2.4.5. Reporting module

Using the information gathered from task management activities, the Reporting Module offers strong reporting capabilities. It supports:-

- The XLSX format test results or task completion reports can be downloaded.
- Producing performance statistics to evaluate task management effectiveness and productivity.
- Report criteria can be tailored to target particular data points and time periods.

2.4.6. Authorization module

This module handles the following to provide safe access to the application:-

- User login procedures with strong authentication standards.
- Reset and password recovery features to help those who can't get in.
- User state is maintained across devices via session management.

2.4.7. Student module

Tailored for end-users who perform tasks, the Student Module allows:-

- Users to access and finish tasks that are assigned.
- viewing of open and finished activities together with information on development and outcomes.
- Engaging with the notification system to get information about newly added or updated tasks.

2.4.8. Test Execution Module

This module, which focuses on the task management's operational side, allows for:-

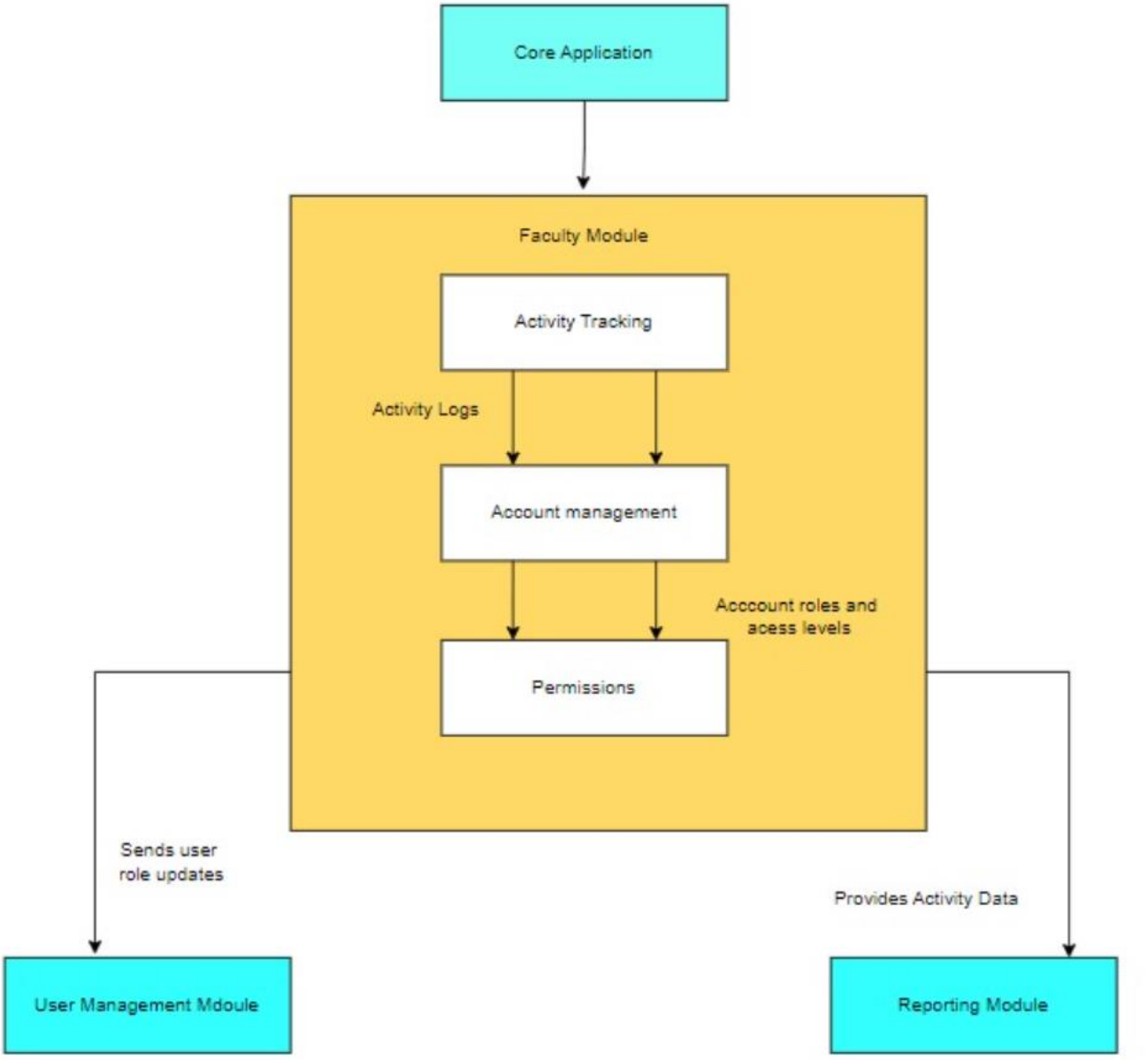
- Users should carry out duties in accordance with the preset guidelines established by the faculty.
- Progress is saved in real time so that, in the event of a system outage, data is not lost.

2.4.9. Test report module

This module, which is essential for analyzing results and coming to wise judgments, enables users to:-

- Examine the results of the chores you've finished.
- Examine individual responses and contrast them with the right answers or intended results.

2.5. System architecture scheme



2.6. Information on the project volume data and execution time

2.6.1 Project volume data The To-Do List Application is designed to handle a significant amount of user data efficiently. Here are the key metrics:

- Database Tables: The program stores tasks, logs, settings, and user information in a number of tables.
- Users Table: Holds data about user profiles.
- Tasks Table: Provides information about each task.
- Settings Table: Stores program settings and user preferences.
- Logs Table: Keeps track of application logs for troubleshooting and monitoring.
- Data size: Each user will typically create 50 tasks a month, with each task entry weighing in

at around 1 KB. This translates to about 50 KB of data each month for each user.

2.6.1 Execution time The To-Do List Application is optimized for performance with the following typical execution times:

- Task Query Response Time: Fetching the list of tasks for a user typically completes in under 200 milliseconds, ensuring a smooth user experience.
- Task Creation and Update Time: Creating or updating a task is processed within 150 milliseconds, allowing for real-time updates without perceptible delays.
- Data Synchronization Time: Synchronizes data across devices typically within 500 milliseconds, depending on network conditions.

2.6.3 Scalibility

- To handle an increasing volume of data and users:
- The cloud infrastructure on which the application is built is scalable, allowing resources to be dynamically adjusted in response to demand.
- As the collection develops, effective indexing and query optimization techniques are used to keep performance levels high.

2.6.4 Performance benchmarks

- Load Testing Results: Under load testing, the application supports up to 10,000 concurrent users performing typical task management operations without significant performance degradation.
- Stress Testing Results: Stress tests show the system can handle up to 50,000 tasks being accessed concurrently within the response time goals.