Software Requirements Specification

for

To-Do List

Version 1.0 approved

Prepared by: Hardik Mori

Umang Baraiya

Janvi Ghodasara

Krupa Bhalani

Organization: RK University

September-06-2022

Table of Contents

Revision History

Name	Date	Reason For Changes	Version
-	-	-	-

1. Introduction

1.1 Purpose

- This is a Software Requirements Specification (SRS) document for To-Do List Application (version 1.0). Its purpose is to describe functional requirements, features, the interfaces of the system, what the system will do, the constraints under which it must operate and how the system will react to external stimuli and other important requirements for this system's function. In short, the purpose of this SRS document is to provide a detailed overview of our software product, its parameters, and goals.

1.2 Document Conventions

- The main heading for software requirement specification Application name (32 Font Size), version number of the application (14 Font Size), name of the author (14 Font Size), organization (14 Font Size) and date (14 Font Size) are written in Right-handed alignment and with Arial Font Face with Bold Style.

- Apart from this entire document of software requirement specification is justified.

  Conventions of Main Title:
  Font Face: Times New Roman
  Font Style: Bold
  Font Size: 18
  Alignment: Left-handed

  Conventions of Sub Title:
  Font Face: Times New Roman
  Font Style: Bold
  Font Size: 14
  Alignment: Left-handed

  Conventions of Body:
  Font Face: Times New Roman
  Font Style: Simple
  Font Size: 11
  Alignment: Left-handed

1.3 Intended Audience and Reading Suggestions

- The document is intended for all Stakeholder Customers and The Developer (Designers, Testers, Maintainers). The SRS document is addressed to:

  Developers who want to extend the program with new features.
  Testers who are interested in discovering possible flaws of the program and want to report them for improvement.
  The Reader is assumed to have basic knowledge of Mobile operating systems, database, and user account. Knowledge and understanding of UML, ER, and DFD diagrams are also required.

All users of the program, who are interested in being informed about the capabilities, which To-Do List, gives to them.

1.4 Project Scope

- To-Do List is a practical organizing tool for all types of users. It can be used as a to-do manager, for common users or business-oriented users, as it has the capability to work as a plain manager, in which user's tasks can be saved and organized in form, or as a professional to-do manager, which offers extra features like saving multiple comments for each task and timers, that compute the time spent on each task. Also, tasks can be sorted according to their attributes like creation time, due date, etc.

1.5 References

Microsoft To Do | List App, Task Manager and Daily Planner
What is a ToDo List? Simple tool to organise everything • Checkify
The 14 Best To-Do List Apps In 2022 | ClickUp

2. Overall Description

2.1 Product Perspective

- To-Do List is a free software program suitable for all users interested in organizing their tasks. It is a free and open-source application, which means that it is suitable both for those, who are interested in offering its development by expanding its functions and features, enriching the code, and for the most demanding users who can adapt it to their own personal needs by modifying the existing source code. Additionally, for whatever problems that may arise, users can be addressed to the forum in order to resolve any questions or problems.

- ToDo List App is a kind of app that is generally used to maintain our day-to-day tasks or list everything that we have to do, with the most important tasks at the top of the list, and the least important tasks at the bottom. This To-Do List android project helps you to remember all your personal responsibility from the first day to the last day and forces you to remind you again and again to remember your task.

2.2 Product Features

- Some of the main features of To-Do List are:

  Creating new tasks.
  Updating existing tasks and their attributes, like notes, priority, due date.
  Delete tasks.
  Start and pause a task timer.
  Mark a task as completed.
  Export all tasks in a txt file.
  Pin on the main screen.
  Sharing Tasks.
  Add picture notes.

2.3 User Classes and Characteristics

- The program is built on two basic categories of users:

  Ordinary users can use To-Do List for specific needs. These users are the main beneficiaries of To-Do List and are not required to have a specialized instructional and academic background. In addition, users can be of any age. What is needed is these users have some basic knowledge of computer use without requiring special technical skills and experience.

  Developers, testers, and all those who participate and contribute in their way on open-source groups. These users can be of any age but must have enough specific knowledge of computer usage. Especially in cases where they wish to contribute to the development of the program by writing code and implementing new functions, it is essential to have important knowledge of programming language and experience. This, of course, is not necessary, where users want to contribute to the community with constructive comments and ideas.

2.4 Operating Environment

- To-Do List is a fully portable program without special requirements. Operating environment for the To-Do List is as listed below.

  Client/Server System
  Operating System: Android
  Database: ROOM
  Platform: Android Studio/Java/XML

2.5 Design and Implementation Constraints

The information of all Tasks of all users must be stored in a database, and that is accessible by the Application.
ROOM is a persistence library that provides an abstraction layer over the SQLite database to allow a more robust database.
To-Do List is running 24 hours a Day.
When Users want to share that Tasks at that time User requires Internet Connection. Else applications work without Internet Connection.

2.6 User Documentation

- The product will include a user manual. The user manual will include product overview, complete configuration of the used software technical details backup procedure and contact information which will include email address.
- Users will be able to download the User Manual from the help section. Video tutorials will be available for further guidance.

2.7 Assumptions and Dependencies

- The Application needs the following third-party product.

  Room as SQLite Server to store the database.
  Android Studio to develop the Application.

3. System Features

- In this section system features are described analytically. Features that have been already implemented are described.

3.1 Task (+)

- In this menu there are many features that must show up when the user right clicks on a task. Features in this category are about creating, editing tasks.

3.1.1 Add a Task

Description & Priority: In this feature, it is described the procedure of creating a new task, completing task's fields, and adding the task in an existing category.

Stimulus/Response Sequences: User must choose "Task: Add a task" and then a pop-up window shows up, with the empty fields of the task, in which the task will be added in. Users must complete the field with the name of the task, as it is mandatory. in which the task will be shown, complete the description, set the priority of the task, define the due date, set the task as completed, set the task timer, reset the task timer, add a note.

Functional Requirements: System must show up a pop-up window when the user chooses "Task: Add a task". When the user presses add, the system must check if the "Task name" field is completed. If it is not, it should warn the user that this field is mandatory, with a new pop-up box, and allow the user to continue completing in the first pop up window. Also, the system must not allow the user to add a new task if there is not an available category. Finally, the system must save the new task and its attributes, and then add it nested in the category.

Constraints: A new task cannot be added if the "Task name" field is not completed add the new task.

3.1.2 Update Task

Description & Priority: In this feature, it is explained the procedure of editing an existing task and its fields.

Stimulus/Response Sequences: Firstly, the user must select an existing task by left clicking on it and then choose "Task: Update". Then a window layout will show up, the same one as the new task's, in which the user can edit the task's fields. Users must not leave it empty, as it is mandatory. Users can also edit the description, reset the priority of the task, redefine the due date, set the task as a new name, complete, edit the task timer, and delete a note.

Functional Requirements: System must show up a pop-up window when the user chooses "Task: Update". When the user presses Update, the system must check if the "Task name" field is completed. If it is not, it should warn the user that this field is mandatory, with a new pop-up box, and allow the user to continue completing in the first pop up window. Also, the system must not allow the user to be able to press "Task: Update if a task has not been already selected. Finally, the system must save the edited task.

Constraints: Edited task cannot be saved if the new name of it is empty and if there is not a task selected before the user chooses Update.

3.1.3 Delete Task

Description & Priority: In this feature, it is described how the user can delete a task.

Stimulus/Response Sequences: User selects a task. Then chooses “Task: Delete” and a dialog box shows up, asking if he wants to delete the selected task. If the user answers positively, then this task will be deleted, else the delete command will be canceled.

Functional Requirements: When the user chooses “Task: Delete”, the system shows up a dialog asking the user if he wants to delete the selected item. If the user answers positively, the system deletes the selected task, there is in it, else the system cancels this action.

Constraints: There must be a selected task before the user chooses to delete the task.

3.1.4 Share Task

Description & Priority: In this feature, it is described how the user can share a task.

Stimulus/Response Sequences: Users select a task. Then choose “Task: Share” and the dialog box shows up and, asking which way users want to share the selected task, means whatsapp, massage, mail options are available for sharing selected tasks.

Functional Requirements: Whatever Sharing option User will select that option according to system act.

Constraints: There must be a selected task before the user chooses a shared task.

3.1.5 Complete Task

Description & Priority: In this feature, it is described the procedure of marking a task as completed.

Stimulus/Response Sequences: User selects a task. Then choose “Task: Complete” and the dialog box shown up and, in this message will be there and one “Done” button will be there also.

Functional Requirements: Whenever the user chooses “Task: Complete”, The system shows the dialog box with Done button.

Constraints: There must be a selected task, which is uncompleted, before the user chooses the task completed.

3.1.6 Start Task Timer

Description & Priority: This feature refers to how starting a timer of a task works.

Stimulus/Response Sequences: User selects a task and then chooses “Task: task time”. After completing this action, the selected task’s timer will start running.

Functional Requirements: When the user chooses “Task: task time”, the system must start running the selected task’s timer. If the task timer has already run before, the system must continue from the last saved timer of this task, else it starts from 00:00 (hh:mm format).

Constraints: There must be a selected task before the user chooses to start the task timer.

3.1.7 Stop Task Timer

Description & Priority: In this feature, it is described how a task's timer can get paused.

Stimulus/Response Sequences: User selects a task and then chooses "Task: Stop timer". After completing this action, the selected task's timer will be paused.

Functional Requirements: When the user chooses "Task: Stop timer", the system must pause the selected task's timer.

Constraints: There must be a selected task before the user chooses Pause task timer.

3.1.8 Pin to the Main Screen

Description & Priority: In this feature, it is described how users can pin their tasks to the main screen.

Stimulus/Response Sequences: User must choose "Pin to Main Screen".

Functional Requirements: When the user chooses "Pin to Main Screen", the system must arrange that task in the main screen of the phone.

Constraints: User must select the task.

3.2 Other Tools

3.2.1 Export Task to Text File

Description & Priority: In this feature, it is described how users can export all tasks to a .txt file.

Stimulus/Response Sequences: Users must choose "Export tasks to Text". Then a pop-up window will show up and the user must choose the location and the name of the file. After that the user must press save.

Functional Requirements: When the user chooses "Tools: Export tasks to Text", the system must open a window, where the user can complete the name of the file and choose the location, in which the file will be saved. If the user has not completed the name, the system must not allow him to save the file, because the name field is mandatory.

Constraints: User must complete the name of the file, so that the system can create the file.

3.2.2 Show Calendar

Description & Priority: In this feature, it is described how users can show a calendar.

Stimulus/Response Sequences: User must choose "Show Calendar".

Functional Requirements: When the user chooses "Show Calendar", the system must show the Calendar with highlighted date, whatever due date of task for current month.

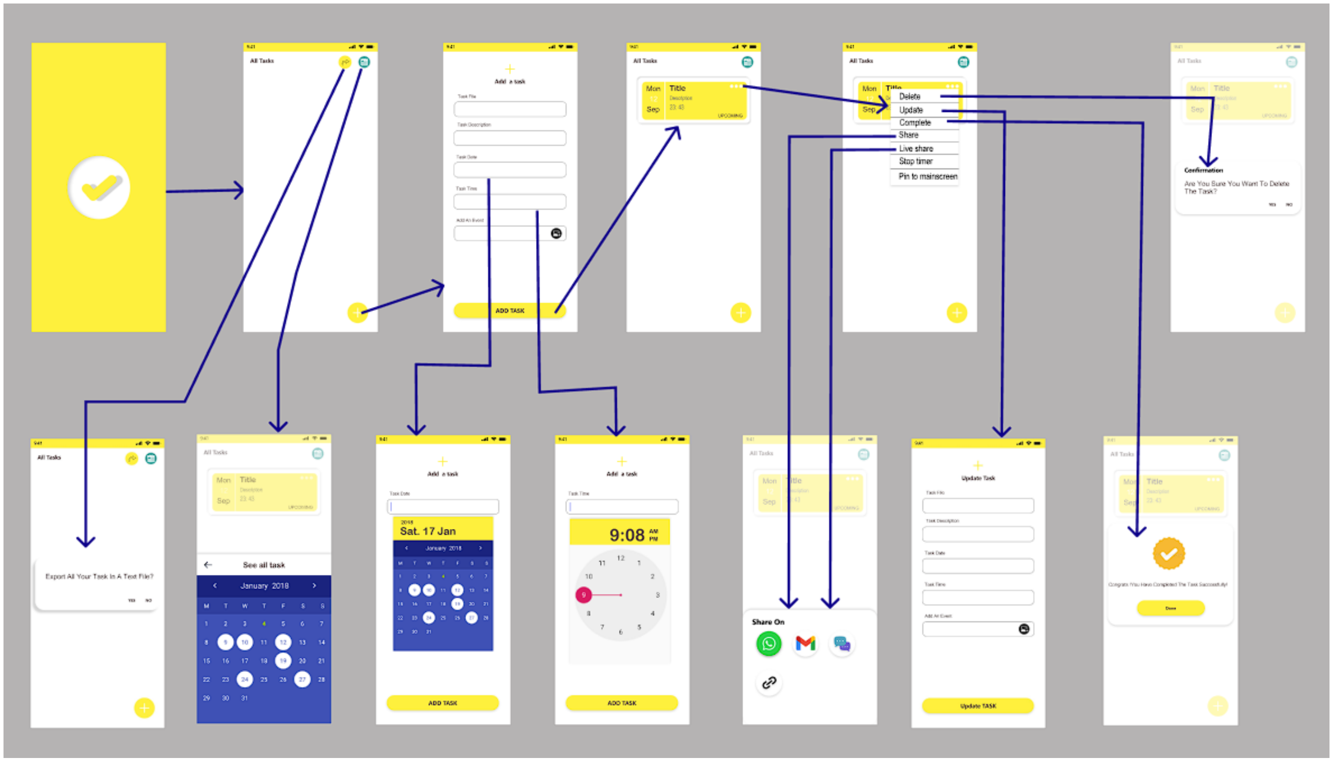
Constraints: Users must press Calendar.

4. External Interface Requirements

4.1 User Interfaces

- The software provides a good graphical interface for the user and the administrator can operate on the system, performing the required task such as create, update, viewing etc. The user interface must be customizable by the administrator. All the modules provided with the software must fit into this graphical user interface and accomplish the standard defined. The design should be simple, and all the different interfaces should follow a standard template. The user interface should be able to interact with the user management module.

- **WireFrame of To-Do List Application**

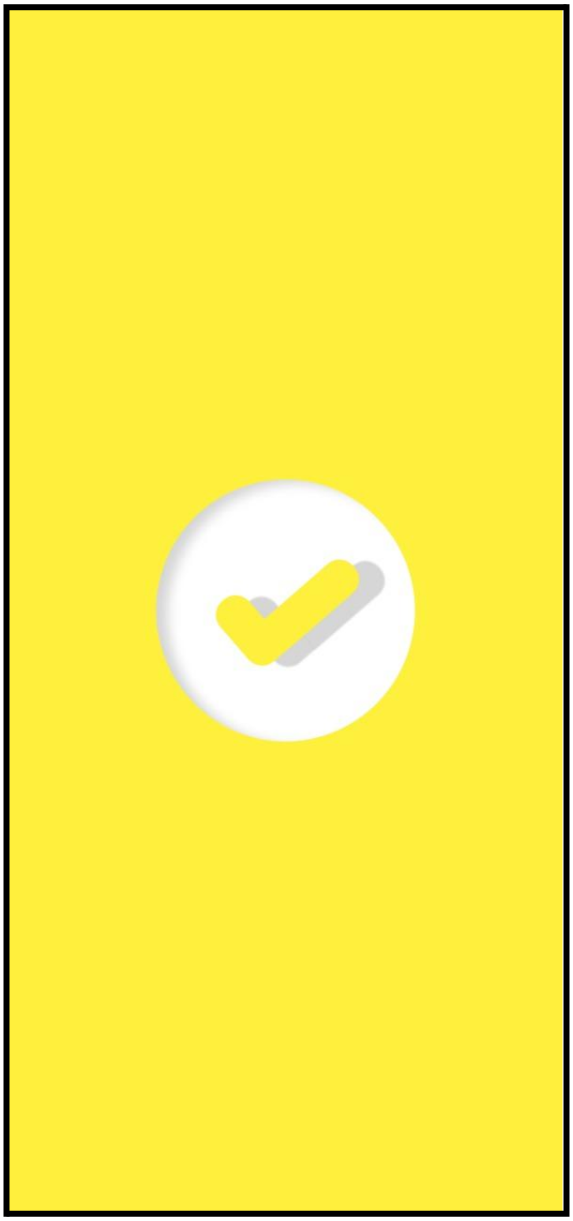


- **For more clarity, Refer to this Link**

➢ https://www.figma.com/file/bYGrCHPB8VllBpvypYrCMh/todo-app?node-id=0%3A1

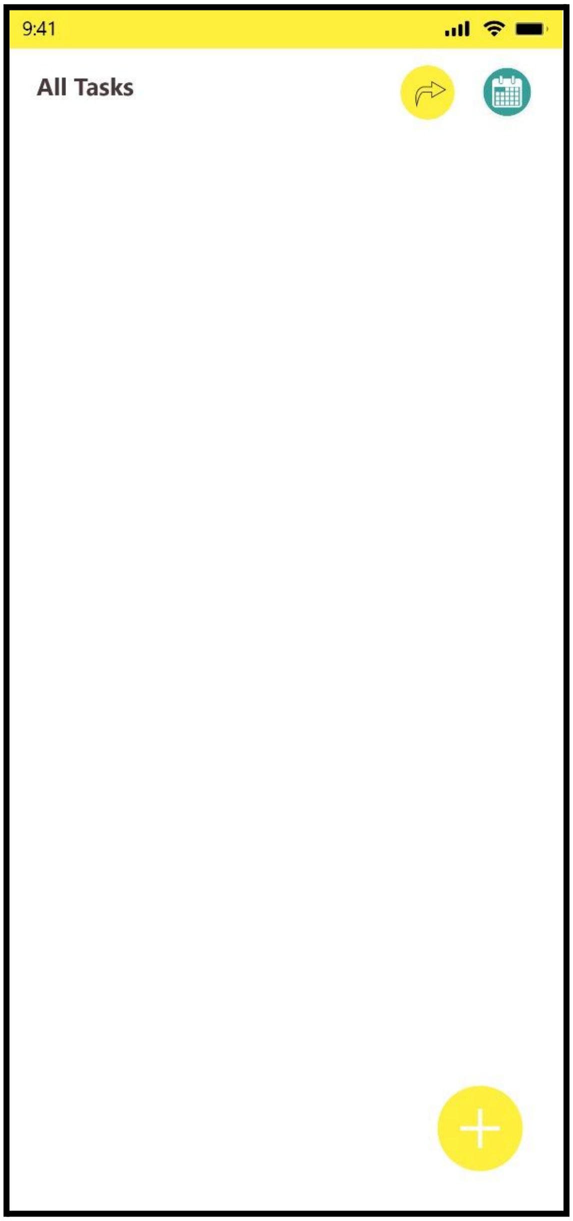
- **Splash Screen**

  - Android Splash Screen is the first screen visible to the user when the application's launched. Splash screen is one of the most vital screens in the application since it's the user's first experience with the application.
  - A splash screen is mostly the first screen of the app when it is opened. It is a constant screen which appears for a specific amount of time, generally showing for the first time when the app is launched.
  - The Splash screen is used to display some basic introductory information such as the logo, content, etc just before the app loads completely.
  - In our To-Do List Application, In the splash screen we are displaying our app logo.
  - Background of our splash screen is yellow and the screen in the center displays our app logo.



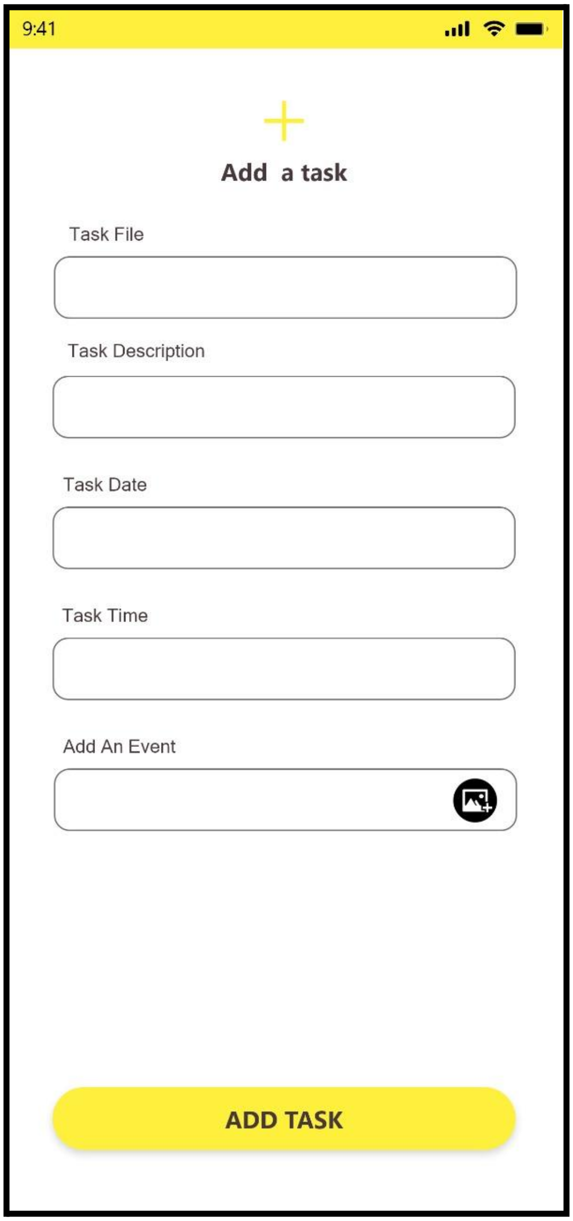
- **All Tasks**

  - ➢ After the splash screen this is the first layout of our application.
  - ➢ In this layout users can view all their tasks in a list view.
  - ➢ Users can add all their tasks with the help of (+) button.
  - ➢ Users export all their tasks in a text file with the help of export (-->) button.
  - ➢ Users view the calendar of the current month with the help of the calendar button.
  - ➢ It is the main layout of our application with white background.

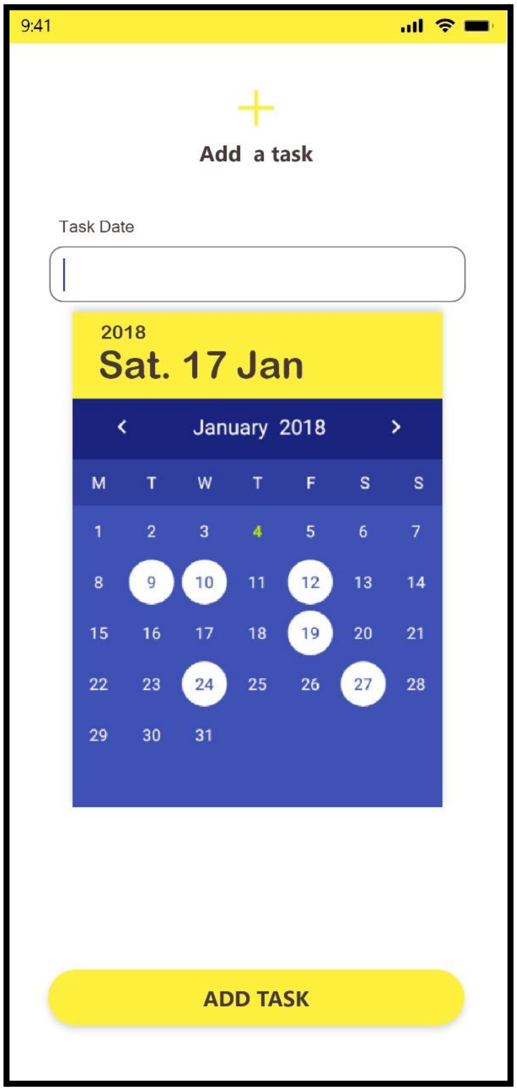


- **Add a task**

  - Whenever users click on (+) button then users can redirect to this add task screen.
  - In this layout users can add their tasks.
  - For add tasks users must enter Task File (Name of Task), Task Description, Task Date (Due date of task), Task Time (Due time of task), and Add An Event In this layout.
  - All attributes of this layout are compulsory for the users.
  - According to Task Date and Task Time reminders will be generated.
  - In the Event attribute users can add picture notes also.
  - In the last ADD TASK button there is also there for Add Tasks.
  - Whenever users click on the ADD TASK button Task will be added to your app in the list view.



- **Task Date & Task Time**



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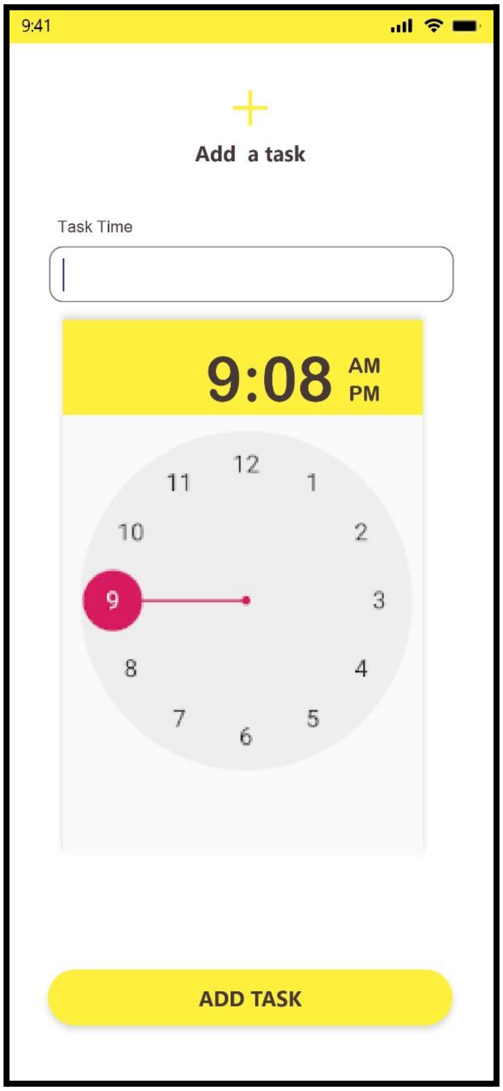
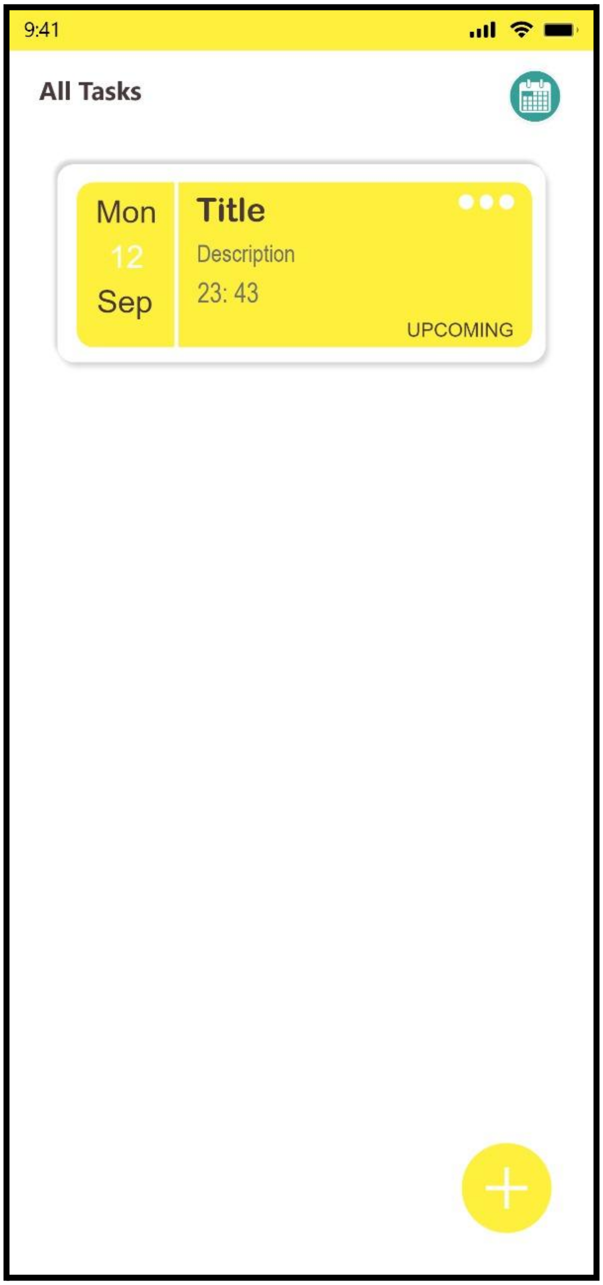


- ➢ In the previous Screen whenever users click on the TextBox of Task Date and Task Time this type of Screen will be displayed.
- ➢ With the help of this type of Screen users can easily set the due date and due time of their tasks. and it is also attractive for the users.

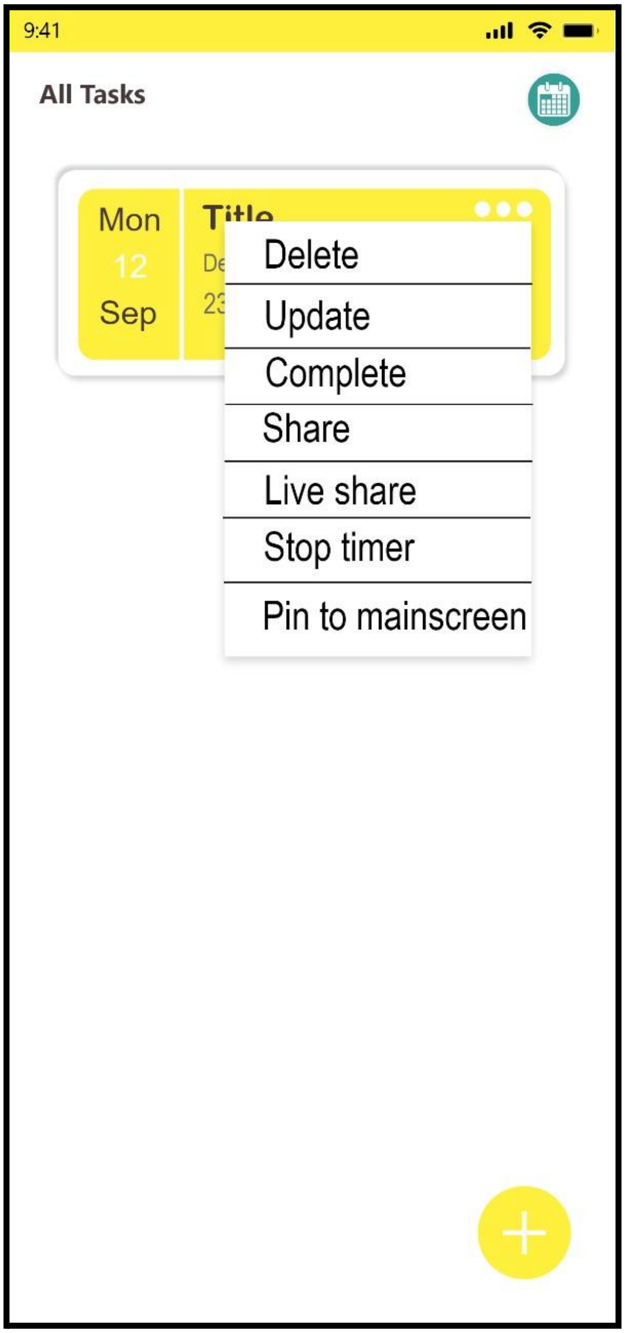
- **All Tasks**

  - Whenever users click on the ADD TASK button task will be added and this type of layout will be displayed.
  - All Tasks will be displayed here. or In this layout users can view all their tasks in a list view.
  - This is the home screen of To-Do List Application.
  - In added tasks using the menu users can update, delete, share, add in home screen, etc.
  - Whenever users have multiple tasks in their app, then users give priority on their tasks. Whatever task users need first task Just select and move up and down (just like drag & drop).



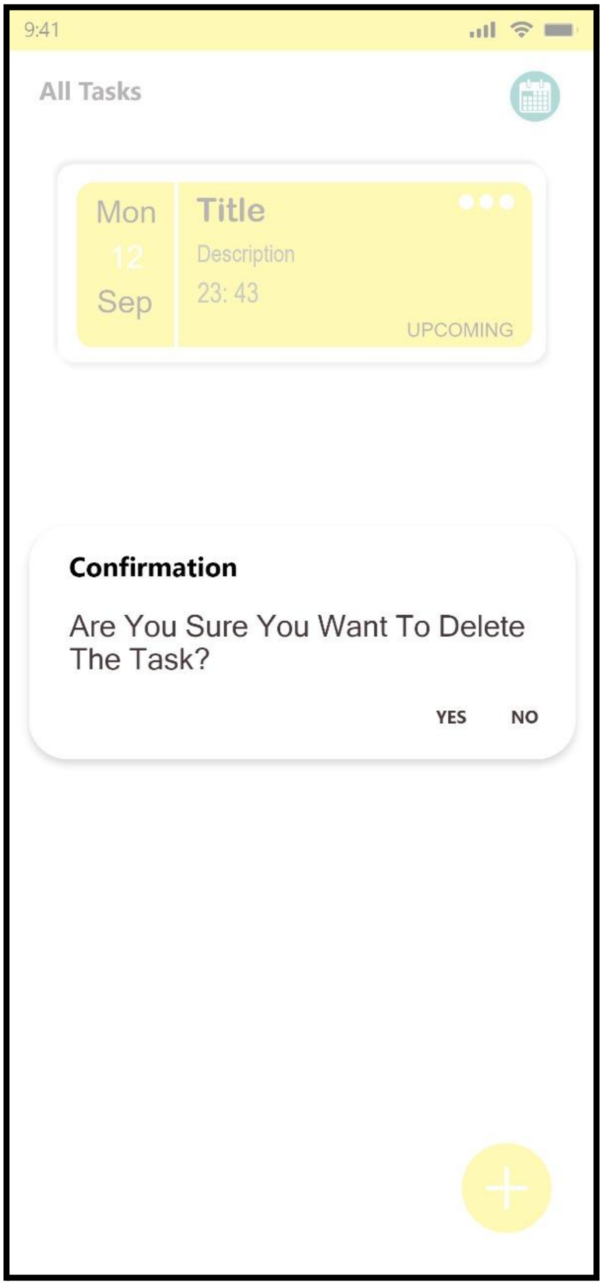
- **All Tasks**

    - Whenever users add tasks, users can perform operations like Delete, Update, Complete, Share, Live share, Stop timer, Pin to main screen using the menu (...) shown in this layout.
    - Choose “Task: Delete” and a dialog box shows up, asking if he wants to delete the selected task. If the user answers positively, then this task will be deleted, else the delete command will be canceled.
    - Choose “Task: Update”. Then a window layout will show up, the same one as the new task’s, in which the user can edit the task's fields. Users must not leave it empty, as it is mandatory. Users can also edit the description, reset the priority of the task, redefine the due date, set the task as a new name, complete, edit the task timer.
    - Choose “Task: Complete” and the dialog box shown up and, in this message will be there and one “Done” button will be there also.
    - Choose “Task: Share” and the dialog box shows up and, asking which way users want to share the selected task, means whatsapp, massage, mail options are available for sharing selected tasks. Users can share their details of tasks in image view.
    - Choose “Task: Live share” and the dialog box shows up and, asking which way users want to share the selected task, means whatsapp, massage, mail options are available for sharing selected tasks. Whatever tasks users can Live share that task is also editable by that person.
    - Choose “Task: Stop timer”. After completing this action, the selected task’s timer will be paused.
    - Choose “Task: Pin to Main Screen”, the system must arrange that task in the main screen of the phone.



- **All Tasks**

  - Choose “Task: Delete” and a dialog box shows up, like this layout.
  - This dialog box asks “Are You Sure Want To Delete The Task?”.
  - For the answer two buttons are also there. YES or NO.
  - If users want to delete the selected task then If the user answers positively means users click on YES button, then this task will be deleted. for this answer tost will be generated.
  - If users don’t want to delete the selected task then users must click on the NO button, then this task will not be deleted. for this answer tost will be generated.

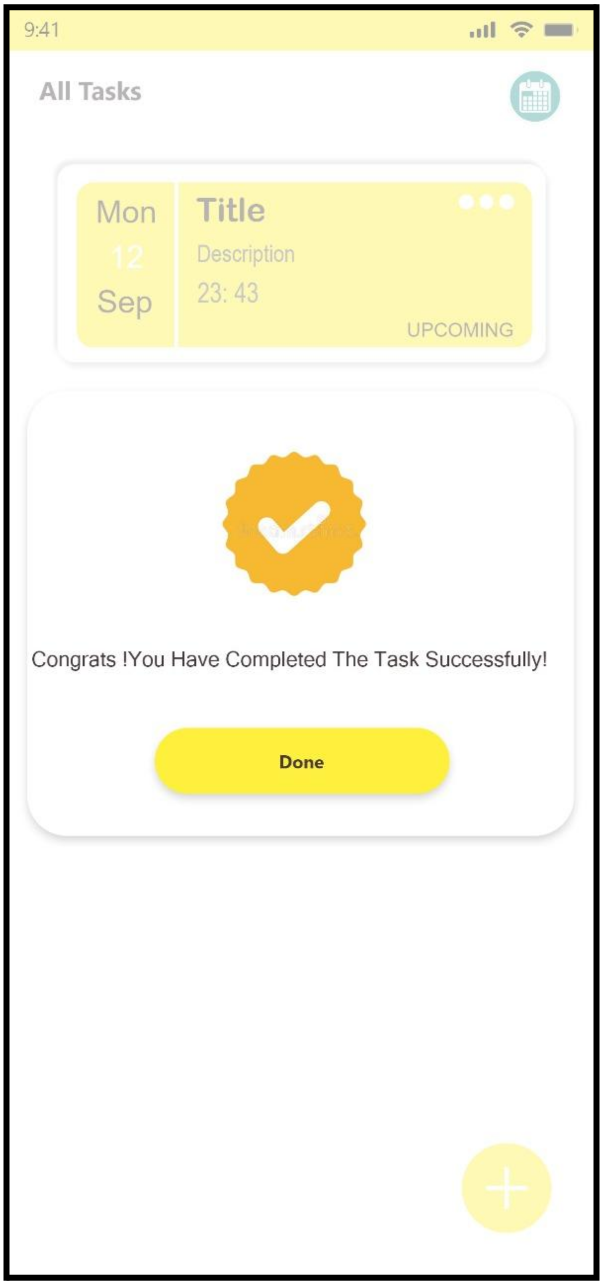


Confirmation

Are You Sure You Want To Delete The Task?

- **All Tasks**

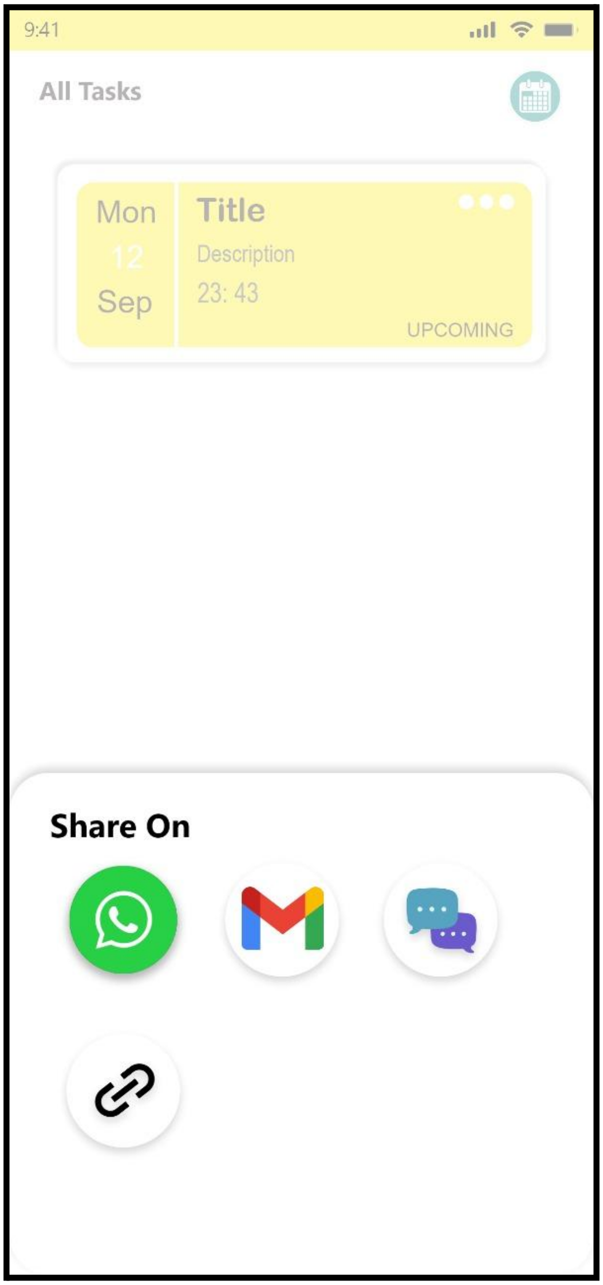
  - ➢ Choose “Task: Complete” and a dialog box shows up, like this layout.
  - ➢ This dialog box has a beautiful message “Congrats! You Have Completed The Task Successfully!”.
  - ➢ For reaction one “Done” button is also there.



Congrats !You Have Completed The Task Successfully!

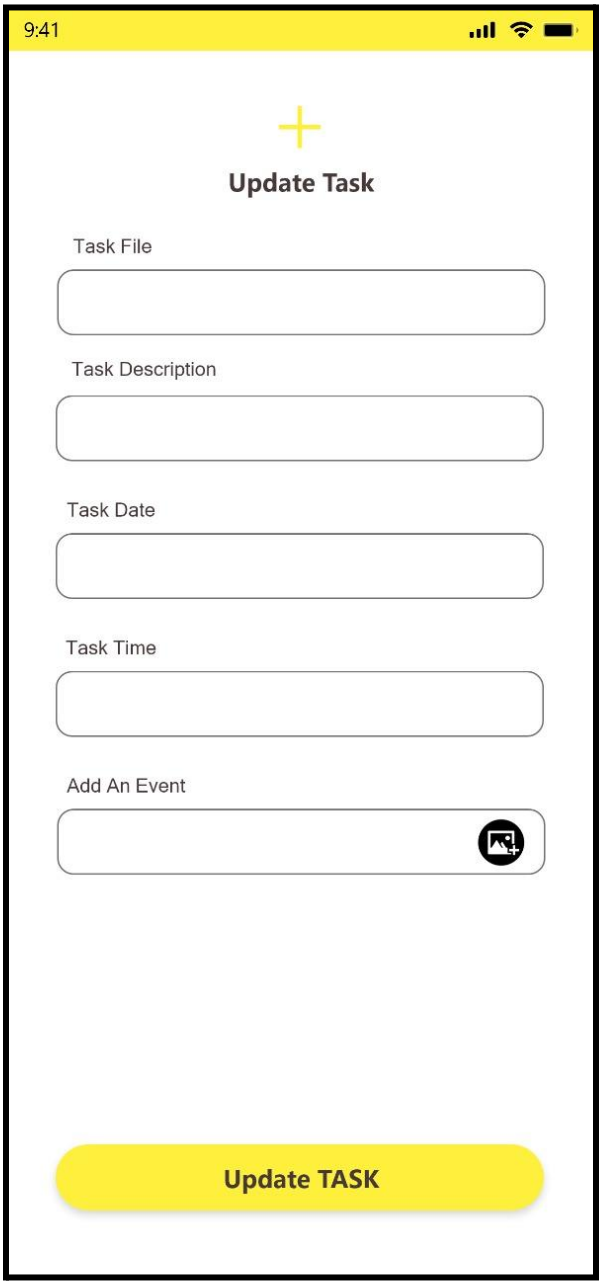
- **All Tasks**

  - ➢ Whenever users click on Share or Live share option this type of layout will be displayed.
  - ➢ Users can three ways to direct Share or Live share their tasks, WhatsApp, Gmail, and Message.
  - ➢ Users can also copy link and Share or Live Share whatever other way users want.
  - ➢ Whenever users only Share the task whatever ways, it forms an image view only.
  - ➢ Whenever users Live share tasks whatever ways, it forms a link type. and using these link both users are editing that task.



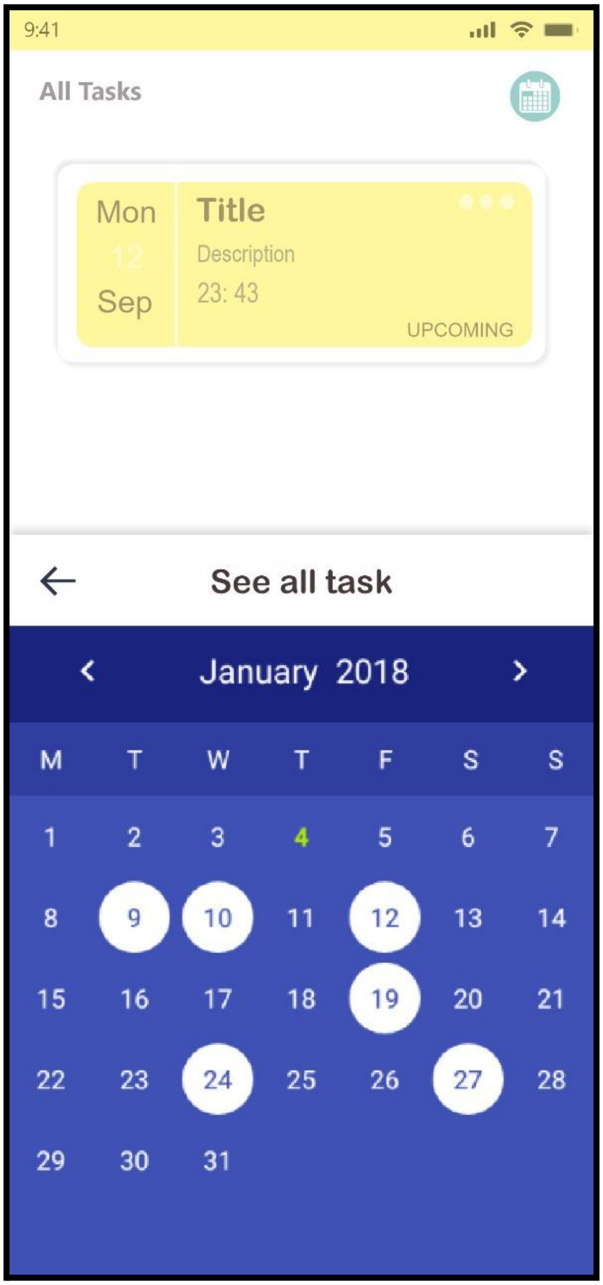
- **Update Task**

  - Choose “Task: Update”. Then this type of window layout will show up, the same one as the new task’s, in which the user can edit the task's fields.
  - Users must not leave it empty, as it is mandatory.
  - Users can also edit the file name, description, redefine the due date, reset due time, edit event, set the task as a new name, complete, edit the task timer, and delete a note.
  - In the last “Update TASK” button is also there for the update task. Whenever users click this button the task will be updated on the main screen.



- **Calendar**

  - ➢ Choosing “Show Calendar”, the system must show the Calendar with highlighted date, whatever due date of task for current month.
  - ➢ In this one button is also there for returning back to the home page (See all task).



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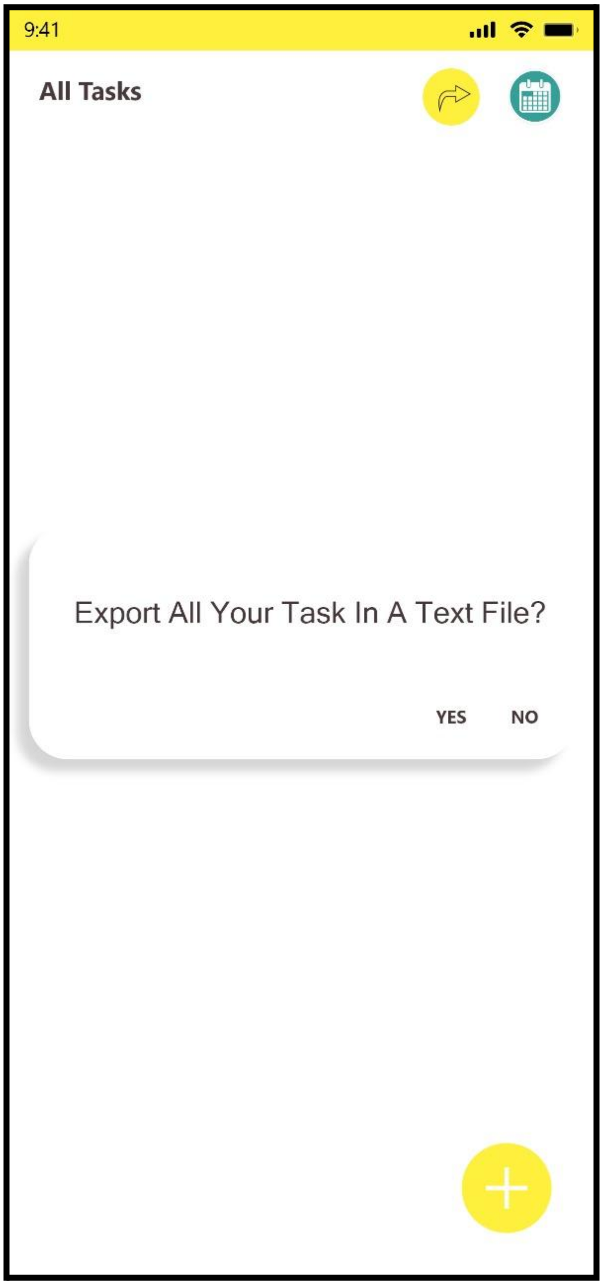
29	30	31				

- **Splash Screen**

  - ➢ Whenever users Choose “Export tasks to Text” and a dialog box shows up, like this layout.
  - ➢ This dialog box asks “Export All Task In A Text File?”.
  - ➢ For the answer two buttons are also there. YES or NO.
  - ➢ If users want to export all their tasks in a text file then click on YES button, then one tost will be generated like “your task has been exported”.
  - ➢ Users can see these text file in the phone storage of their phone. Here the To-Do List folder will be generated, and in this folder these text file will be saved.
  - ➢ If users don’t want to export all their tasks in a text file then click on the NO button, then one tost will be generated like “your task hasn’t been exported”. and export activity has also been canceled.



Export All Your Task In A Text File?

4.2 Hardware Interfaces

- Only the basic requirement of an android, no other specific hardware is required to run the software.

Android Smartphone
Version 5.0+
Ram: 2GB or 2GB+

4.3 Software Interfaces

- This software package is developed using XML as front end. Room Server as the back end to store the database.

Operating System: Android, Versions 5.0 or more.
Language: Java Runtime Environment (front end)
Database: ROOM (back end)

4.4 Communications Interfaces

- The Communication Standards that will be used as UI Application.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

- The system shall accommodate a high number of users without any fault. To-Do List is a program with minimal memory requirements, disk space and processing power. The program aims to provide the user ease and functionality without any charge.

5.2 Safety Requirements

- System use shall not cause any harm to human users. If there is extensive damage to a wide portion of the database due to catastrophic failure, such as a disk crash, the recovery method restores a past copy of the database that was backed up to archival storage (typically tape) and reconstructs a more current state by reapplying or redoing the operations of committed transactions from the backed-up log, up to the time of failure.

5.3 Security Requirements

- Security systems need database storage just like many other applications. However, the special requirements of the security market mean that vendors must choose their database partner carefully.
- System will have different types of users and every user has access constraints.

5.4 Software Quality Attributes

- To-Do List is mainly described by the ease of use, the handy organization tools, the portability, and the practical interface.

> **AVAILABILITY:** The Quality of the database is maintained in such a way so that it can be very user friendly to all the users of the database. The users are able to easily download and install the system.
>
> **CORRECTNESS:** The alarm should be played at time.
>
> **USABILITY:** The application UI is too good. That's why UX is good.

6. Other Requirements

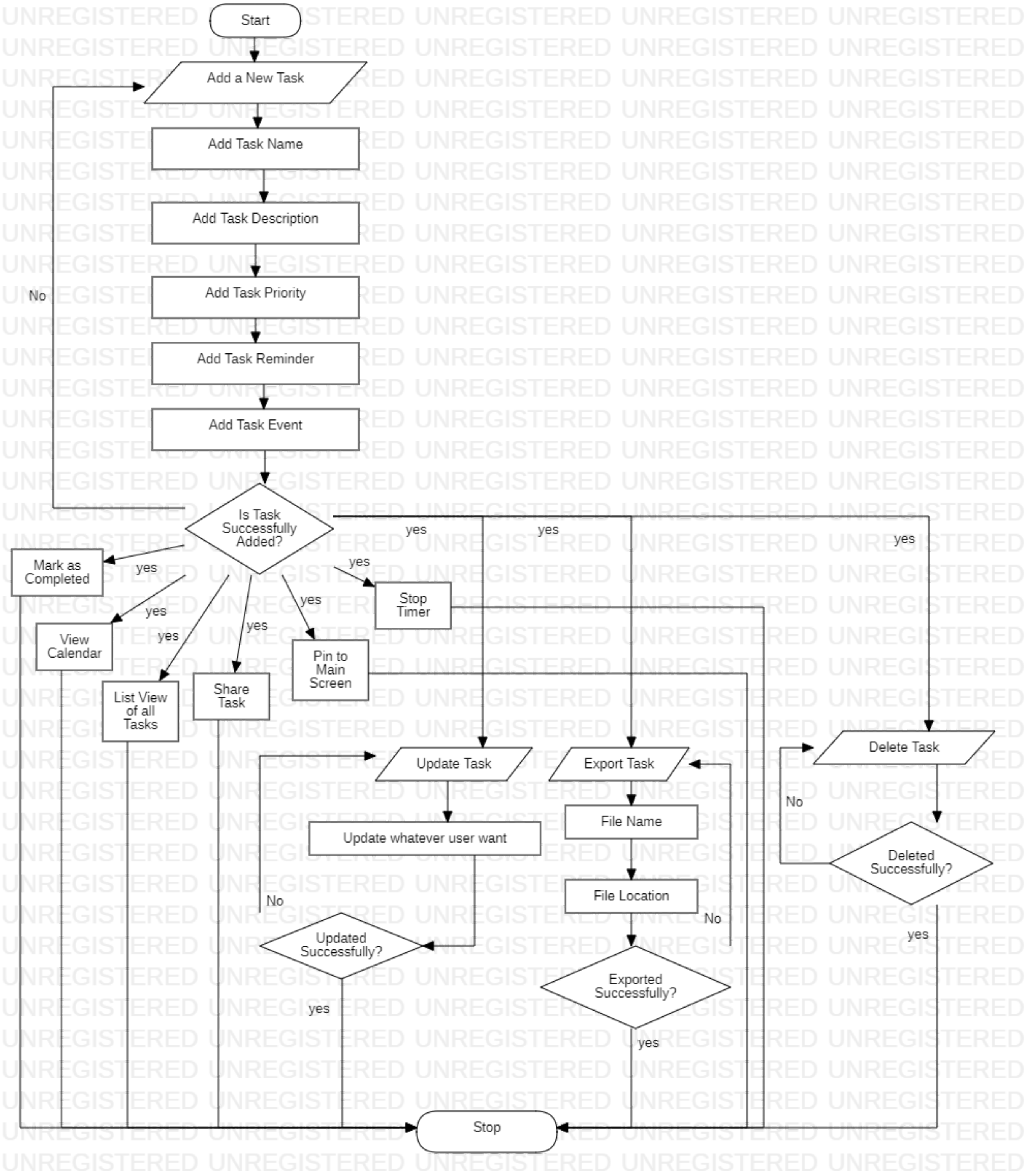
- In Our Application Nothing like Other Requirements.

Appendix A: Glossary

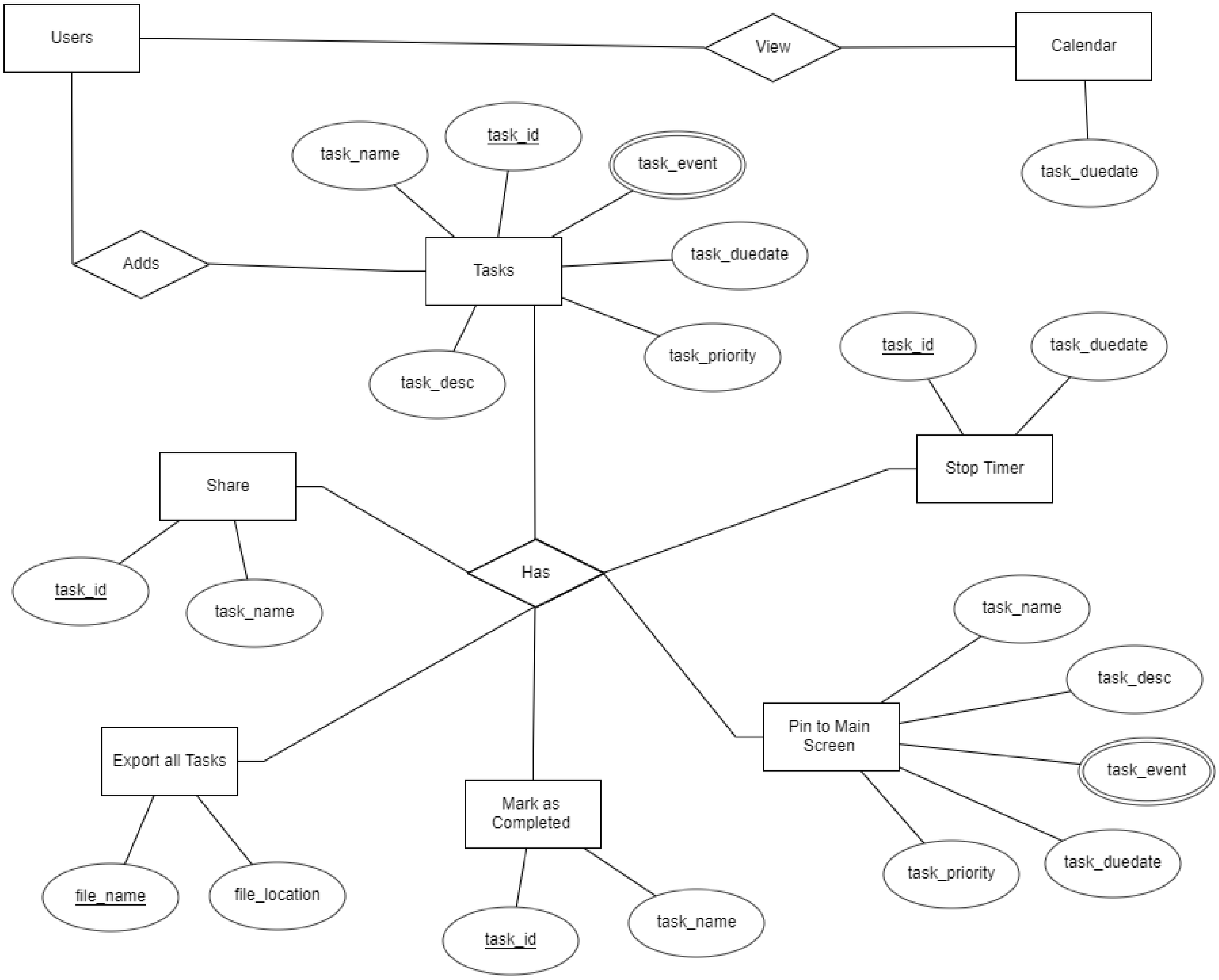
- UML -> Unified Modeling Language
- XML -> Extensible Markup Language
- ERD -> Entity-Relationship Model Diagram
- DFD -> Data-Flow Diagram
- UX -> User Experience
- UI -> User Interface

Appendix B: Analysis Models

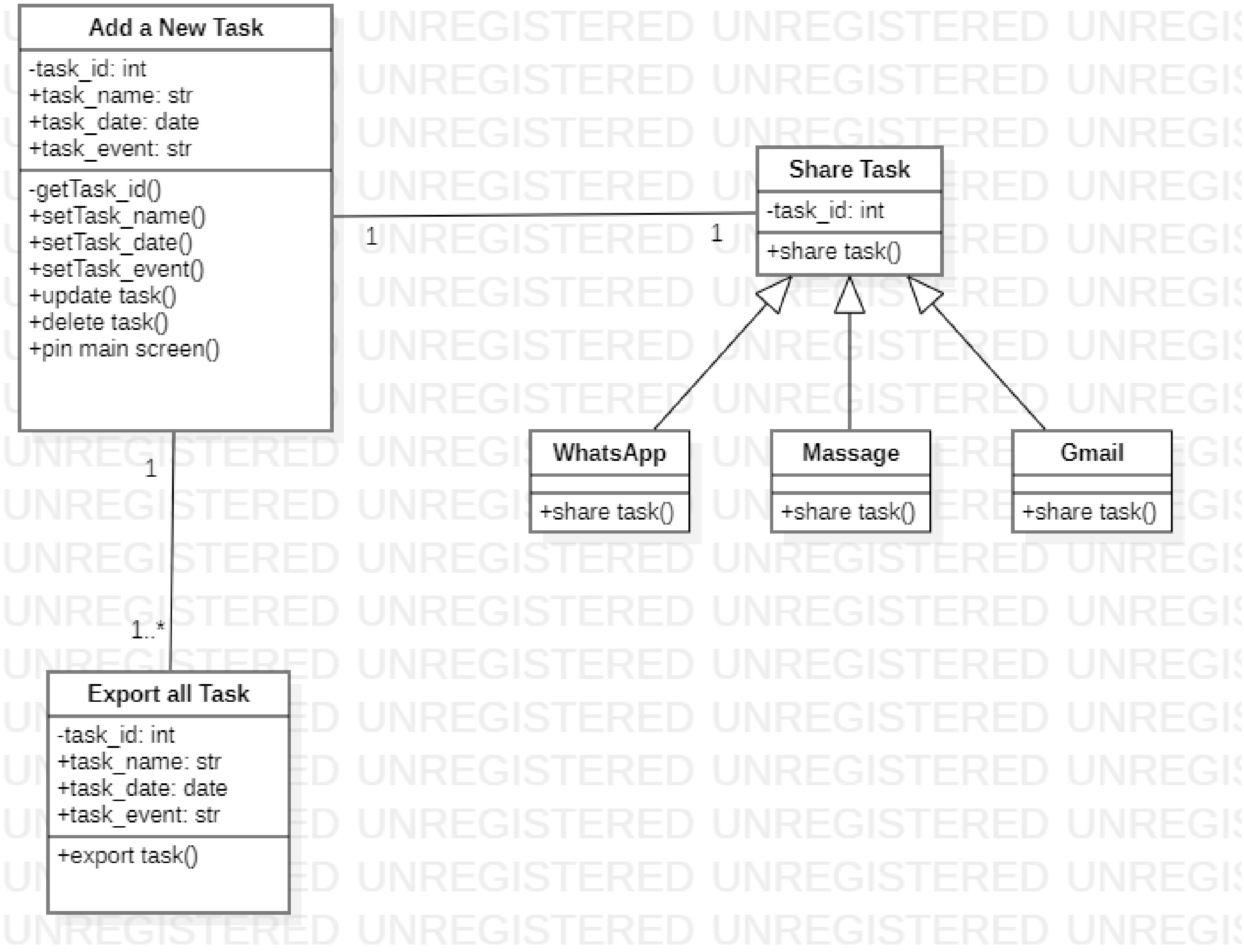
- **Flowchart of To-Do List Application**



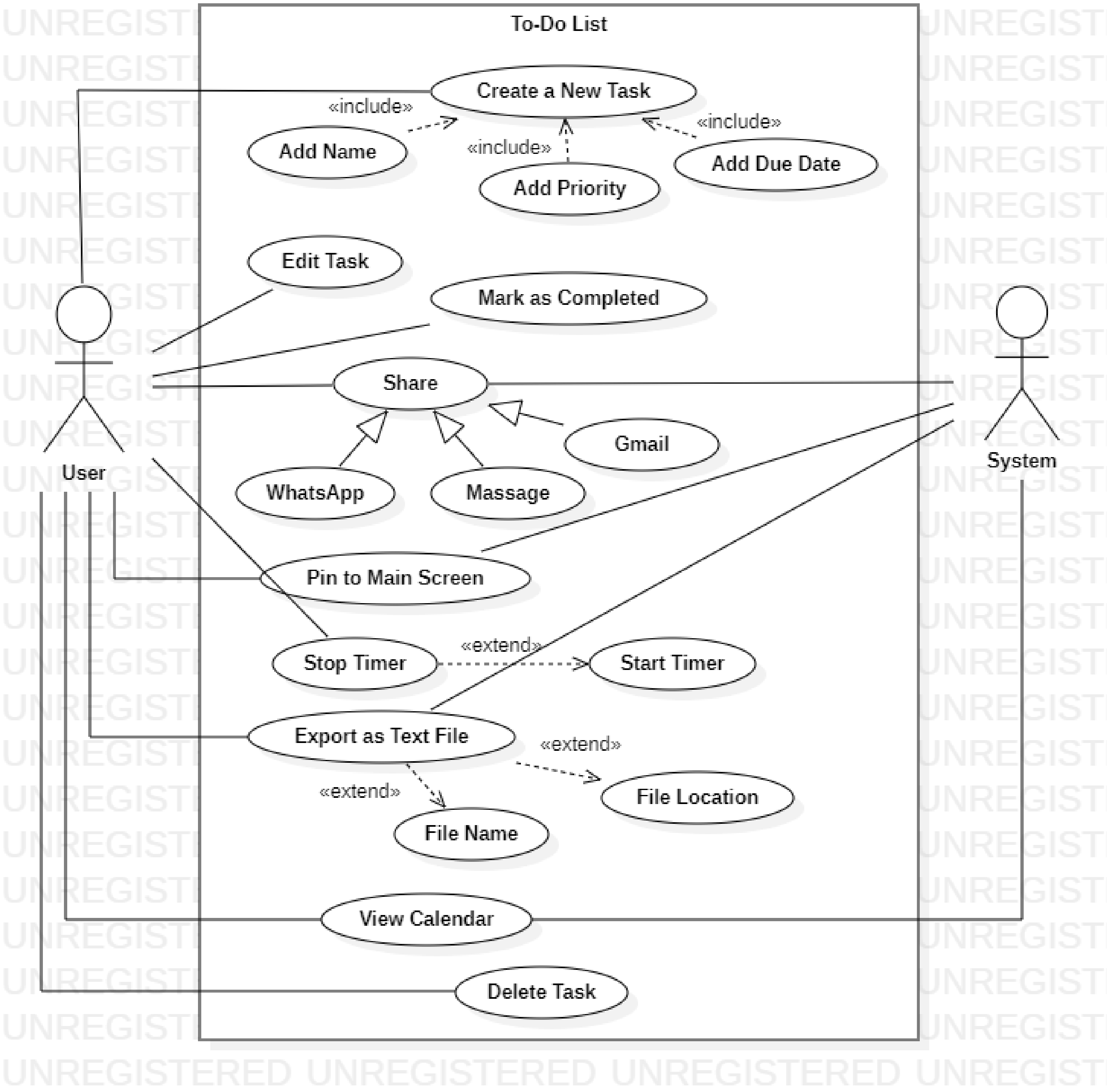
- **ERD of To-Do List Application**



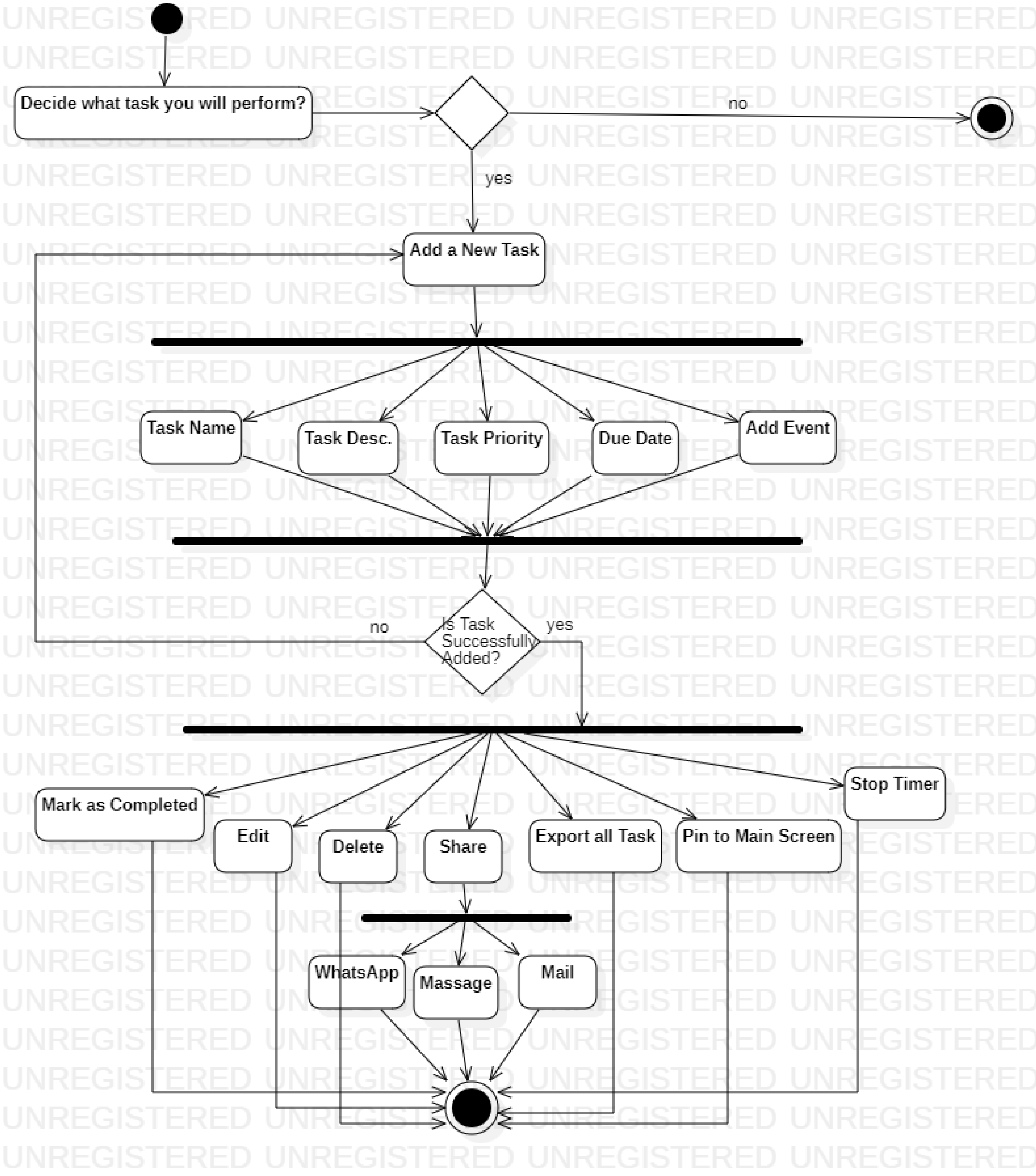
- **Class Diagram of To-Do List Application**



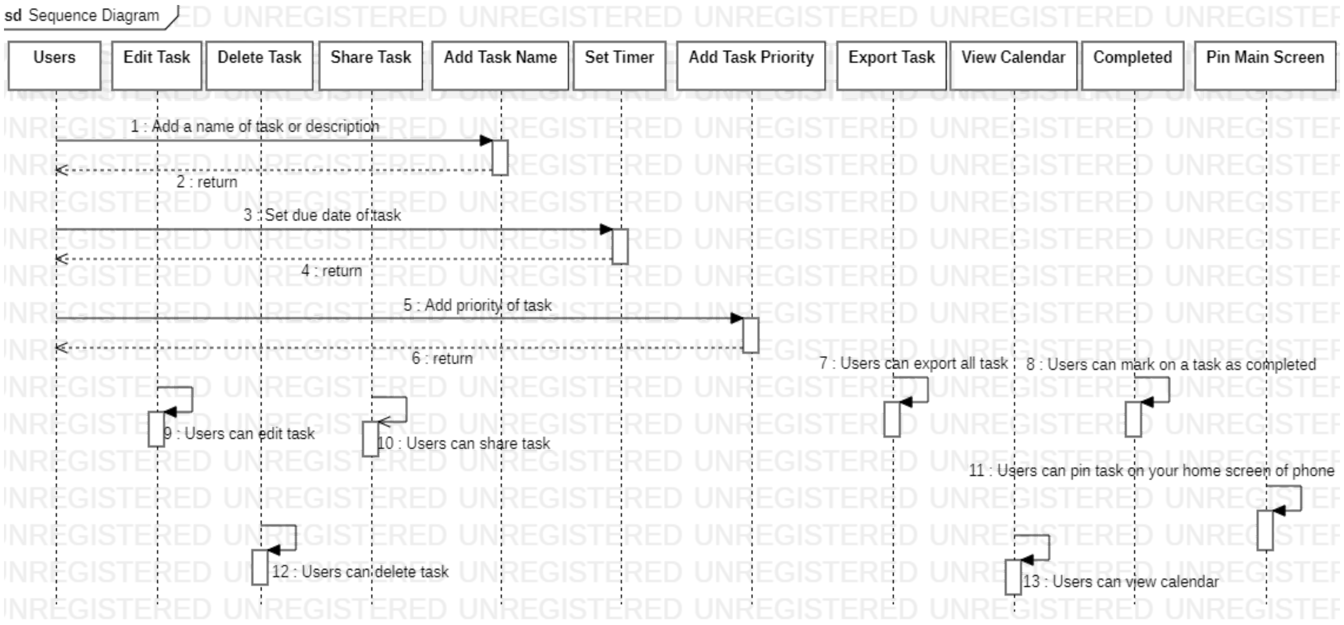
- **Use-Case Diagram of To-Do List Application**



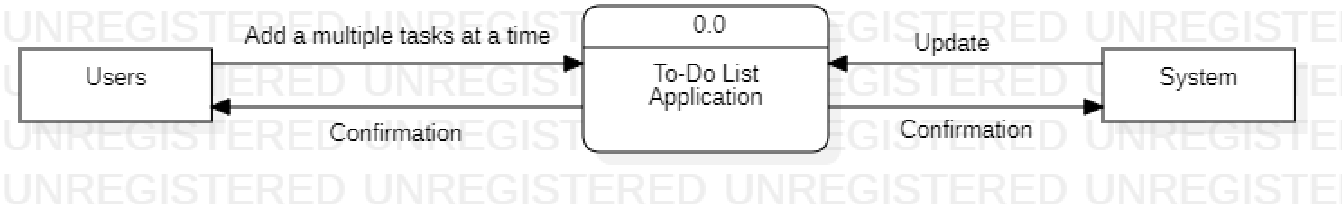
- **Activity Diagram of To-Do List Application**



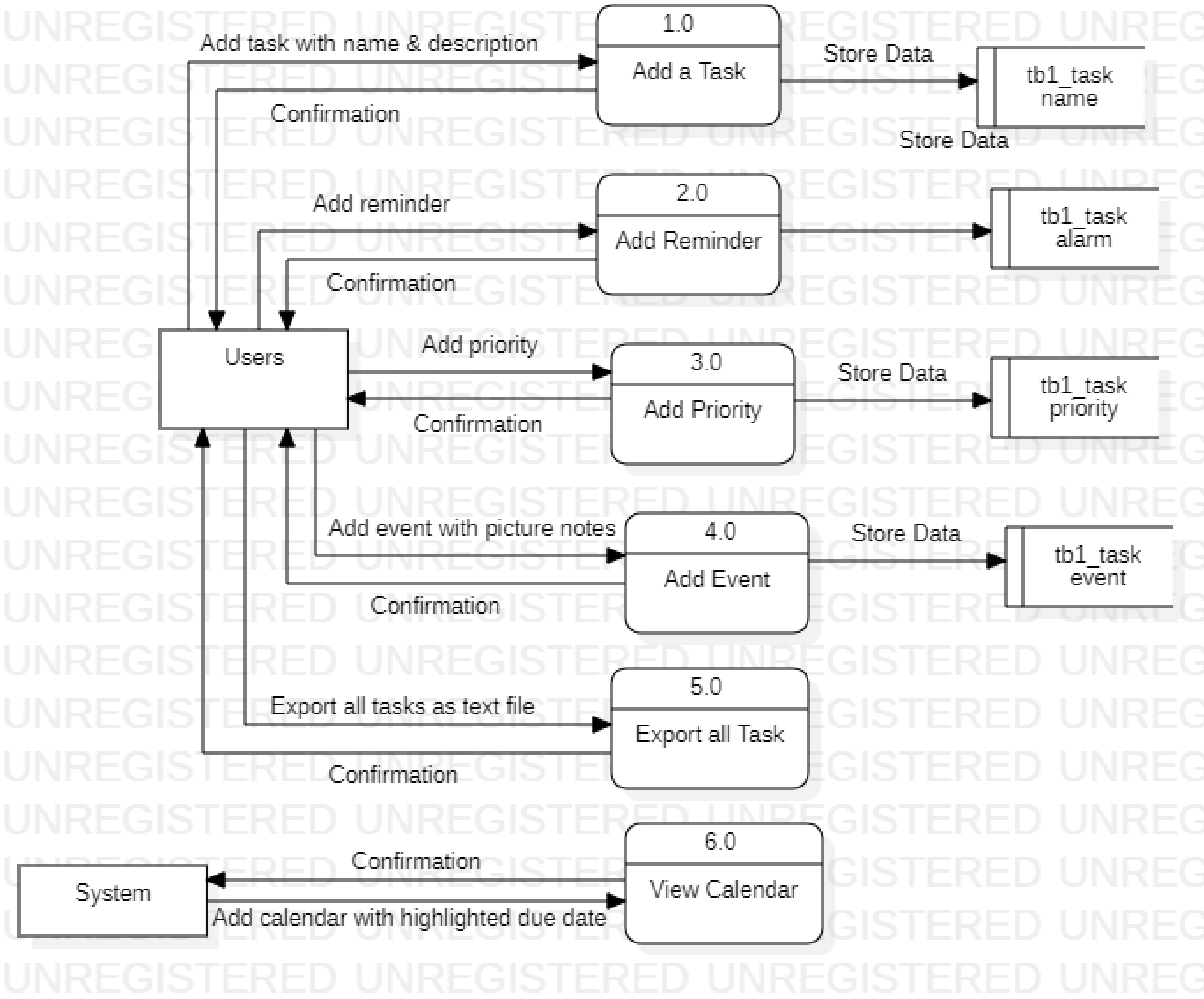
- **Sequence Diagram of To-Do List Application**



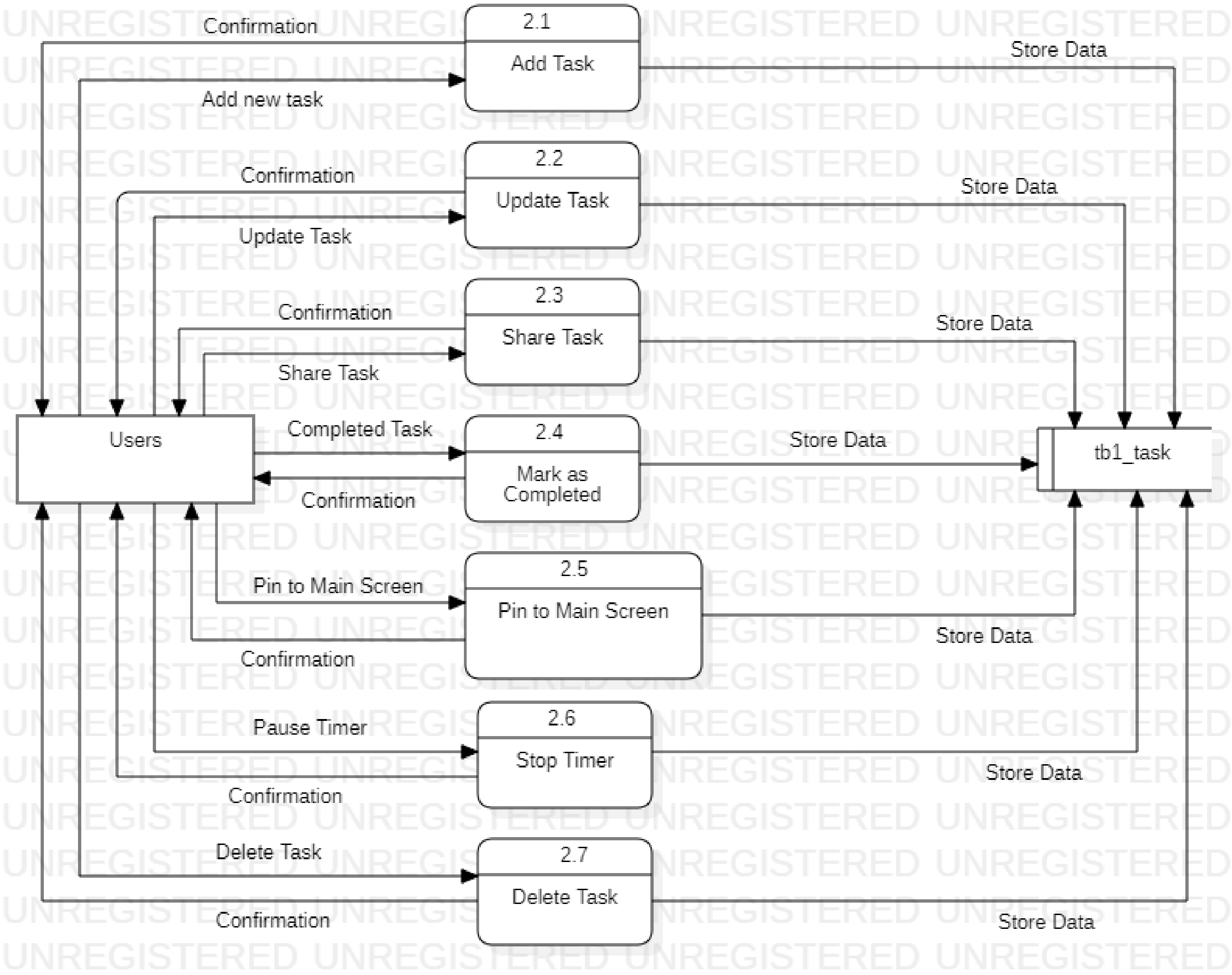
- **DFD Level-0 of To-Do List Application**



- **DFD Level-1 of To-Do List Application**



- **DFD Level-2 of To-Do List Application**



Appendix C: Issues List

- App that uses a search as its core infrastructure to find and present information from different data sources, means users search any task with task name.
- To create a subtask indent a task below another one.
- The Recycle Bin is a location where deleted tasks are temporarily stored, Recycle Bin allows users to recover tasks that were deleted.
- By default, At this time our Application follows a 12-hour clock format for Time. But, In future The 24-hour clock running from 00:00 (midnight) to 23:59 will be there.
- At a time Users can share multiple tasks whatever way users can wish.