Assignment 1 My Todo List

General Information

Project Title: My Todo List

In this assignment, you are tasked with developing a mobile application named "My Todo List." This app will serve as a personal task manager, allowing users to add, view, edit, and delete their to-do items. The goal of this project is to apply and demonstrate your skills in mobile app development using React Native, as well as to practice using version control systems effectively.

Submission Guideline, Milestones and Deadlines

The project will be divided into three key phases, each culminating in a milestone submission. The deadlines for these milestones are as follows:

- Milestone 1 Deadline: End of Week 3
- Milestone 2 Deadline: End of Week 4
- Final Submission Deadline: End of Week 5
- All three submissions for Assignment 1 must be made through the same submission link provided. Each student will be granted four opportunities to submit, accommodating the possibility of an incorrect submission. Prior to each submission, please review your materials meticulously to confirm that the correct files have been selected for upload.

Version Control and Submission Guidelines

- You are required to use GitHub for version control and to store your project.
- Your GitHub repository should initially be set to private. You must invite your tutor as a collaborator to your GitHub repository; this will allow them to monitor your progress and provide feedback as needed.
- When making commits to your repository, clearly indicate which milestone the commit pertains to by including "Milestone 1", "Milestone 2", or "Final Submission" in the commit message. This practice will help in organizing and assessing your work efficiently.

Assessment Criteria

Your project will be assessed based on the functionality, design, code quality, and the completeness of each milestone, as well as the final submission. Detailed assessment criteria will be provided in the subsequent sections of this specification.

Please ensure to adhere to the outlined deadlines and submission guidelines to ensure a smooth evaluation process. We are looking forward to seeing your innovative and functional My Todo List applications.

Milestone 1: Main Page Display

Objective

For the first milestone of the "My Todo List" app project, your task is to develop and display the main page of the application. This initial version will lay the groundwork for the app's user interface and basic functionality.

Requirements

- **Title**: At the top of the main page, prominently display the title "My Todo List."
- **Todo List Display**: The central part of the screen should feature a list of to-dos. For the purpose of this milestone, you may hardcode a few to-do items to simulate how they will appear. This does not require dynamic loading or manipulation of data yet.
- **Add New Todo Button**: Include an "Add New Todo" button at the bottom of the screen. This button will be made functional in subsequent milestones, so it does not need to perform any actions at this stage.

Design Considerations

- **Emulator Testing**: You are required to test your app on an emulator. Based on your development environment, choose either an Android or iPhone emulator. It is not necessary to test on both platforms for this milestone.
- **Customization**: Feel free to employ a color scheme and styling that differ from the provided figure. While adhering to the basic layout requirements, you are encouraged to apply your own design choices to make the interface visually appealing.

Submission Guidelines for Milestone 1

For the submission of Milestone 1, you are required to compile a comprehensive Word document that includes the following:

- **GitHub Project URL**: Clearly state the URL of your private GitHub repository where your project code is hosted. Ensure your tutor has been added as a collaborator to this repository.
- **App Screenshot**: Include a screenshot of the main page of your app as displayed in your chosen emulator. This screenshot should capture the title "My Todo List", the hardcoded list of to-dos, and the "Add New Todo" button.
- **GitHub Commit History Screenshot**: Provide a screenshot of your GitHub commit history, specifically highlighting the commit(s) relevant to Milestone 1. This is to verify your version control practices and the timely completion of this phase of the project.

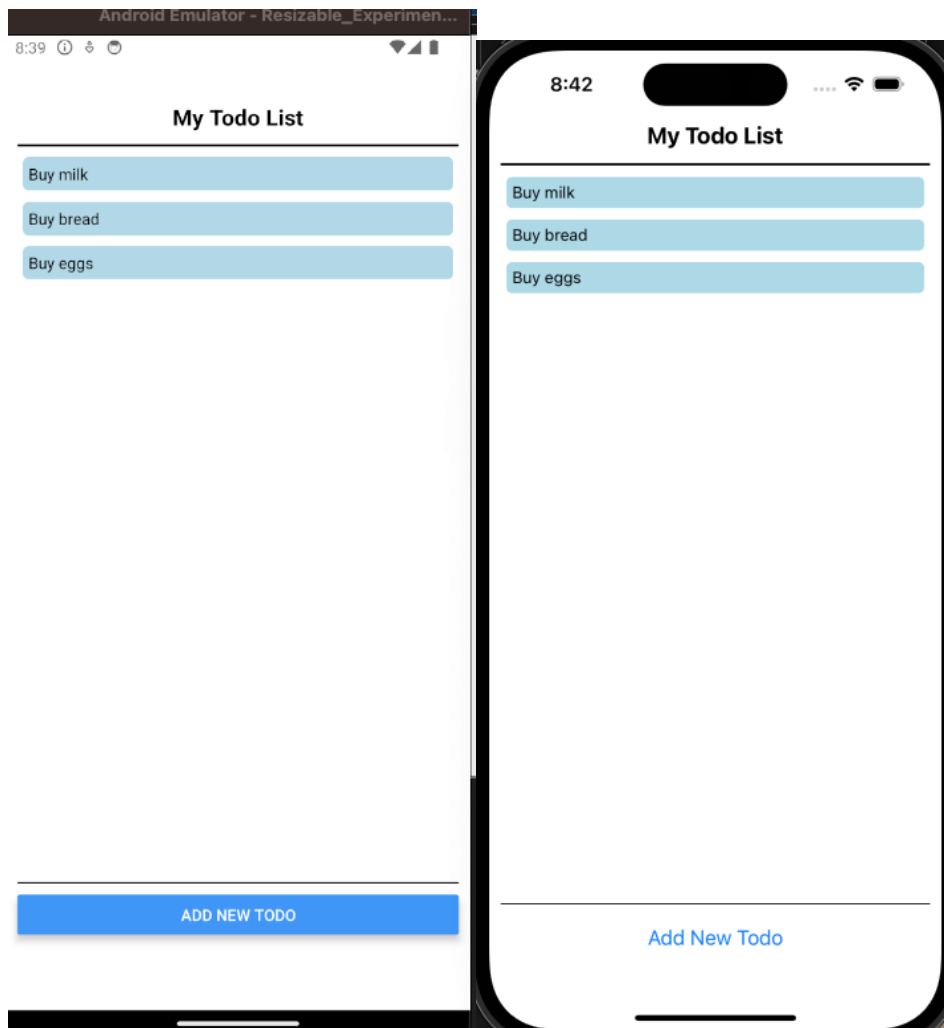**Marking Criteria for Milestone 1 (total points: 20)**

The following criteria will be used to evaluate your submission for Milestone 1 of the "My Todo List" app project. Each criterion is equally weighted, contributing to the total marks available for this milestone.

1. Timeliness of Submission (5 points)
   - Full marks are awarded for submitting the report by the specified deadline at the end of Week 3.
   - Late submissions may result in a deduction of points as per course policies.
2. Professionalism and Clarity of Report (5 points)
   - The report should be well-organized, clearly formatted, and easy to read.
   - Efforts should be made to use correct English with minimal spelling and grammatical errors.
   - Reports that are professional in appearance and language use will receive full marks.
3. Adherence to GitHub Requirements (5 points)
   - Full marks are awarded for correctly using GitHub to store the project, including setting the project as private and inviting the tutor as a collaborator.
   - Commits should be clearly labeled as relating to Milestone 1.
   - The report must include the URL of the GitHub project and a screenshot of the commit history.
4. Main Screen Requirement Satisfaction (5 points)
   - The main screen of the app must meet the specified requirements:
   - Displaying the title "My Todo List" at the top.

- Showing a hardcoded list of to-dos in the middle.
- Including an "Add New Todo" button at the bottom, with no functionality required at this stage.
- Full marks are awarded for fully satisfying these requirements and providing a screenshot in the report as evidence.

Figure Reference

Please refer to the figure below for a visual guide on how the main screen should be structured in both Android and iPhone emulators. Note that adherence to the exact design is not mandatory, and you are encouraged to infuse your personal style into the app.

Milestone 2: Enhancing Functionality and Navigation

Objective

For Milestone 2, the focus is on enhancing the user interface and navigation of the "My Todo List" app. This milestone involves customizing buttons, adding a new task entry screen, and implementing navigation between screens using React Native stack navigation.

Requirements
1. Customized Add New Todo Button:

- Modify the "Add New Todo" button to include a plus icon, following the design illustrated in the provided figure.
- The button should be visually integrated with the app's overall design theme.

2. Navigation to Add New Todo Screen:
   - Implement stack navigation to enable users to navigate from the Home screen to the "Add New Todo" screen by clicking the customized Add New Todo button.

3. Add New Todo Screen Layout:
   - This screen should feature two input fields: Title and Description. The Description field must support multiple lines of text.
   - At the bottom of the screen, include two buttons: Cancel and Save, both adorned with suitable icons and text.
   - The Cancel button returns the user to the Home screen. No functionality is required for the Save button at this stage.

Submission Guidelines

Milestone 2 Documentation: Submit a Word document that includes:

- The GitHub project URL.
- Screenshots of the app displaying the customized Add New Todo button and the "Add New Todo" screen layout, from either an iPhone or Android emulator.
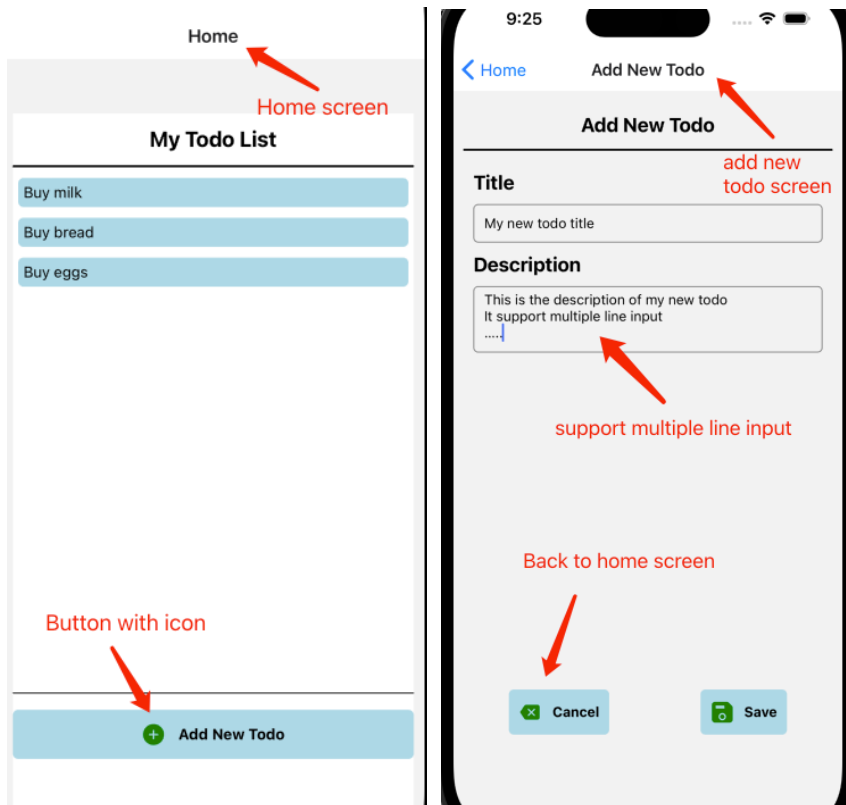- A screenshot of the GitHub commit history with the "milestone2" tag highlighted.

Marking Criteria for Milestone 2 (total points: 20)

1. Timely Submission with GitHub Milestone Tag (5 points)
2. Customized Button with Icons (5 points)
3. Effective Navigation Implementation (5 points)
4. Correct Layout of Add New Todo Screen (5 points)

Figure Reference

Please refer to the example screenshot provided for guidance on the expected layout and design of the "Add New Todo" button and the "Add New Todo" screen. While the example shows an iPhone interface,

submissions can include screenshots from either iPhone or Android emulators.

Final Submission: Completing the My Todo List App

Objective

For the final submission of the "My Todo List" app project, you are tasked with fully realizing the functionality of a personal task management application. This entails enhancing the user interface for better interaction, implementing features for adding, marking, and deleting tasks with validation, and ensuring data persistency across sessions. Your app will start on a Home screen listing all todos, with functionalities to add new todos through a dedicated screen, and the ability to toggle the display mode of todo items for detailed viewing. The final product should offer a seamless and intuitive experience for managing personal tasks.

Requirements

1. Home Screen Initialization:
   • The app should launch displaying the Home screen, which lists all todos.
2. Enhanced Add New Todo Screen:
   • Upon clicking the "Add New Todo" button, users are navigated to the "Add New Todo" screen.
3. Implement input validation for the Title and Description fields:
   • Both fields must not be empty for the todo to be successfully added.
   • If either field is left empty upon pressing the "Save" button, prevent the todo from being added. There is no need for an error message in this iteration.

4. Upon successful validation and pressing the "Save" button:
   - Display a pop-up or toast notification indicating "Todo Added Successfully."
   - Remain on the "Add New Todo" screen but clear the input fields to allow for the addition of new todos.
5. Navigation and Button Label Changes:
   - Change the text of the "Cancel" button on the "Add New Todo" screen to "Back."
   - The "Back" button should navigate users back to the Home screen.
6. Dynamic Todo Listing:
   - Use a FlatList component to display all todos on the Home screen. This allows for efficient scrolling when numerous todos are present.
   - Each todo item in the list should initially display in a "contracted" mode, showing only its title, alongside a caret-down (↓) icon to indicate that the todo can be expanded.
7. Todo Expand/Collapse Functionality:
   - Tapping the caret icon toggles the display mode of the todo item between contracted and expanded views.
   - In the expanded view, display the todo's title, description, and a control panel with icons.
8. The control panel in expanded mode displays:
   - A green tick icon for marking the todo as finished.
   - A red delete icon for removing the todo from the list.
9. Todo State Management:
   - Newly created todos are marked as not finished by default.
   - Tapping the green tick icon changes the todo's state to finished, and the tick icon should no longer be displayed for that todo.
   - Tapping the red delete icon removes the todo from the list.
   - The caret icon should allow users to toggle between expanded and contracted views for each todo, reflecting the todo's current state and available actions.
10. Data Persistence:
    - Implement AsyncStorage to locally store the todos and their states (finished/not finished).
    - Ensure that todos persist across app launches and reflect the latest changes made by the user, including additions, deletions, and state updates.

Submission Guidelines

For the final submission of the "My Todo List" app project, you are expected to adhere to the following guidelines:

1. Documentation: Submit a comprehensive Word document that includes:
   - The URL of your GitHub project. Ensure the project is set to private and that your tutor has been invited as a collaborator.
   - Screenshots demonstrating each key functionality of the app, including the dynamic listing of todos on the Home screen, the "Add New Todo" screen with input validation, and the expanded todo view with control panel actions.
   - A screenshot of your GitHub commit history showing the development progress of your project.
   - The link to your screen recording video.
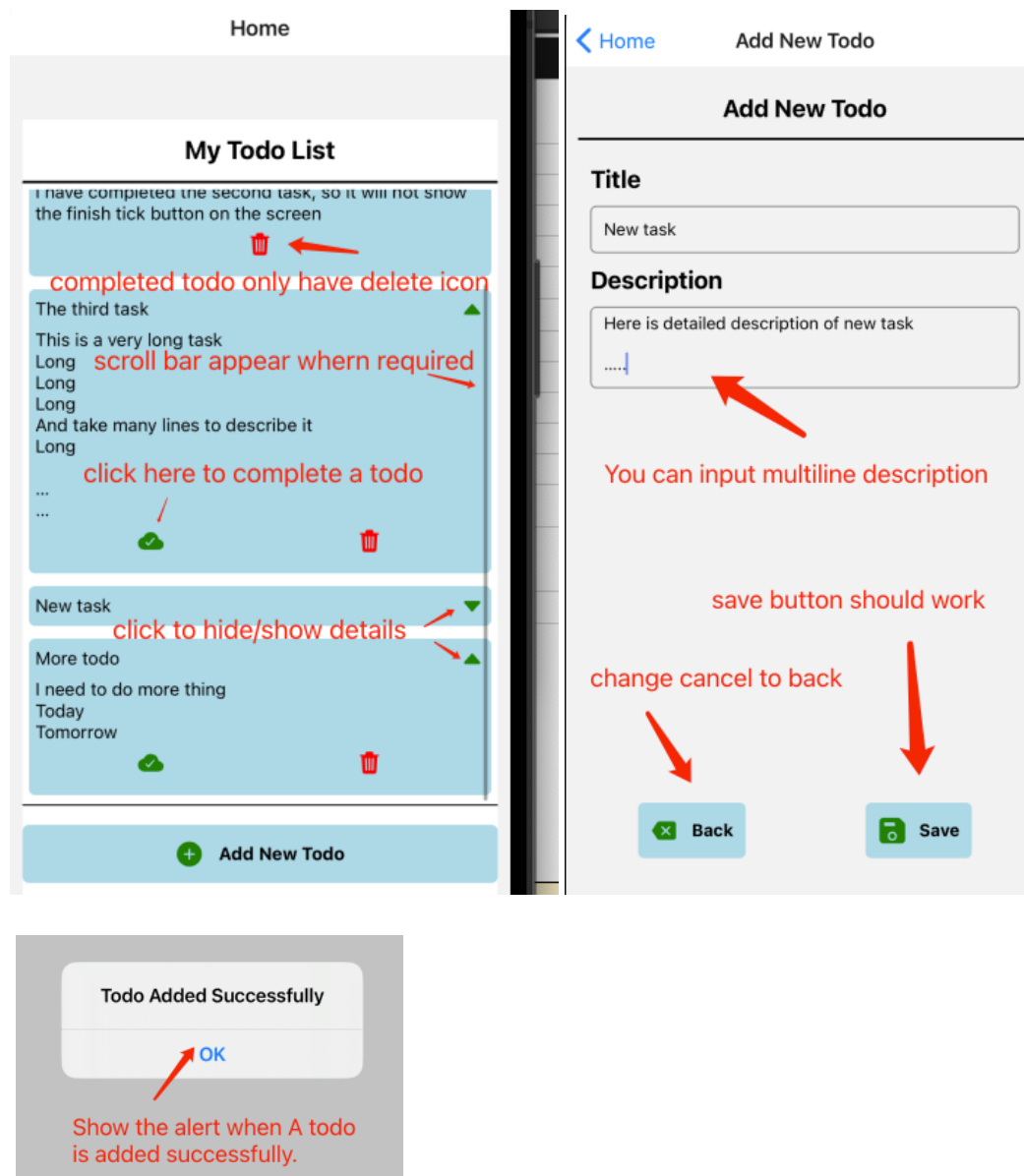2. Screen Recording Video:

- Create a screen recording video, not exceeding 5 minutes, demonstrating all the functionalities of your completed app. In the video, you should also provide a brief explanation of your code structure and the logic behind key functionalities.
- Your voice should be recorded in the video, clearly explaining each aspect of the app and the code.
- Do not upload the video directly to the course website. Instead, upload your video to an online storage platform (e.g., YouTube) and ensure the video is set to public or unlisted, making it accessible via its link.
- Include the link to your video in the submitted Word document. Make sure to test the link before submission to confirm accessibility by the tutor.
- Important: Failure to provide a valid video link will result in a loss of up to half of the total marks available for the final submission.

Marking Criteria for Final Submission (total points: 60)

The final submission of the "My Todo List" app will be evaluated based on the following criteria, with a total of 60 points available. Each aspect of the project will contribute to your final grade as detailed below:

1. File Structure (5 points):
   - All source code, except for App.js, should be organized under the src folder with appropriate subfolders reflecting a clear and logical structure.
2. Alert Function and Form Validation (5 points):
   - Implement an alert function to notify users upon successful addition of a new todo item.
   - Form validation for the "Add New Todo" screen must ensure that the title and description fields are not empty. The "Save" button should have no effect if either field is empty.
3. Proper Use of FlatList (5 points):
   - The Home screen must utilize a FlatList component to display todo items, allowing for smooth scrolling when the list is extensive.
4. Toggle Display Mode Through Caret Icon (5 points):
   - Implement functionality to switch between concise and expanded display modes for todo items via a caret icon. Users should be able to easily toggle the view for each item.
5. Expanded Mode Display (10 points):
   - In expanded mode, all elements, including the title, description, and control panel with icon buttons, must be displayed correctly and legibly.
6. Successful Implementation of Finish Function (10 points):
   - The app should allow users to mark todo items as finished by tapping a green tick icon. Once marked as finished, the tick icon should no longer be visible for that item.
7. Successful Implementation of Delete Function (10 points):
   - Users must be able to delete todo items from the list using a red delete icon. Deleted items should be removed from the display and storage.
8. Successful Implementation of Data Persistency (10 points):
   - Utilize AsyncStorage to ensure all changes to todo items, including additions, deletions, and state updates, are persistently stored and accurately reflected across app launches.

Referred Figures

This section is reserved for the screenshots or diagrams that you will provide, showcasing the expected layout and functionality of the app's final screens. These figures will serve as a visual reference for students to understand the desired outcomes for the user interface and interactions within the app.

Additional Requirement for Postgraduate Students

As part of the final submission for this assignment, postgraduate students are expected to include a reflective component. This should be a concise one-page reflection that discusses the following:

- **Learning Outcomes:** Articulate what you have learned through completing this assignment.
- **Interest and Utility**: Reflect on what aspects of the assignment you found particularly interesting or useful.
- **Areas for Improvement**: Identify any areas in the assignment that you believe could be enhanced or approached differently.
- **Technical Reflection**: Analyze the techniques used, considering alternative approaches to achieving the same functionality. Discuss the pros and cons of these different approaches in the context of the assignment.

- **Personal Development**: Contemplate how the skills developed in this assignment might apply to your future career or academic pursuits.

Note on Assessment:

The reflection is a critical part of your assessment. Failure to include this reflective component, or a reflection that lacks depth, may result in a deduction of up to 10% of the total assignment marks. This exercise is intended to engage you in higher-level thinking about the assignment and to prepare you for the kind of reflective practice that is expected in postgraduate academic and professional contexts.