

# Course Work

**ITS 1127 – Advanced Mobile Application Development**

BSc (Hons.) in Computer Science via GDSE



Final Examination

Total Marks: 100

## Objectives

Getting an approach to develop mobile applications.

- Usage of frameworks with their documentation for application development.
- Ability to create a well-functioning mobile application with backend API
- Development of hand-on skills related to React Native and Express.js

## Coursework Requirements and Instructions

- You have to focus on how to implement this application using your knowledge in React Native.
- This coursework consists of 2 components, Part A and Part B.
- Both components carry marks. In order to face the viva-voice at the end of this coursework, it is compulsory for you to complete the said two components successfully. The second component intends to prepare the student to face the viva confidently. For that, practice interviews will be conducted.
- Refer to the Coursework Guidelines at the end of each component to understand the specific guidelines to be followed.

## Submission

- You should submit the deliverables of the coursework on or before the due date specified.
- Your work is to be made into a .zip file with the file name format “[GDSEBatchNo\_ITS1127\_YourName]” and should be submitted to the google classroom.
- EXAMPLE: If your GDSE batch is 56 and your name is Nimal Perera,
  - o The .zip file name: GDSE56\_ITS1127\_NimalPerera.zip
  - o Email subject: GDSE56 ITS1127 Coursework – Nimal Perera

## Income - Expense Tracker Application

### Introduction

Budgeting money you earn is of great importance. Though human brain is naturally functioned to track our income and expenses, at one point this ability became insufficient. With that, people began to maintain documents. Of course, there was a time when these documents were sufficient to fulfill all the needs of people. Today, we live in a rapidly changing world where the technology is spreading its roots across the globe. Maintaining documents demand so much of time, space and effort. In such an occasion a mobile application appears to be the ideal solution.

You are requested to create a mobile application for tracking and managing the income and expenses. For an example, the user should be able to enter their income sources, all the expenses throughout the month. The application you create should analyze these two variables and keep the user updated about the balance. This should help the user to track and manage his/her income without any difficulty. As the developer, you are expected to name the created application with a suitable and an attractive name.

### Roles

*Following type of people accessing the system:*

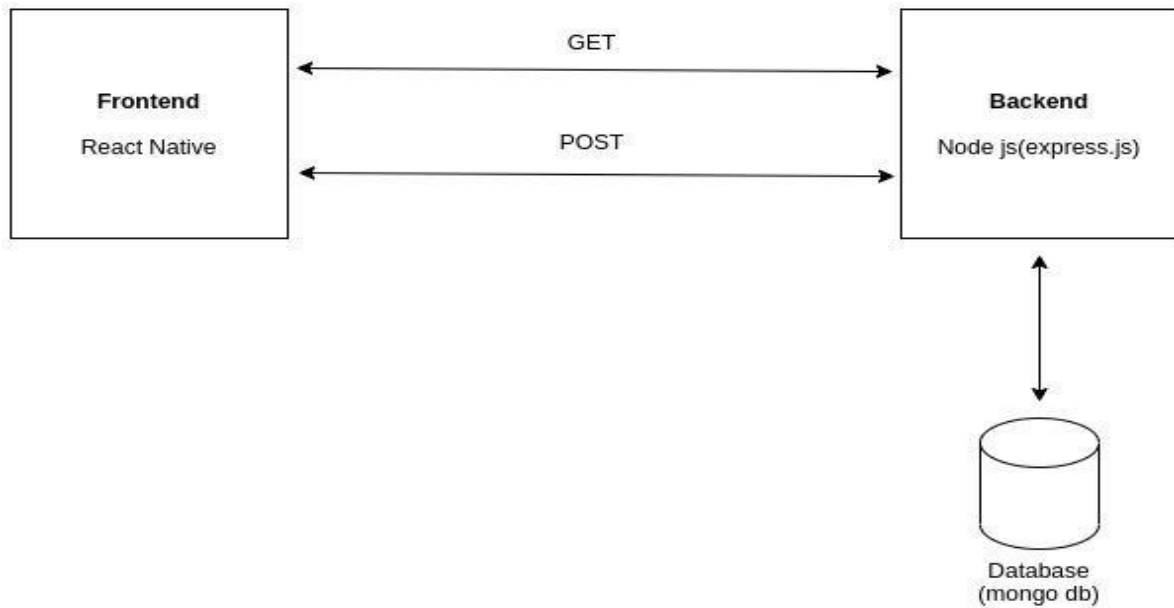
User	Will be referred as
People who use the application to input their income and expense with the aim of tracking and managing them.	Application User

### Application Features

*The following must be included in the application:*

1. Ability to register for the application.
2. The option of one-time login – Once the user log into the application after entering the User Name and the Password, he/she should be able to log in again without entering the said information.
3. Ability to add their income with the source for a particular month.  
Example – Salary: LKR 50,000
4. Ability to add expenses throughout the month.
5. Ability to view all their income and expenses as a list for the particular month.
6. Ability to indicate the positivity or the negativity of his/her pattern of expenses by analyzing the two variables: income and expenses.

## Application Architecture



## Guidelines

1. All the input tools must be validated
2. Should be highly concerned about the following areas.
  - User experience
  - Color psychology
  - Neatness
3. When the passwords are forgotten, the user should have the ability to recover them through the use of verification methods.
4. Technology you can use for the application:
  - a) React native to create apps for android and iOS (In this coursework mainly consider android app)
  - b) Do Not use Expo cli. Use react native cli.
  - c) Use Express.js and mongo db. for creating a backend API.
  - d) Use any third party npm package you preferred.

## PART A

Develop a mobile application that satisfies the features of the application mentioned above.

## PART B

You should be knowledgeable in the following areas when attending the VIVA

1. What is react native?
2. What are the advantages of using react native?
3. List some core components of react native
4. What is JSX?
5. What is the difference between Hot Reloading and Live Reloading in React Native?
6. What is the use of FlatList in React Native?
7. What is Flexbox in React Native?
8. What is Expo?
9. What are props and state in React Native?
10. What does Stylesheet. Create do in React Native?
11. What is Async Storage in React native? And what are the functions to get save and delete values?
12. What is component driven development and what are the benefits of using component driven development?
13. What are the ways to write react components?
14. Give a quick overview of the life cycle of a React component?
15. What is the duty of the Keyboard Avoiding View?
16. How to navigate from one page to another in react native?
17. How to load data from a server in React Native?
18. What is the use of platform modules in React Native?
19. What is the Difference between Scroll view and flatList?
20. What is the use of Safe Area View in React Native?
21. What are the cross-platform UI libraries that you used?
22. What are the alternatives for react native?
23. What are the other modules needed for react native navigation?
24. Explain the limitations of React native?
25. How can you make a customized button using core components?

### Evaluation Criteria

Method	Marks
Application	50
Viva	50

Pass Mark:50