

# ASE 456 - Design Document

## IOS APPLICATION: NEXT

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- Github Repository Link: <https://github.com/jmlpamonag/Next>

## Data Structure

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- **Data Structure:** *I will be using list of tuples because i want to make immutable objects for the tasks and prevent unnecessary data modifications to these objects. Being able to put these tuples in a list would also help me to be able to sort them based on specific criterions.*

## Database Structure - Revised

- I'll be using this structure to save a record in the database. For the revised version, I added a component named time spent which records the time(seconds) the user has spent on a specific task

```
# Record Object

Record = {
    task: "<date>",
    tag: "<date>",
    date: "<from_time>",
    from: "<to_time>",
    to: "<time_spent>"
}
```

## Database Access - SqfLite

→ Documentation Link: <https://pub.dev/packages/sqflite>

- Opening/Closing a database

```
import 'package:sqflite/sqflite.dart';  
var db = await openDatabase('my_db.db');  
await db.close();
```

- Create a new table

```
// open the database  
Database database = await openDatabase(path, version: 1,  
    onCreate: (Database db, int version) async {  
    // When creating the db, create the table  
    await db.execute(  
        'CREATE TABLE Test (id INTEGER PRIMARY KEY, name TEXT, value INTEGER, num REAL)');  
    });
```

- Insert data to table

```
// Insert some records in a transaction  
await database.transaction((txn) async {  
    int id1 = await txn.rawInsert(  
        'INSERT INTO Test(name, value, num) VALUES("some name", 1234, 456.789)');  
    print('inserted1: $id1');  
    int id2 = await txn.rawInsert(  
        'INSERT INTO Test(name, value, num) VALUES(?, ?, ?)',  
        ['another name', 12345678, 3.1416]);  
    print('inserted2: $id2');  
});
```