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Course and Course Code **SWC3403 (1123)**	Submission Date: 9/2/2024
Proposal No. / Title **PROJECT BRIEF FORM**	Extension & Late submission: Allowed / Disallowed

Assignment type: **INDIVIDUAL**	% of Assignment Mark	Returning Date:

Penalties:
1. 10% of the original mark will be deducted for every one-week period after the submission date
2. No work will be accepted after two weeks of the deadline
3. If you were unable to submit the coursework on time due to extenuating circumstances you may be eligible for an extension
4. Extension will not exceed one week

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1. Project title. [Meaningful, relevant and concise]

VEHICLE CHECKER SYSTEM

2. Project background. [Briefly explain on your idea of proposed product]

Vehicle theft and related crimes have become a major issue affecting public safety and law enforcement efficiency. Moreover, the lack of reliable ownership verification mechanisms allows criminals to avoid detection by police. Incidents of motor vehicle theft and robbery have been increasing. Criminals frequently utilise unregistered or stolen vehicles to carry out illegal activities and avoid detection by law enforcement. Vehicle cloning involves the use of duplicated registration plates and is a commonly used strategy. This challenges police in confirming ownership and tracing criminals.

The police lack sufficient methods to verify if a stopped car is correctly registered or perhaps stolen due to their lack of an effective vehicle ownership verification system. They must depend on manual paperwork checks, which are slow and ineffective. Criminals frequently utilise this verification a weakness to illegally use cloned or stolen automobiles.

So that, we suggest creating a system named VehicleChecker to verify car ownership. This automated application enables police workers in the field to quickly verify the legal registration status and ownership details of a vehicle using the number plate number. The system will access a registry database controlled by administrators.

Furthermore, the client application enables police to enter a number plate number and promptly receive confirmation in real-time regarding the vehicle's registration status, car brand, the name of the registered owner and also owner's IC Number :. This enables the officer to make well-informed decisions and appropriate measures during traffic stops. Authorised officers can use the admin interface to add new vehicle entries, change existing records, or deactivate retired cars. Deactivating a vehicle results in the removal of all related information. This ensures the integrity of databases and enhances system performance as time progresses.

In summary, the VhicleChecker system intends to reduce motor vehicle crimes by providing traffic police with access to current digital databases through client apps during field operations. Officers can promptly distinguish between authentic and suspicious automobiles. The technology ensures transparency and accuracy through efficiently maintained databases.

3. Project objectives. [Aim or objective of your product. State at least 2]

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Automate Vehicle Ownership Verification

- To streamline the process for police officers to confirm the registration of a car to its owner. This enables cops to promptly confirm car registration during traffic stops.

Optimise Vehicle Registration Administration

- To simplify the administration of car registration data for administrators using a user-friendly interface. This enhances administrators' ability to register new cars, update information about vehicle and delete about information vehicle.

4. Target user or group of users. [Explain who is your intended or group of users]

Police officers who manage traffic:

Traffic police officers can go to the VehicleChecker system on their mobile devices to use the vehicle verification feature. Officers can enter licence plate numbers of vehicles they have stopped while performing traffic duties. The system will promptly offer information on car registration status and associated facts such as owner information, and car brand. This enables officers to distinguish between potentially suspicious automobiles and legitimate ones.

Administrators:

Police officers with proper authorization must access the secure administrative interface of the VehicleChecker system to oversee the database. Primary duties involve inputting new car registration information, revising current data, and deleting outdated vehicle records. Effective database administration guarantees the precision and dependability of the database for traffic cops who depend on it.

5. Hardware and software requirements including operating system, programming languages and database management systems.

5.1 Hardware Requirement

Name: Laptop Lenovo IdeaPad Slim 3 15IH8

Hardware	Description
Processor	12th Gen Intel(R) Core(TM) i5-12450H 2.00 GHz
System Architecture	64-bit operating system, x64-based processor
Storage	512GB SSD

Table 1

5.2 Software Requirement

Software	Description
Android Studio	For the purpose of developing Android applications, Android Studio is an integrated development environment (IDE). It runs on the IntelliJ IDEA platform from JetBrains and completely integrates with the Android SDK from Google.
Kotlin	Working with Java code, Kotlin is a modern programming language. It was developed by JetBrains to enhance the creation of Android applications. Although having fewer code lines than Java, Kotlin is just as capable. It also stays free of certain Java errors that lead to app failures.
XML	Extensible Markup Language is known as XML. It is used in the design of Android application interfaces. With components like buttons, image and text, the user interface is described in XML layout files. Before attaching the visual components to the programming logic, developers drag and arrange them in XML.
Firebase	Google offers a cloud platform called Firebase. Developers can add powerful functions without having to worry about maintaining servers. Firebase offers file hosting, user login functionality, notifications, cloud database storage, and more for Android apps. The Firebase library allows Android apps to simply handle user accounts and store data online. When switching between devices, this enables apps to function consistently.

Operating System	Windows 11 Home Single Language

Table 2

6. Project schedule [Create a Gantt Chart to show the project schedule: Information gathering, Literature Review, Methodology, System Requirements, Analysis, Design, Implementation and Testing]