ASSIGNMENT COVERSHEET

UTS: ENGINEERING & INFORMATION TECHNOLOGY

SUBJECT NUMBER & NAME	NAME OF STUDENT(s) (PRINT CLEARLY)	STUDENT ID(s)
31927 Application Development with .NET	*William Tan* *Shirley Yi* *SURNAME* *FIRST NAME*	24940215 25036423

STUDENT EMAIL	STUDENT CONTACT NUMBER
William.Tan-3@student.uts.edu.au	0452051222
Xiangli.yi@student.uts.edu.au	0414083848

NAME OF TUTOR	TUTORIAL GROUP	DUE DATE
Erin Heathcote		20/10/2025

ASSESSMENT ITEM NUMBER & TITLE

ASSIGNMENT-2: Group Project

I confirm that I have read, understood and followed the guidelines for assignment submission and presentation on page 2 of this cover sheet.

I confirm that I have read, understood and followed the advice in the Subject Outline about assessment requirements.

I understand that if this assignment is submitted after the due date it may incur a penalty for lateness unless I have previously had an extension of time approved and have attached the written confirmation of this extension.

Declaration of originality: The work contained in this assignment, other than that specifically attributed to another source, is that of the author(s) and has not been previously submitted for assessment. I understand that, should this declaration be found to be false, disciplinary action could be taken and penalties imposed in accordance with University policy and rules. In the statement below, I have indicated the extent to which I have collaborated with others, whom I have named.

Statement of collaboration:

Signature of student(s) ______________William Tan_________________________ Date ___________20/10/2025________________

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ASSIGNMENT RECEIPT

To be completed by the student if a receipt is required

SUBJECT NUMBER & NAME	NAME OF TUTOR

Campus Buddy: Lost and Found

Every semester students lose everything from pencil cases to valuable electronics, yet existing lost-and-found services (often reachable only by email) provide no searchable, timely records. Students are struggling to track recent reports and to coordinate returns.

Our solution Campus Buddy fills that gap by providing staff and students with a unified, user-friendly platform for managing, reporting, searching, and matching lost-and-found items.

With Campus Buddy, students or staff members can sign up with an email address, password and basic information. Once they log in, they are able to see 2 main tables: lost items and found items, displaying title, category, location, description, reporter name and status(active or resolved).

To submit a report, users can fill out a form that captures all the relevant details. Form validation is used to ensure all necessary data are collected and formatted correctly. Clear error messages will be displayed if user input does not satisfy the requirement.

A keyword search plus category filters allows users to quickly find relevant lost or found records. Search results are summarised and displayed in a table format. Users are given the option to view detailed reports for a search result. For each record, a Find Matches option is provided to show a list of possible matches for the lost or found items, with ranking score displayed. A deterministic matching algorithm scores and ranks potential lost/found pairs that uses the category match, keyword overlap, location similarity, and proximity of report dates. When a match is identified, the system will generate a notification to inform the user.

My Posts window provides users with a post history for them to check and manage their past posts. They can view details of each post, mark them as resolved or delete them if they want to. My Account form allows users to update their personal information, including name, phone number and password.

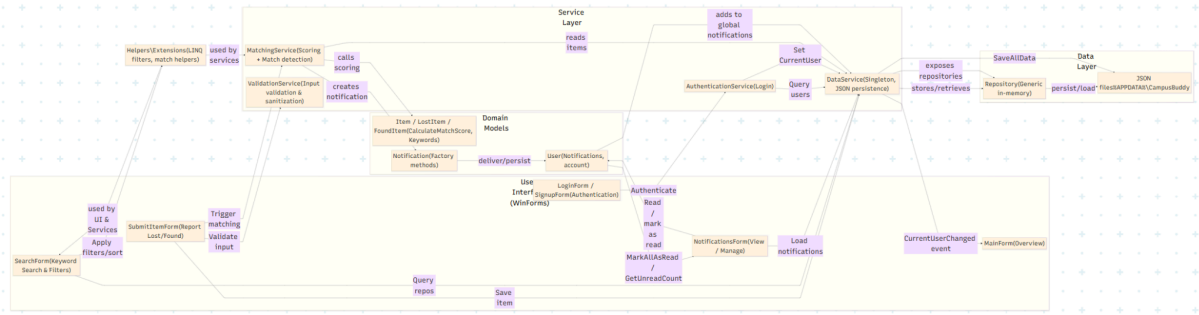
Finally, in the Notifications window, users are presented with a list of summary notifications with the option to view details of any one notification they might want to check. A priority filter is also provided to help users identify notifications that are most urgent and important.

Development approach

The application was developed using the core programming language features and built-in library without heavy reliance on external tools or libraries.
The development followed a layered architecture and a modular approach, separating different system components, such as data handling, user interface and logic.

Layer	Approach
User Interface Layer	Desktop Windows Forms interface is implemented to provide a clear and user-friendly Graphical Interface. It allows the users to interact with the system with familiar elements, such as forms, tables and input fields.
Service Layer	Services are set up to encapsulate the business logic of the application, supporting the operation of user interfaces.
Data Layer	The data layer manages data storage and retrieval, with data persisted in JSON files.
Domain Model	Models are used to define data structure and manage the data itself. It serves as the foundation for both service and data layers.

Flowchart



Team Contribution Table

The development of this project was a collaborative effort, with each team member contributing to different aspects. The table below outlines the key responsibilities and contributions of each member.

Name	Contributions
William Tan ()	Submitted the Group Form; Identified the requirements of the project; Determined the architecture of the project; Set up project structure; worked on Forms(MainForm.cs, MyPosts.cs, Notification.cs, SearchForm.cs, SubmittedItemForm.cs), Helpers(Extensions.cs), Models(Enums.cs, FoundItem.cs, Interfaces.cs, Item.cs, LostItem.cs, Notification.cs, User.cs), Services(DataService.cs. MatchingService.cs, ValidationService.cs), Unit Test(ExtensionMethodsTest.cs, MatchingServiceTest.cs, ValidationServiceTest.cs); Finalised and submitted the assignment.
Shirley Yi (24940215)	Conducted the initial research to determine a unique project idea that solves real-world problems; Set up GitHub Repo for collaboration; Identified the requirements of the project; worked on Forms(MainForm.cs, MyAccountForm.cs, LoginForm.cs, SignupForm.cs), Models(User.cs), Services(DataService.cs. AuthenticationService.cs); Worked on the report of this project(Introduction, Development Approach, Team Contribution Table, Acknowledgements).

Acknowledgments

AI tools were used for the initial research and ideation stages of the project. Various ideas were generated and explored with the help of AI before the final idea was selected. Additionally, AI was used to refine the written documentation to maintain a clear and academic tone.