1. Declaration

I, [Student Name], declare that this assignment, titled [Assignment Title], is my own original work and has not been copied from any other source except where explicitly acknowledged. I have not engaged in plagiarism, collusion, or any other form of academic misconduct in the preparation and submission of this assignment. All sources of information and data used in this assignment have been properly cited and referenced in accordance with the prescribed guidelines. I have not used unauthorized assistance in the preparation of this assignment and have not allowed any other student to copy my work. I am aware that any breach of academic integrity may result in disciplinary action as per the policies of Monash University, which may include failing this assignment or the course, and further academic penalties.

Signature: ____________dingao wang______________ Date: ____________11/9___________________

2. Github Check

Enter your Github details here.

Github Username *Enter your username here*	<randlyoyo>
Repository Shared? *Have you started and shared your assignment repository with your tutor yet?*	*randlyoyo/dwang-FIT5032*

3. Self-Evaluation

Rate your performance for each criteria. Put a ✅(tick) in the box where you think your work belongs.

Criteria	Exceeds Expectations	Meets Expectations	Needs Improvement	Fail to meet expectations
BR (C.1): Authentication	✅			
BR (C.2): Role-based authentication	✅			
BR (C.3): Rating	✅			
BR (C.4): Security	✅			

4. Screen Recording of BRs

Create a 3 minute video showing your basic web application in action! Upload this video to your Google Drive and put the link here (ensuring that you have updated the access list so its not private).

<Link to Google Drive Video>
https://drive.google.com/file/d/1eXfKWovIJ_bBEgTUE8uUsTwRTb__qIFd/view?usp=drive_link

5. Reflections: Implementation of C.4 Security

If you have implemented BR C.4, in less than 200 words describe the approach that you have taken to implementing Security in your application. What security flaws were you trying to prevent and what security measures have you implemented to fix those flaws? How do you know that these measures will help prevent those issues from happening? Optionally you can cite external sources to provide evidence for your claim.

I have implemented multiple layers of security protection in my application to prevent common network vulnerabilities. Input validation is the first line of defense. I use regular expressions to validate the name format (only allowing letters, spaces, hyphens, and apostrophes) to prevent malicious script injection; Strictly verify the format of the email and limit it to no more than 254 characters; The password requires 8-128 characters and must include uppercase and lowercase letters, numbers, and special characters to increase password strength. Data cleaning ensures that all user inputs are trimmed and validated before processing, preventing malicious code injection through character and length restrictions. In terms of secure data storage, I only store non sensitive data such as user preferences and saved recipes locally, avoiding storing sensitive information such as passwords. Form security prevents invalid submissions through real-time verification, and password confirmation reduces user input errors. Routing security implements authentication guarding, role-based access control, and session management to prevent unauthorized access to protected pages. Security logging records all authentication events, failed login attempts, and suspicious activities for easy monitoring. These measures collectively prevent cross site scripting attacks, data injection vulnerabilities, form tampering, data integrity issues, unauthorized access, and session hijacking. Through verification mode, common attack vectors are prevented to ensure data consistency while protecting user information security.

6. Reflections: Challenges

What has been the most challenging part of this assignment for you? How has this stretched you as a programmer?

The most challenging part of this assignment is implementing a secure routing system and permission control. As a student, I mainly focused on basic front-end feature development and rarely delved into security issues. This assignment made me realize that simply implementing functionality is far from enough, and we also need to consider every detail from a safety perspective.

7. Declaration: Additional Help

Any tools that you used (including Gen AI or existing code reuse) must be declared here.

Note: GenAI is not allowed for coding purposes in any assignment, However, you may use GenAI for brainstorming and problem solving. You need to declare all such uses here. One row per help used.

Name	Description
Example: ChatGPT for brainstorming ideas	*I used ChatGPT to brainstorm how to do X because I was feeling stuck with Y problem.*
ChatGPT for problem solving approach	I used ChatGPT to help me think through the overall security architecture design because I was struggling with how to structure a multi-layered security system for my Vue.js application.
ChatGPT for understanding best practices	I used ChatGPT to research security best practices and validation patterns because I was unsure about the most effective ways to implement input validation and user authentication in web applications.