

ASSUMPTION UNIVERSITY  
VINCENT MARY SCHOOL OF ENGINEERING, SCIENCE AND TECHNOLOGY  
FINAL 1/2025

SUBJECT: CSX4107 / ITX4107 – Web Application Development  
LECTURER: Chayapol Moemeng  
DATE: Thursday 2<sup>nd</sup> October 2025  
TIME: 9:00 – 12:00 (3 Hours)

Mark Allocations:

This examination is worth 30% of the total semester score and consists of *one* part:

<b>Part I:</b>	Web application development	60 points
	<b>Total</b>	<b>60 points (30%)</b>

Instructions:

1. This exam is open-book and Internet. Students can use their devices, references, and materials, including Internet searches and AI (ChatGPT, GitHub Copilot, etc.).
2. Strictly observe plagiarism regulations. Students’ work must be original.
3. Students are not allowed to communicate with anyone regarding this examination.
4. Always record your screen while working on this examination.

Name: ..... I.D. No.: ..... Sec. ....

Examination Regulations

*Students are required to strictly observe the following examination rules and regulations while examinations are in the progress. Violating them will subject students to the following terms of punishment: “F” in the concerned subject; suspension from registering for classes in the following term(s) or academic year(s); or Dismissal from the University.*

1. *Do not bring into the examination room/hall the following items unless permission is stated on the examination cover sheet.*
  - any forms of information, related or unrelated to the examination.
  - all types of calculators.
  - dictionaries.*Should students turn in the above materials to proctors before attempting their examination, the terms of punishment for cheating cases will not be applied to the students. The materials together with students’ names and admission codes, however will have to be submitted to the Office of Vice President for Student Affairs for official record purpose.*
2. *Do not use all forms of communication devices e.g. smart phones and/or smart watches etc. Should they be brought into examination room, they must be turned off and placed on the floor under students’ desk or chair. Proctors are required to confiscate and submit the violators’ devices to the Academic Dishonesty Investigation Committee (ADIC) for verification of the allegation. The students’ in compliance with the instruction to surrender the devices would subject the ADIC to assume the validity of the allegation and the terms of punishment regarding cheating and/or violating the examination regulations will be applied to the students accordingly. The devices can be retrieved directly from the ADIC committee once the allegation is verified.*
3. *Do not place pouches and/or boxes containing writing instruments on the desk. All pouches and/or boxes must be placed on the floor under students’ desk or chair. Only writing instruments e.g. pens, pencils, rulers, and erasers used for examination are allowed to be placed on the desk.*
4. *Do not leave the examination room during the first 30 minutes of the examination regardless of reason. In case there is a need for medical attention during the stated period, students can request proctors to contact “Examination Director” for further assistance.*
5. *Do not visit rest rooms unless the examination is completed, and both answer sheets and question papers are turned in to proctors. In case of emergency, students can request proctors to contact “Examination Director” for further assistance, and they are to be directed to continue their examination in a special examination room.*
6. *Do not leave the examination room without signing their names on the examination list. Violating this regulation so as to claim absence from the examination will subject students to the terms of punishment for cheating cases.*
7. *Do not communicate with other students in the examination room without the proctor’s permission.*
8. *Do not take question papers or any information pertaining to the examination in any form, including students’ answers script outside the exam room. Proctors do not have any authority to give permission for the papers or information to be taken outside.*
9. *Do not loiter around the hallway or the corridor regardless of reasons while examinations are in progress.*
10. *Students must strictly follow the instructions of the proctors and supervisors.*

Academic Dishonesty Investigation Committee  
August 1, 2018

-Total 2 Pages (Excluding the cover page)-

NAME ..... SURNAME ..... ID.NO. .... SEC.....

**Part I: Web application development (60 marks – 3 hours)**

**Instructions**

- 1. Build Customer API and corresponding UIs by extending the provided skeleton code.
- 2. Use the given skeleton code from the specified repository, which will be announced in the Teams assignment.
- 3. Be reminded that students must work on the provided skeleton code; failing to comply, their total score is zero.
- 4. Create a new GitHub repository to submit your code.
- 5. Deploy the application on your VM.

**Tasks**

- 1. Create the Customer model with the following attributes in Mongoose’s data model file.

Name	String
Date of Birth	Date
Member Number	Number, ex: 1, 2, 3, etc.
Interests	String, ex: movies, football, gym, gaming

- 2. Design the CRUD API in an MS Word file with the following pattern for all CRUD operations.  
Example:

Read Customer

Route	GET /abc/xyz
Payload (body)	-
Response	[ { ... }, { ... }, ... ]
File	/app/api/abc/xyz/route.js
Test	curl xxxx

- 3. Build UI for CRUD operations. The UI set can be either single-page or multi-page.  
Design your UI to support these operations.
  - 3.1 List all customers
  - 3.2 Delete customers
  - 3.3 Add new customers
  - 3.4 Update existing customer
- 4. Build a Customer Detail page. On clicking on a customer in Task (3.1), navigate to a page that shows all the details of the focused customer.
- 5. Push your code to your new public GitHub repository. Submit the link to this repository.
- 6. Deploy your work on your VM at /fin-customer.  
for example, https://<your\_domain>/fin-customer

**Submission**

No modification after submission. This can be checked from the publishing date on the GitHub repository. The skeleton code already includes build timestamp.

Submit the following to MS Teams’ Assignment slot, titled Final Exam.

- 1. API Design doc in Microsoft Word File.
- 2. GitHub repository URL - Do not upload .env file to the repository.
- 3. .env file, your credentials will be kept secret. Change it after the grade is released.
- 4. live deployment link in the following format: https://<your\_domain>/fin-customer
- 5. Screen Capture of the live application – if you cannot deploy, capture the screen of your dev environment (local host).

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**Grading Criteria: (60 marks)**

- 1. [8 marks] API Design doc (Microsoft Word File)
- 2. [4 marks] Mongoose’s data model schema.
- 3. [24 marks] CRUD UI: 4 operations are assessed based on
  - 3.1 [2 marks] Usability
  - 3.2 [2 marks] Design
  - 3.3 [2 marks] Data model compliance.
- 4. [6 marks] Customer Detail Page
- 5. [8 marks] Valid deployment on VM
- 6. [10 marks] 5 submission items in Submission (2)

**Penalties**

- 1. [-20 marks] Invalid deployment, including unreachable site or blank pages.
- 2. [-60 marks] Not using the providing skeleton code. This is treated as not answering the exam questions.
- 3. [-60 marks] No GitHub repository. This is treated as no work outcome.

%%%%%%%% End of the Exam Paper %%%%%%%%%