# MANGA MAPS REPORT

SULTAN QABOOS UNIVERSITY DEPARTMENT OF COMPUTER SCIENCE

COMP3700-INTRODUCTION TO WEB COMPUTING - FALL 2025 Instructor: Dr. Mohammed Al-Soleimani

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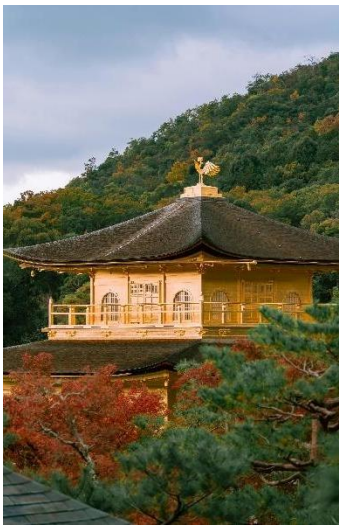

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# 1. OVERVIEW

In this fourth and final phase of the MangaMaps project, our team successfully transformed the static website into a dynamic, data-driven web application. We integrated **PHP** for server-side processing and **MySQL** for persistent data storage. The application now supports full CRUD (Create, Read, Update, Delete) operations, secure form handling, and object-oriented programming principles to manage tour data efficiently.

# 2. CLIENT-SIDE VALIDATION

We enhanced user experience and data integrity by implementing robust JavaScript validation on two key forms before data is sent to the server.

- **A. Booking Form Validation (booking.html):**
    - **Name:** Regex ^[a-zA-Z\s-]+$ ensures only letters, spaces, and hyphens are allowed.
    - **Email:** Validates standard email formats including domain extensions.
    - **Travelers:** Validates numeric input to ensure the group size is between 1 and 6 people.
    - **Date:** Logic prevents users from selecting past dates for their travel.
- **B. Contact Form Validation (contact.html):**
    - **Phone Number:** We implemented a Regex pattern ^[\d\s\-+()]+$ to accept international formats (including +, parentheses, and hyphens).
    - **Message:** Enforces a minimum character limit (10 characters) to ensure meaningful inquiries.

# 3. DATABASE DESIGN

We designed and implemented a relational MySQL database named **mangamaps_db** containing three normalized tables to store application data:

- **tours Table:** Stores tour details including id, name, price, duration, and image_url.
- **bookings Table:** Captures form submissions with columns for full_name, email, destination, travelers, travel_date, and special_requests.
- **reviews Table:** Stores user feedback with reviewer_name, rating (1-5), and comment.

| | Table | Action | | | | | | | Rows |
|---|---|---|---|---|---|---|---|---|---|
| ☐ | bookings | ☆ | Browse | Structure | Search | Insert | Empty | Drop | 6 |
| ☐ | reviews | ☆ | Browse | Structure | Search | Insert | Empty | Drop | 5 |
| ☐ | tours | ☆ | Browse | Structure | Search | Insert | Empty | Drop | 3 |
| | 3 tables | Sum | | | | | | | 14 |

| ←T→ | | | | id | full_name | email | destination | tra |
|---|---|---|---|---|---|---|---|---|
| ☐ | Edit | Copy | Delete | 1 | Alice Smith | alice@test.com | Tokyo | |
| ☐ | Edit | Copy | Delete | 2 | Bob Jones | bob@test.com | Osaka | |
| ☐ | Edit | Copy | Delete | 3 | Charlie Day | charlie@test.com | Kyoto | |
| ☐ | Edit | Copy | Delete | 4 | Diana Prince | diana@test.com | Tokyo | |
| ☐ | Edit | Copy | Delete | 5 | Evan Wright | evan@test.com | Hokkaido | |

| | id | reviewer_name | rating | comment | submission_c |
|---|---|---|---|---|---|
| Edit Copy Delete | 1 | Sarah Johnson | 5 | An absolutely amazing experience! | 2025-12-10 20 |
| Edit Copy Delete | 2 | Michael Chen | 5 | The Osaka Food Adventure was a culinary delight! | 2025-12-10 20 |
| Edit Copy Delete | 3 | Emma Williams | 4 | Kyoto Heritage Escape was peaceful and | 2025-12-10 20 |

Console

| | id | name | price | duration | image_url |
|---|---|---|---|---|---|
| Edit Copy Delete | 1 | Tokyo City Lights | 99.00 | 3 days | assets/images/Tokyo (2).jpg |
| Edit Copy Delete | 2 | Osaka Food Adventure | 50.00 | 3 days | assets/images/osaka (1).jpg |
| Edit Copy Delete | 3 | Kyoto Heritage Escape | 89.00 | 3 days | assets/images/kyoto.jpg |

# 4. PHP IMPLEMENTATION

We developed several PHP scripts to handle logic, data processing, and display.

- **A. Connection Handling (db_connect.php):**
    - Created a centralized connection file using the mysqli object to establish secure communication with the database. This file is included in all processing scripts to reduce code redundancy.
- **B. Form Processing (process_booking.php):**
    - Receives data via the POST method.
    - Sanitizes input using real_escape_string to prevent SQL Injection attacks.
    - Inserts booking details into the bookings table.
    - Displays a formatted HTML confirmation table upon success.
- **C. Object-Oriented Display (view_tours.php):**
    - **Class Definition:** Defined a Tour class with properties for name, price, duration, and image.
    - **Array of Objects:** Fetched raw rows from the database and converted them into an array of Tour objects.
    - **Display Logic:** Iterated through the object array to generate dynamic HTML cards for the "Our Tours" page.
- **D. Data Management System (manage_tours.php & edit_tour.php):**
    - **Search:** Implemented a search feature using SQL LIKE queries to filter tours by name.
    - **Insert:** Created a form to add new tours directly to the database.
    - **Delete:** Added functionality to remove records via ID URL parameters.
    - **Update:** Developed an edit interface that pre-fills existing data and updates records using SQL UPDATE commands.

# 5. TEAM COLLABORATION

**5.1 Meeting Log** To ensure the successful completion of Phase 4, our team conducted two major planning and development meetings:

- **Meeting 1 (Validation Phase):** Focused on analyzing the requirements for client-side validation. We divided the work for booking.html and contact.html, determining the appropriate Regex patterns for names, emails, and phone numbers.
- **Meeting 2 (Server-Side Phase):** Focused on the backend architecture. We planned the MySQL database schema and the PHP logic for form processing and object-oriented display. We also debugged the connection issues together.

**5.2 Contribution Table**

| Task | Team Member | % Contribution | Description of Work |
|---|---|---|---|
| **JS Validation Logic** | Loai & Mohammed | 50% / 50% | Collaborated on writing Regex patterns and error handling for Booking and Contact forms. |
| **Database & PHP** | Loai & Mohammed | 50% / 50% | Jointly designed the mangamaps_db schema and wrote the process_booking.php script. |
| **OOP & Data Access** | Loai & Mohammed | 50% / 50% | Worked together to implement the Tour class and the Search/Edit/Delete functionality. |
| **Report & Documentation** | Loai | 100% | Compiled the final project report, organized screenshots, and finalized submission files. |

GitHub: https://github.com/yohikami/COMP3700_Project.git

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