**DEPARTMENT OF INDUSTRIAL AND INFORMATION TECHNOLOGY**

**ITEC 111 - INTEGRATED PROGRAMMING AND TECHNOLOGIES II**

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**FINAL PROJECT REQUIREMENT**

**RESTful API Documentation for Learning Management System**

**Submitted by:**

**Ampongan, Joseph B.  
Bernardo, Mark Angel D.  
Bueno, John Dexter  
Diaz, Jhonmar A.  
Iglesia, John Zedrick  
Mapanoo, Skye Ross D.  
Mendez, Jan Erick R.  
Notario, Armando L.**

**1. Name:** Insert Book API

**URL:** http://localhost/API\_ITEC111/Library/add/insert-book.php

**Method:** POST

**Parameters:** JSON data in the request body

**Value:** JSON object containing book information (title, author, genre, publishedDate, pageCount, status, languange)

**JSON Format:**

```json

{

"title": "Example Book",

"author": "John Doe",

"genre": "Fiction",

"publishedDate": "2022-01-18",

"pageCount": 200,

"status": 0,

"languange": "English"

}

```

**Example Input:**

```json

{

"title": "The Great Gatsby",

"author": "F. Scott Fitzgerald",

"genre": "Classic",

"publishedDate": "1925-04-10",

"pageCount": 180,

"status": 0,

"languange": "English"

}

```

**Example Output (Success):**

```json

{

"message": "A new book has been successfully added to the Library."

}

```

**Example Output (Success with matching entries):**

```json

{

"message": "A new book has been successfully added to the Library. There are currently 3 entries for this book in the Library."

}

```

**Example Output (Error - Missing Fields):**

```json

{

"error": "The following fields are required: title, pageCount"

}

```

**Example Output (Error - Database Error):**

```json

{

"error": "Error adding the book."

}

```

**Example Output (Error - Invalid Request Method):**

```json

{

"error": "Invalid request method"

}

**2. Name:** fetch-all-books.php

**URL:** http://localhost/API\_ITEC111/Library/browse/fetch-all-books.php

**Method:** GET

**Parameters:** None

**Value:** None

**JSON Format:**

```json

{

"Total No. of books": 50,

"List of books": [

{

"book\_id": 1,

"title": "Example Book 1",

"author": "Author 1",

"status": 0

// Additional book details...

},

{

"book\_id": 2,

"title": "Example Book 2",

"author": "Author 2",

"status": 0

// Additional book details...

},

// Additional books...

]

}

```

**Example GET Request:**

```

GET http://localhost/API\_ITEC111/Library/browse/fetch-all-books.php

```

**Example Output (JSON response):**

```json

{

"Total No. of books": 50,

"List of books": [

{

"book\_id": 1,

"title": "Example Book 1",

"author": "Author 1",

"status": 0

// Additional book details...

},

{

"book\_id": 2,

"title": "Example Book 2",

"author": "Author 2",

"status": 0

// Additional book details...

},

// Additional books...

]

}

```

**Example Output (Empty result):**

```json

{

"books": [],

"total\_books": 0

}

```

**Example Output (Error):**

```json

{

"error": "Error message details..."

}

```

**Example ivalid request (Error):**

```json

{

"error": "Invalid request method"

}

```

**4. Name:** Archive Book API

**URL:** http://localhost/API\_ITEC111/Library/delete/archive-book.php

**Method:** DELETE

**Parameters:**

- title (passed as a query parameter in the URL)

**Example Input:**

```

DELETE http://localhost/API\_ITEC111/Library/delete/archive-book.php?title=SampleBookTitle

```

**Example Output (Success):**

```json

{

"message": "Book Title: SampleBookTitle status archived successfully"

}

```

**Example Output (Book Not Found):**

```json

{

"error": "Book Title: SampleBookTitle not found in the database"

}

```

**Example Output (Invalid Input):**

```json

{

"error": "Invalid input data format."

}

```

**Example Output (Server Error):**

```json

{

"error": "Unable to update book status. Please try again later."

}

```

**Example Output (Invalid Method):**

```json

{

"error": "Invalid request method"

}

```

**6. Name:** Update Base PHP script

**URL:** http://localhost/API\_ITEC111/Library/edit/update-base.php

**Method:** PUT

**Parameters:**

- title (optional): Title of the book to be updated.

- bookId (optional): ID of the book to be updated.

- fieldToUpdate: The field in the database to be updated.

- newValue: The new value to be set for the specified field.

**JSON Format:**

**Input:**

```json

{

"title": "The Old Man and the Sea",

"fieldToUpdate": "author",

"newValue": "Ernest Hemingway"

}

```

**Output (Success):**

```json

{

"message": "Record updated successfully",

"updatedData": {

"field": "author",

"previousValue": "John Doe",

"newValue": "Ernest Hemingway"

}

}

```

**Output (Error - Invalid Input):**

```json

{

"error": "Invalid input data format."

}

```

**Output (Error - Unable to Update Record):**

```json

{

"error": "Unable to update record. Please try again later."

}

```

**Output (Error - Invalid Request Method):**

```json

{

"error": "Invalid request method"

}

```

**Output (Error – No Existing title):**

```json

{

"error": "No record found with the provided title or bookId."

}

```

**7. Name:** Update Base PHP script for Editing Library Records

**URL:** http://localhost/API\_ITEC111/Library/edit/update-books.php

**Method:** PUT

**Parameters:**

- bookId

- title

- author

- genre

- publishedDate

- ISBN

- pageCount

- status

**Value:** JSON-encoded data containing the updated book information

**JSON Format:**

```json

{

"bookId": 1,

"title": "Updated Title",

"author": "Updated Author",

"genre": "Updated Genre",

"publishedDate": "2024-01-18",

"ISBN": "1234567890123",

"pageCount": 300,

"status": "Available"

}

```

**Example Input:**

```json

{

"title": "Updated Title",

"author": "Updated Author",

"genre": "Updated Genre",

"publishedDate": "2024-01-18",

"ISBN": "1234567890123",

"pageCount": 300,

"status": "Available"

}

```

**Example Output (Success):**

```json

{

"status": "success",

"message": "Record updated successfully"

}

```

**Example Output (Error - Missing Required Field):**

```json

{

"error": "All fields are required."

}

```

**Example Output (Error - Invalid pageCount):**

```json

{

"error": "Invalid pageCount value."

}

```

**Example Output (Error - Invalid ISBN Format):**

```json

{

"error": "Invalid ISBN format. It should be a 13-digit number."

}

```

**Example Output (Error - Server Error):**

```json

{

"status": "error",

"message": "Unable to update record. Please try again later."

}

```

**8. Name:** Book Search API

**URL:** http://localhost/API\_ITEC111/Library/read/get-all-books.php

**Method:** GET

**Parameters:**

- `book` (in the query string): Name of the column to search (e.g., title, author).

- `data` (in the query string): Search value for the specified column.

**Value:** The search value for the specified column.

**JSON Format:**

- Success Response:

```json

{"status": "success", "data": [...] }

```

**- Error Response:**

```json

{"status": "error", "message": "..." }

```

**Example Input/Outputs:**

**1. Successful search:**

- URL: http://localhost/API\_ITEC111/Library/read/get-all-books.php?book=title&data=Harry%20Potter

- Method: GET

- Parameters:

- `book`: "title"

- `data`: "Harry Potter"

- JSON Response:

```json

{"status": "success", "data": [{"id": 1, "title": "Harry Potter and the Philosopher's Stone", "author": "J.K. Rowling", ...}]}

```

**2. Invalid input parameters:**

- URL: http://localhost/API\_ITEC111/Library/read/get-all-books.php

- Method: GET

- JSON Response:

```json

{"status": "error", "message": "Invalid input parameters"}

```

**3. Internal Server Error:**

- URL: http://localhost/API\_ITEC111/Library/read/get-all-books.php?book=invalid\_column&data=example

- Method: GET

- Parameters:

- `book`: "invalid\_column"

- `data`: "example"

- JSON Response:

```json

{"status": "error", "message": "Internal Server Error"}

```

**9. Name:** Keyword Book Search API

**URL:** http://localhost/API\_ITEC111/Library/read/get-keyword-book.php

**Method:** GET

**Parameters:**

- search (query parameter): The keyword to search for in book titles, authors, genres, published dates, and ISBNs.

**Value:** The value for the "search" parameter is a keyword used to search for relevant books in the database.

**JSON Format:** The API responds with a JSON-formatted array of book information, or an error message in case of issues.

**Example input:**

```

http://localhost/API\_ITEC111/Library/read/get-keyword-book.php?search=mystery

```

**Example output (JSON):**

```json

[

{

"id": 1,

"title": "The Mystery Book",

"author": "John Doe",

"genre": "Mystery",

"publishedDate": "2022-01-18",

"ISBN": "1234567890"

},

{

"id": 2,

"title": "Secrets Unveiled",

"author": "Jane Smith",

"genre": "Thriller",

"publishedDate": "2022-02-15",

"ISBN": "0987654321"

},

// More book entries...

]

```

**Example input (invalid):**

```

http://localhost/API\_ITEC111/Library/read/get-keyword-book.php

```

**Example output (JSON):**

```json

{

"error": "Please specify the data to search"

}

```

**Example input (invalid method):**

```

POST http://localhost/API\_ITEC111/Library/read/get-keyword-book.php?search=mystery

```

**Example output (JSON):**

```json

{

"error": "Invalid request method"

}

```