

# COS 216 Homework Assignment: PHP API Endpoints

This list details the necessary PHP API endpoints for interacting with the MySQL database on Wheatley, as required by the COS 216 Homework Assignment.

## 1. User Authentication & Details

- **Endpoint:** /login (or similar)
  - **Purpose:** Authenticate a user based on username and password (reused from PA3). Determine if the user is a 'Customer' or 'Courier'.
  - **HTTP Method:** POST
  - **Input:** { "username": "user", "password": "password" }
  - **Output (Success):** { "success": true, "userId": 123, "userType": "Courier", "message": "Login successful" } (Potentially include a session token)
  - **Output (Failure):** { "success": false, "message": "Invalid credentials" }
  - **Mentioned in Doc:** Yes (Implicitly via PA3 requirement)
- **Endpoint:** /users/{userId} (Optional but Recommended)
  - **Purpose:** Get basic details for a specific user, primarily their type if not returned comprehensively by login.
  - **HTTP Method:** GET
  - **Input:** User ID passed in the URL path. Requires authentication (e.g., session token).
  - **Output:** { "userId": 123, "username": "user", "email": "user@example.com", "type": "Courier" }
  - **Mentioned in Doc:** No (Inferred necessity)

## 2. Product Management

- **Endpoint:** /products
  - **Purpose:** Retrieve a list of available products for customers to browse and add to orders.
  - **HTTP Method:** GET
  - **Input:** None (Optional: filters like category). Requires authentication.
  - **Output:** [ { "id": 1, "title": "...", "brand": "...", "image\_url": "...", ... }, ... ]
  - **Mentioned in Doc:** No (Inferred necessity for customers to order)

## 3. Order Management

- **Endpoint:** /orders
  - **Purpose:** Create a new order for a logged-in customer. Handles adding entries to Orders and Orders\_products.
  - **HTTP Method:** POST
  - **Input:** { "customerId": 123, "destination\_latitude": -25.7xxx,

- "destination\_longitude": 28.2xxx, "products": [ { "productId": 1, "quantity": 2 }, { "productId": 5, "quantity": 1 } ] }. Requires authentication.
  - **Output (Success):** { "success": true, "orderId": 456, "trackingNum": "CS-ABC123XYZ", "message": "Order created" }
  - **Output (Failure):** { "success": false, "message": "Error creating order" }
  - **Mentioned in Doc:** Yes (CreateOrder)
- **Endpoint:** /orders/storage (or /orders?state=Storage)
  - **Purpose:** Get orders currently in the "Storage" state. Returns *all* for Couriers, only the user's own for Customers.
  - **HTTP Method:** GET
  - **Input:** Requires authentication (User ID and Type needed server-side to filter).
  - **Output:** [ { "orderId": 456, "customerId": 123, "trackingNum": "...", "destination\_latitude": ..., ... }, ... ]
  - **Mentioned in Doc:** Yes (GetAllOrders)
- **Endpoint:** /orders/customer/{customerId} (or /orders?customerId={customerId})
  - **Purpose:** Get *all* orders (regardless of state) for a specific customer. Needed for customers to view their full order history/status.
  - **HTTP Method:** GET
  - **Input:** Customer ID in URL path or query parameter. Requires authentication (ensure requesting user matches customerId or is an admin/courier).
  - **Output:** [ { "orderId": 456, "trackingNum": "...", "state": "Out\_for\_delivery", ... }, { "orderId": 457, "trackingNum": "...", "state": "Storage", ... } ]
  - **Mentioned in Doc:** No (Inferred necessity for customer view)
- **Endpoint:** /orders/{orderId}
  - **Purpose:** Get the full details of a single, specific order. Used for tracking or viewing details.
  - **HTTP Method:** GET
  - **Input:** Order ID in URL path. Requires authentication.
  - **Output:** { "orderId": 456, "customerId": 123, "trackingNum": "...", "destination\_latitude": ..., "state": "...", "delivery\_date": "...", "products": [ { "productId": 1, "quantity": 2, "title": "...", ... } ] }
  - **Mentioned in Doc:** Yes (GetOrder - name listed, functionality inferred)
- **Endpoint:** /orders/{orderId}
  - **Purpose:** Update the state (Storage, Out\_for\_delivery, Delivered) and potentially location details of an order. Used during dispatch, delivery confirmation, or resetting due to issues.
  - **HTTP Method:** PUT or PATCH
  - **Input:** { "state": "Out\_for\_delivery" } or { "state": "Delivered" } or { "state":

"Storage" }. Potentially { "latitude": ..., "longitude": ... } if needed, though drone location is separate. Requires authentication.

- **Output (Success):** { "success": true, "message": "Order updated" }
- **Output (Failure):** { "success": false, "message": "Error updating order" }
- **Mentioned in Doc:** Yes (UpdateOrder)

#### 4. Drone Management

- **Endpoint:** /drones
  - **Purpose:** Add a new drone to the system (likely for initial setup).
  - **HTTP Method:** POST
  - **Input:** { "initial\_latitude": -25.7472, "initial\_longitude": 28.2511, ... } (Other initial default values). Requires authentication (likely admin/courier).
  - **Output (Success):** { "success": true, "droneId": 1, "message": "Drone created" }
  - **Output (Failure):** { "success": false, "message": "Error creating drone" }
  - **Mentioned in Doc:** Yes (CreateDrone)
- **Endpoint:** /drones
  - **Purpose:** Get a list of all drones and their current status. Used by Couriers to select an available drone.
  - **HTTP Method:** GET
  - **Input:** None. Requires authentication.
  - **Output:** [ { "id": 1, "current\_operator\_id": 123, "is\_available": false, "latest\_latitude": ..., "latest\_longitude": ..., "altitude": ..., "battery\_level": ... }, ... ]
  - **Mentioned in Doc:** Yes (GetAllDrones)
- **Endpoint:** /drones/{droneId}
  - **Purpose:** Update the status of a specific drone (assign operator, change availability, update location, altitude, battery). Also used to mark as crashed or reset upon return to HQ.
  - **HTTP Method:** PUT or PATCH
  - **Input:** { "current\_operator\_id": 123, "is\_available": false } or { "latest\_latitude": ..., "latest\_longitude": ..., "altitude": ..., "battery\_level": ... } or { "is\_available": true, "current\_operator\_id": null, "altitude": 0, "battery\_level": 100 } etc. Requires authentication.
  - **Output (Success):** { "success": true, "message": "Drone updated" }
  - **Output (Failure):** { "success": false, "message": "Error updating drone" }
  - **Mentioned in Doc:** Yes (UpdateDrone)

This list provides a comprehensive set of endpoints based on the assignment requirements. Remember to implement proper authentication and authorization for

each endpoint on Wheatley.