Eyes Unclouded App – Phase 4: Backend & MongoDB Implementation

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# Phase 4: Backend + MongoDB Implementation

This phase covers the back-end logic required to store and retrieve perception tray entries in MongoDB, route data from the UI form, and integrate user session context into stored insights.

## 1. book\_controller.py – Blueprint & Routes

Blueprint Setup:  
--------------------------------------------------  
from flask import Blueprint, render\_template, request, redirect, url\_for, flash, session  
from datetime import datetime  
from bson.objectid import ObjectId  
from src.extensions import mongo  
  
book\_bp = Blueprint('book', \_\_name\_\_)  
  
@book\_bp.route('/listen')  
def listen():  
 chapter = {  
 'id': 'chapter\_01',  
 'title': 'Chapter 1: Oath of the Cuttlefish',  
 'summary': 'Geveriel speaks in cloaked riddles. What will Maximus see?',  
 'audio\_filename': 'chapter1.mp3'  
 }  
 return render\_template('listen.html', chapter=chapter)  
  
@book\_bp.route('/submit-perception', methods=['POST'])  
def submit\_perception():  
 perception\_data = {  
 'user\_id': session.get('user\_id'),  
 'chapter\_id': request.form.get('chapter\_id'),  
 'emotion': request.form.get('emotion'),  
 'expression\_tag': request.form.get('expression\_tag'),  
 'insight': request.form.get('insight'),  
 'role\_type': session.get('role\_type', 'Unknown'),  
 'timestamp': datetime.utcnow()  
 }  
 mongo.db.perception\_entries.insert\_one(perception\_data)  
 flash("Insight logged. Maximus would be proud.")  
 return redirect(url\_for('book.listen'))  
--------------------------------------------------

## 2. MongoDB Integration

Collection: perception\_entries  
  
Example Entry:  
{  
 "\_id": ObjectId(...),  
 "user\_id": "641234abcd567",  
 "chapter\_id": "chapter\_01",  
 "emotion": "Curiosity",  
 "expression\_tag": "inner\_brow\_raise",  
 "insight": "Maximus noticed a contradiction between tone and breath.",  
 "role\_type": "Strategist",  
 "timestamp": ISODate("2025-04-19T20:00:00Z")  
}

## 3. Security & Validation

- Ensure session is secure using Flask’s SECRET\_KEY  
- Validate user is logged in before accepting insight submission  
- Sanitize all form inputs if exporting for NLP or AI later  
- Avoid storing raw OpenAI keys if integrated in future feedback engine

## 4. Guidance from Project Management Readings

- Store each input in a trackable format that supports future reporting, summary, or symbolic feedback.  
- This feature fits into your broader Sprint goal: 'Emotional Reflection + Lore-Based Logging System'  
- Consider creating a perception service or utility for long-term modularity if reused elsewhere.  
- Use Agile task phrasing: “As a user, I want to submit my interpretation of a scene so I can train my perception and unlock hidden truths.”

## 5. Backend Deliverables Checklist

- [ ] book\_controller.py added and blueprint registered  
- [ ] Route /listen renders listen.html with sample chapter data  
- [ ] Route /submit-perception stores entries in MongoDB  
- [ ] perception\_entries collection created and connected  
- [ ] Flash message confirms successful logging  
- [ ] Security checks confirm user session is valid