**TIXIFY: GenAI + AWS Project Roadmap (Showcase-Ready)**

**1. Project Vision (Elevator Pitch for Panel/VP)**

**TIXIFY** is a **GenAI and AI-powered fraud ticket detection system**, built on **AWS Cloud**, that allows users to upload event tickets (PDF, image, QR) and get **instant verification** on whether the ticket is genuine or tampered. TIXIFY ensures ticket sellers are validated, ticket content hasn't been altered, and protects users from scams.

**2. Roadmap Summary Table**

| **Phase** | **Status** | **Estimated Time Left** | **Confidence to Explain** |
| --- | --- | --- | --- |
| 1. Define Architecture & Design | ✅ Completed | - | ✅ 100% (Deep understanding of architecture, tools, flow) |
| 2. Backend API Development (FastAPI) | ⬜ In Progress (30%) | 4-5 days | ⚙️ Mid-level (Need to practice flow explanation) |
| 3. Frontend (Simple Upload UI) | ⬜ Pending | 3 days | ⚙️ Low (To be picked later) |
| 4. Ticket Parsing (AWS Textract/OCR) | ⬜ Not started | 4 days | ⚙️ Mid (GenAI addition to be explored more) |
| 5. GenAI Verification (Bedrock/Claude) | ⬜ Not started | 5-6 days | ⚙️ Low (But explainable as upcoming feature) |
| 6. AWS Storage & DB (S3, RDS) | ⬜ Planned | 3 days | ✅ High (Clear about what needs to be done) |
| 7. Security (JWT, IAM roles) | ⬜ Not started | 3 days | ⚙️ Mid (Know basics, need to implement) |
| 8. DevOps + Docker + EKS + Terraform | ⬜ Pending | 6-7 days | ⚙️ Low (Need step-by-step work, to be practice-ready) |
| 9. CI/CD (GitHub Actions/GitLab) | ⬜ Planned | 4 days | ⚙️ Low (Need guidance when doing) |
| 10. AI-based Seller Validation | ⬜ Optional Phase 2 | 7-10 days (if time permits) | ⚙️ Optional |
| 11. Final Testing + Demos + Slides | ⬜ Not started | 3-4 days | ✅ Will be 100% by the end |

**3. Progress Breakdown (Detailed)**

**✅ Completed (Ready to Explain Anytime):**

* **Architecture finalized** (AWS-based, with clear flow from user to AI result).
* Understanding of **GenAI role** (for ticket content analysis and fraud pattern detection).
* **Cloud components decided**: AWS S3, RDS, Textract, Bedrock, EKS.

**⬜ In Progress (30% Done but Need Focus):**

* **Backend API in FastAPI**:
  + Endpoints designed: /upload\_ticket, /verify\_ticket.
  + File upload working in local test.
  + Need to connect this to S3 + RDS.
* **Confidence to explain**: Good on what’s done, but need more practice on "how it connects end-to-end."

**⬜ Pending but Clear in Mind:**

* **Frontend**: Just a simple HTML/JS form for ticket upload.
* **Ticket Parsing**:
  + Extract data from ticket (using **Textract or AWS Bedrock Vision**).
  + Prepare JSON output (ticket number, event, date, price).
* **AI/GenAI Analysis**:
  + Feed extracted data to **Bedrock model** to detect fraud patterns.
  + Output: Valid, Invalid, Tampered, along with reason.
* **AWS Storage/DB**:
  + S3 bucket for raw uploads.
  + RDS (Postgres) to store metadata and analysis result.
* **Security**:
  + JWT tokens for user uploads.
  + IAM for service permissions.
* **Docker + EKS**:
  + Containerize FastAPI + GenAI service.
  + Deploy on EKS using Terraform.
* **CI/CD Pipeline**:
  + Auto-deploy backend when updated (GitHub Actions/GitLab).

**4. Estimated Project Timeline (Weekly View)**

| **Week** | **Focus Areas** | **Goal By End of Week** |
| --- | --- | --- |
| **Week 1** (current) | Finalize backend APIs, connect to AWS S3, start DB | Have ticket upload & save pipeline ready |
| **Week 2** | Integrate OCR (Textract), start AI (Bedrock/Claude) | Able to upload and see extracted ticket data |
| **Week 3** | AI fraud detection logic, frontend, start security | First end-to-end working demo with GenAI insights |
| **Week 4** | Docker, EKS, Terraform, CI/CD setup | Cloud deployed version with pipelines working |
| **Week 5** | Final fixes, testing, presentations | Polished product, ready to demo & defend in panel |

**Total Estimated Completion Time**: **5 weeks (max, with buffer)**  
**Target Date for MVP Demo**: **April 15 - 20, 2025**

**5. Your Current Standing & Confidence**

| **Aspect** | **Confidence Now** | **Need Improvement in?** |
| --- | --- | --- |
| **Architecture & Flow** | ✅ Strong | None |
| **Backend FastAPI flow** | ⚙️ Moderate | More hands-on, testing with S3 & DB |
| **AWS Cloud (S3, RDS, Textract)** | ⚙️ Moderate | Practice creating these resources |
| **GenAI (Bedrock, Textract parsing)** | ⚙️ Low to Mid | Start small GenAI tests soon |
| **Docker, EKS, Terraform** | ⚙️ Low | Hands-on step by step work needed |
| **CI/CD Pipelines** | ⚙️ Low | Will work as part of final stages |
| **Presentation to Panel** | ✅ High | Will be 100% once demo works |

**6. Final Impact Points (What to Tell the Panel)**

* "Built **from scratch, cloud-native, AI/GenAI-powered system**."
* "End-to-End flow **from ticket upload to AI-based validation** using AWS services."
* "**Secure, scalable, containerized architecture** ready for production and partnerships."
* "Potential to **partner with ticket vendors to reduce fraud globally**."
* "Unique **AI/GenAI layer** to not just validate but **explain why** a ticket is invalid (transparency for users)."

**Final Note:**

You're **30% into backend**, and **cleared architecture**, which means you're **on track**. If we do **focused sprints per week**, this is a **sure-shot showcase-ready project**, and **they WILL be impressed**, no doubt.