**Tixify: Deployment & AI Integration Plan**

**1. Hosting the Web Application on AWS**

* **What? Deploy both frontend and backend on AWS.**
* **How?**
  + **Frontend: Host using Amazon S3 + CloudFront (if static) or EC2/App Runner (if dynamic).**
  + **Backend: Deploy FastAPI on AWS EC2 or AWS App Runner.**
  + **Database: Use AWS RDS (PostgreSQL/MySQL) for ticket data storage.**

**2. Enhancing Ticket Validation with GenAI**

* **What? Use AI to improve the accuracy of ticket verification.**
* **How?**
  + **Amazon Bedrock / SageMaker:**
    - **Identify tampered QR codes or ticket modifications.**
    - **Check if the ticket was originally purchased from an official source.**
    - **Detect anomalies like multiple scans of the same ticket.**
  + **Integration: AI validates tickets before allowing further processing.**

**3. CI/CD Pipeline for Automated Deployment**

* **What? Ensure smooth updates without manual intervention.**
* **How?**
  + **GitHub Actions / GitLab CI/CD: Automate deployment.**
  + **Terraform: Define infrastructure as code (provision EC2, S3, RDS).**
  + **AWS CodeDeploy: Manage deployments with zero downtime.**

**4. Logging & Monitoring**

* **What? Track system health and prevent security risks.**
* **How?**
  + **AWS CloudWatch: Monitor logs and API requests.**
  + **AWS GuardDuty: Detect potential fraud attempts.**