

# Bit-By-Bit — GameStart Phase 2: Advanced Features, AI Integration & Deployment

## Team Members

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## Overview

Phase 2 advances the platform from a functional e-commerce system into a **secure, intelligent, production-ready gaming marketplace**. This phase introduces third-party authentication, payment processing, order management, and most critically **AI-driven game recommendation agents** that personalize user experiences and enhance engagement.

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## Technology Stack (Phase 2)

- React / React Native
  - Python Django (REST APIs, business logic)
  - Authentication, order processing
  - MongoDB (NoSQL)
  - Python-based AI agents (In search of Hugging face model)
  - RESTful API for game metadata (e.g., RAWG)
  - Django OAuth 2.0/Google OAuth 2.0
  - Secure payment gateway integration (sandboxed)
  - Cloud-hosted backend (Azure AD AWS), and MongoDB database services
  - HTTPS, environment variables
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## Core Enhancements

### 1. Google OAuth Authentication/ Django OAuth 2.0

- Secure, password-less authentication
- Faster onboarding and reduced credential risk

### 2. Payments & Order Processing

- End-to-end checkout and payment flow
- Persistent, user-linked order history

### 3. Product Planning & Data Enrichment

- Structured product lifecycle management
- Metadata enrichment to support AI modeling

### 4. AI Integration using Hugging face models such a simple *Sentimental Analysis*

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## AI Agents for Game Recommendations (Primary Focus)

The AI recommendation system is the **central innovation of Phase 2**, converting user behavior and product data into personalized game discovery.

### AI Capabilities

- Behavior-based analysis (searches, views, cart activity, purchases)
- Content-based filtering using genres, tags, platforms, and similarity metrics
- Hybrid ranking logic combining behavioral and content signals
- Real-time adaptive recommendation updates

### AI Architecture

- Inputs: anonymized user interaction logs, product metadata, external APIs
- Processing: rule-based logic evolving toward ML-assisted ranking models
- Output: ranked recommendations dynamically displayed on Home and Search views

### Security & Ethics

- No sensitive personal data used for AI training
- Anonymized analytics and privacy-first data handling

### **Future AI Expansion**

- Summary of game stats for a highlighted game using LLM narratives, cloud
- Predictive analytics for demand and trends using LLM narratives