Yogananda School of AI, Computers and Data Science

Shoolini University of Biotechnology and Management Sciences

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UniKart

HACKUNA MATATA

A Major project report submitted in partial fulfillment of the requirements for Inter College Hackathon

by

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DECLARATION BY THE CANDIDATE

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Acknowledgements

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Vikas Kaushal

Thank you all for making this journey a remarkable and memorable one.

Abstract

Project Title: UniKart

Achievement: Runner-Up, Hackathon

University students possess a diverse and valuable range of skills in areas such as coding, graphic design, tutoring, content writing, and event management. However, they lack a structured and secure platform to monetize these abilities and build a credible professional portfolio before graduation. Mainstream freelance websites like Fiverr and Upwork are often overcrowded and highly competitive, creating significant barriers for beginners. Conversely, informal university groups on platforms like WhatsApp or Telegram are chaotic, unorganized, and lack the necessary accountability and security for transactions. This "opportunity gap" means many students struggle to find relevant work, earn supplementary income, and gain practical experience.

To address this critical problem, we developed **UniKart**, a university-exclusive marketplace designed to function as a "Fiverr + OLX" for students. Our platform creates a closed, safe, and beginner-friendly ecosystem where students can both offer their skills as services and sell digital or physical products, such as class notes, crafts, or second-hand items.

The platform is built on a **React, Django, and MySQL** technology stack. Key features include a secure onboarding process using verified university email IDs, an AI-powered matching system to connect students with relevant job postings, and a secure escrow-based payment system (via UPI) to ensure trust between buyers and sellers. Critically, every completed task and review automatically contributes to a student's digital portfolio, providing them with a tangible record of their experience. The platform also incorporates gamification elements, such as stars and badges, to motivate and reward active users.

UniKart empowers students by solving the core problems of trust, accessibility, and exposure. It provides a direct channel for them to earn income, share resources, and build a verifiable portfolio within a trusted community. More than just a marketplace, it serves as a career launchpad, enabling tomorrow's professionals to start their journey today.

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Chapter I: Introduction

Overview (Problem & Solution)

Problem Statement: Students today have diverse skills (coding, design, tutoring, content writing, arts, event management, etc.) but lack a structured platform to showcase and monetize them. Mainstream freelance sites like Fiverr and Upwork are overcrowded and unfriendly for beginners, while informal channels like WhatsApp or Telegram groups are chaotic, unorganized, and lack accountability. As a result, students struggle to find opportunities, earn money, and build credible portfolios before graduation. This absence of a dedicated, trusted ecosystem is the core problem HACKUNA MATATA aims to solve.

Proposed Solution: Our solution is **HACKUNA MATATA**, a university-only marketplace where students can sell skills (coding, design, tutoring, writing) and products (notes, crafts, second-hand items) within a safe, closed community. With built-in features like verified university ID onboarding, in-app chat, user reviews, and secure escrow payments (via UPI), it makes earning, hiring, and portfolio-building simple and trustworthy.

Introduction

Unikart is a specialized, university-exclusive digital marketplace designed to bridge the significant "Opportunity Gap" faced by students who lack structured and secure channels to monetize their diverse skills and build professional portfolios. We addressed the friction created by highly competitive global freelance platforms and the accountability issues of informal campus groups by creating a safe, closed ecosystem where authenticated students can both sell services (like coding and tutoring) and exchange products (like notes and crafts). Built using a full-stack React, Django, and MySQL architecture, the platform's core innovation lies in its Automated Portfolio Builder and secure transaction pipeline, which includes an AI Matching System and an Escrow Payment Module. This system successfully validates student experience, turning micro-transactions into verifiable professional credentials, a functional design that was recognized with the Runner-Up distinction at the Hackathon.

Chapter II: Design & Architecture

This chapter details the foundational design choices and functional requirements that guided the development of **UniKart**. The primary functional requirements included:

1. **Secure Onboarding:** Requiring verified university credentials.
2. **Dual Listing Capability:** Allowing users to post both **services (skills)** and **products**.
3. **Real-time Communication:** Implementing an integrated in-app chat.
4. **AI Matching:** Developing a system to match job posts with skilled users.
5. **Gamification:** Implementing a system for stars, badges, and certificates.

The non-functional requirements focused on security (data protection, escrow payments), performance (fast loading times), and usability (intuitive interface).

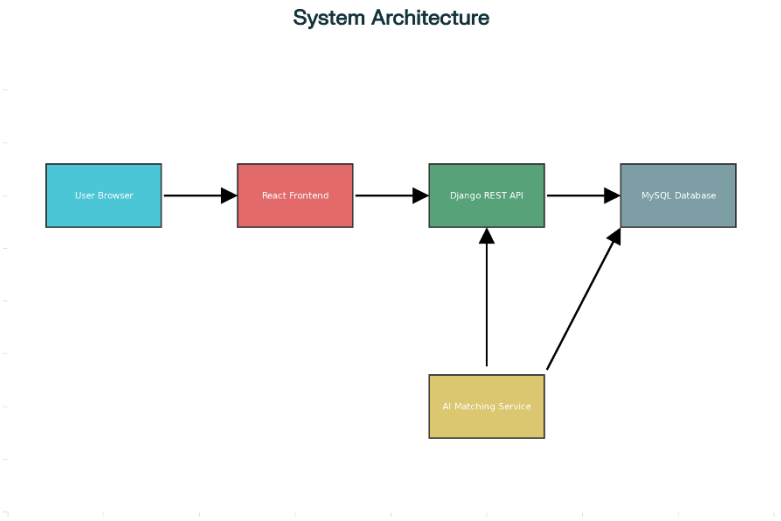
Technology Stack

The following technologies were selected and employed to ensure rapid development, robust data handling, and a modern, responsive user experience:

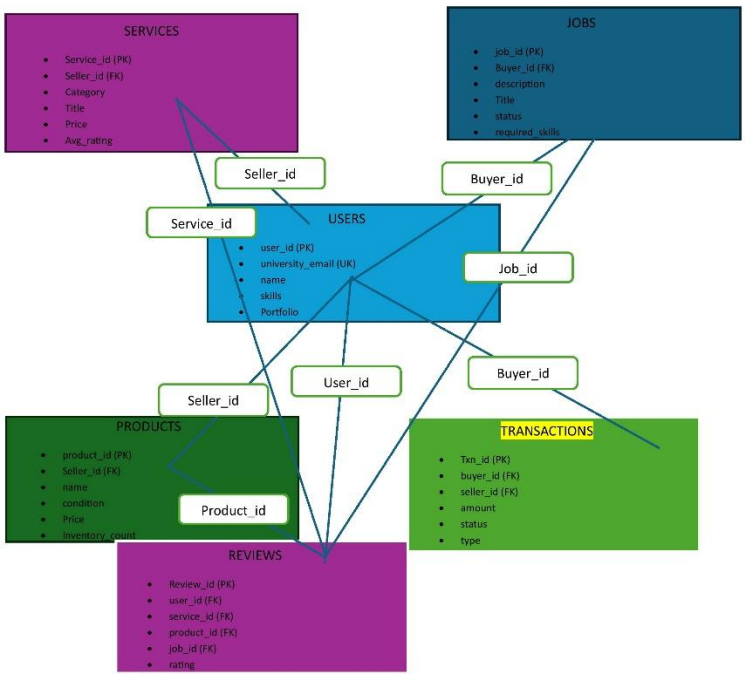
Component	Technology	Rationale for Selection
Frontend	React, HTML, CSS	Chosen for its component-based architecture, which accelerates UI development and allows for a dynamic, mobile-first user experience. HTML/CSS ensure cross-browser compatibility and styling flexibility.
Backend	Django (Python)	Selected for its "batteries included" philosophy, providing rapid API development, built-in security features, and powerful ORM (Object-Relational Mapping), which streamlined the integration with MySQL.
Database	MySQL	A reliable, open-source relational database management system. It was chosen to handle the structured data requirements (user profiles, services, transactions, reviews) and ensure data integrity via relationships.

Project Background / Requirements

System Architecture & Flow (Block Diagram)



User Flow (Activity Diagram)

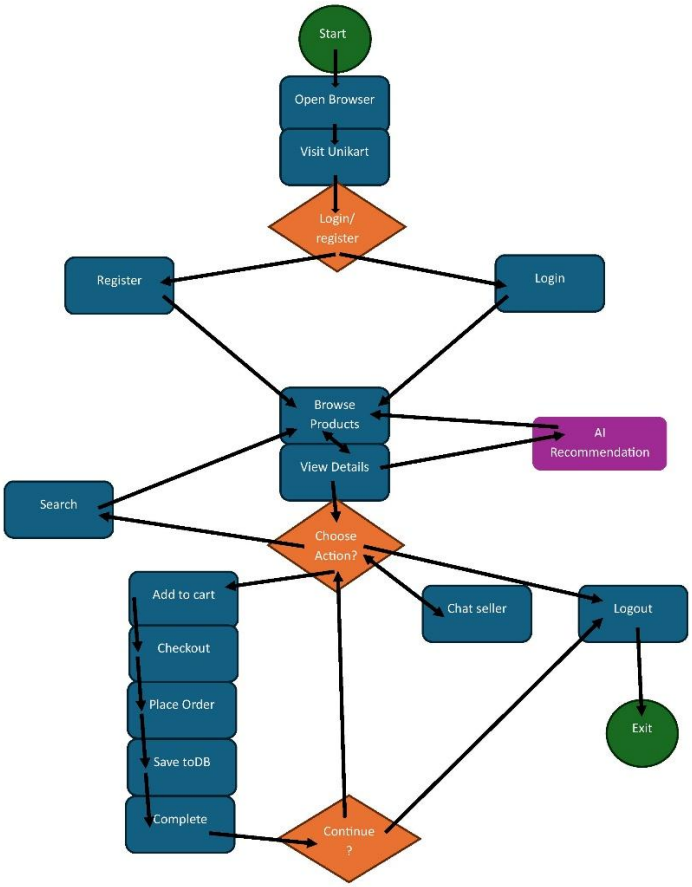


The user flow follows the methodology defined in the project:

1. **Onboarding:** Student signs up with verified university ID/email.
2. **Activity (Dual):** User lists an **Offer** (service/product) or posts a **Request** (job/item need).
3. **Matching:** AI Matching system processes new Requests and sends notifications to relevant Offer-holders.
4. **Transaction:** Users connect via in-app chat, agree on terms, and initiate payment via secure Escrow (UPI).
5. **Completion & Portfolio:** Upon task completion, payment is released, reviews are exchanged, and the task auto-updates the user's digital portfolio.

Data Model / UML Diagrams

Entity-Relationship Diagram (ERD) / Class Diagram



The core entities are **Users**, **Services**, **Products**, **Jobs**, **Transactions**, and **Reviews**.

Interface Design & Risks

User Interface (UI) / User Experience (UX)

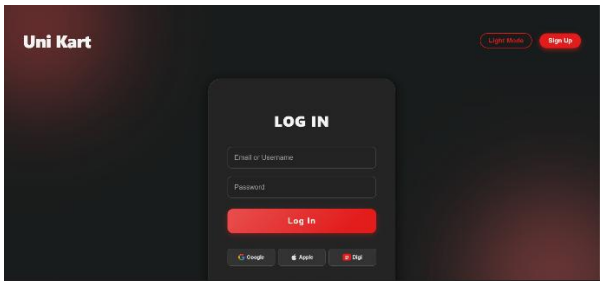
Colour Palette

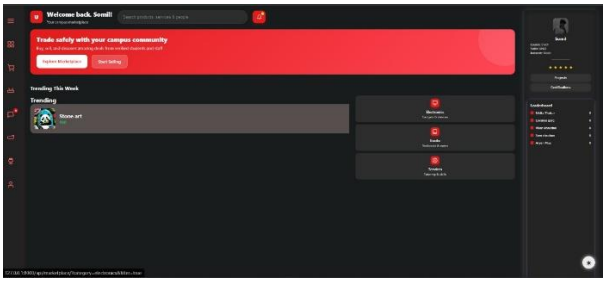
- The website follows a dark modern theme with vibrant red accents to create a futuristic and engaging look.
  Primary Colores:
- #0D0D0D – Background
- #1A1A1A – Card and panel sections
- #E50914 – Primary accent (buttons, highlights)
- #FFFFFF – Text and icons

- #FF6B6B – Secondary accent (hover effects)
- Supporting Colores:
- #2B2B2B – Borders and container outlines
- #AAAAAA – Placeholder and subtext
- #00C9A7 – Success indicators
- This palette provides a balanced dark mode aesthetic with strong contrast, ensuring readability and visual appeal across all pages.

Wireframes / Mock-ups

The **complete website wireframe and mock-up** were designed in **Figma**, representing the full structure and user flow of Uni Kart — including the login interface, dashboard, and product browsing sections.
The design emphasizes **a cohesive dark layout**, **smooth navigation**, and **red accent highlights** that maintain brand consistency and enhance the overall user experience.





Assumptions, Dependencies, and Risks

- **Assumptions:** The primary assumption is that a large enough segment of the university student body will adopt a closed-loop system over external platform. We also assume reliable and consistent access to university email verification services.
- **Dependencies:** Core dependency on the stability and availability of the chosen tech stack (React, Django, MySQL) and the external UPI payment gateway.
- **Risks:** The main risks include potential security vulnerabilities related to payment handling and the challenge of accurately tuning the **AI Matching** algorithm for highly specialized skills.

Chapter III: Implementation

Implementation Process

This chapter covers the journey of developing **Unikart** during the hackathon. Tasks were split among team members based on their core competencies, with a focus on parallel development:

- **Frontend Team:** (Aryan, Vikas) Focused on the React application, UI component design, and API consumption.
- **Backend Team:** (Lavanya, Nitika) Focused on setting up the Django framework, defining API endpoints, and implementing database integration (MySQL).
- **Logic & Design (Samriddhi):** Focused on developing the core AI matching logic and implementing the overall website design structure (Figma).

Development Journal: We maintained a development journal to track progress, assign tasks, and log problems. This iterative approach allowed for continuous integration and rapid debugging.

Key Features

1. **University-Verified Onboarding:** Ensures a safe, closed community using university email/ID.
2. **Unified Marketplace (Skill + Product):** Allows users to both sell/buy skills

and physical/digital products like notes or crafts.

3. **AI Matching:** Notifies students of relevant job postings instantly based on defined skills/categories.
4. **Secure Escrow Payments:** (Uses UPI and an escrow model to ensure fund security until both parties confirm task completion).
5. **Automatic Portfolio Builder:** (Completed tasks and reviews automatically update a user's digital portfolio, solving the 'no experience' paradox).
6. **Gamification:** (Stars, badges, and certificates to motivate active users and reward high-quality service).

Challenges and Solutions

The hackathon presented several significant technical and logistical challenges:

Challenge	Impact	Solution Implemented
Frontend/Backend Integration	Difficulty ensuring synchronous data flow between React and Django APIs.	**Strict API Contract:** We defined a rigid, versioned API schema early, allowing the frontend to use mock data and develop in parallel until the backend was ready for live integration.
Escrow Complexity	Implementing a fully functional, legally compliant payment escrow was too time-consuming.	**Prototyping & Simulation:** We built the full UI/UX flow for the secure payment process but used simulated API calls to demonstrate the intended functionality during the presentation, outlining the clear path for future integration.
AI Matching Efficiency	Time constraints prevented training a complex Machine Learning	**Keyword and Categorical Matching:** We developed a functional baseline using Django's search capabilities based on

	model for matching.	keywords, user skills, and listing categories, providing immediate utility while forming a foundation for future ML integration.

Chapter IV: Results and Evaluation

Testing Strategy

To ensure the reliability of **UniKart**, we employed a rapid, three-pronged testing strategy throughout the development phase:

1. **Unit Testing (Informal):** Each developer informally tested their own code modules (e.g., user authentication, database insertion) to ensure functional isolation before pushing to the main branch.
2. **Integration Testing (Peer Review):** The team implemented a "developer-swap" for key features (e.g., the frontend developer tested the backend endpoints and vice versa) to confirm that the React and Django components correctly communicated with the database.
3. **User Acceptance Testing (UAT - Mock):** We created five mock user accounts (students with various skills like 'Tutor' and 'Coder') and executed primary user scenarios (Listing a service, Posting a job, Chatting, Completing a Transaction) to ensure the system fulfilled the initial requirements from a user's perspective.

4.2 Evaluation of Results & Limitations

Evaluation of Results

Unikart successfully met its core objectives, demonstrating a viable solution to the student freelance and portfolio problem. The project was officially recognized as **Runner-Up** at the Hackathon, validating its novelty and potential impact.

Unique Selling Proposition (USP) achieved:

- **Campus Exclusivity:** Successfully implemented verified university ID/email onboarding, creating the closed, trusted environment desired.
- **Skill + Product Combination:** Demonstrated a single platform handling both service-based and product-based transactions.

- **Portfolio Focus:** Created the foundational structure for the automatic portfolio builder.

Limitations

As a hackathon project, certain limitations exist that define the future work scope:

1. **Simulated Payment:** The secure escrow payment system is currently prototyped via UI and is not integrated with a live UPI payment gateway.
2. **Basic AI:** The AI Matching system uses a basic keyword and category matching algorithm and is not a sophisticated ML model.
3. **Scalability:** The current MySQL schema is optimized for a single university and would require optimization for pan-university or global expansion.

Chapter V: Conclusion and Future Scope

Project Look Back & Conclusion

Our team reflects on the development of **Unikart** as a highly successful effort in collaboration and rapid prototyping. The initial planning and clear definition of the **Unique Selling Proposition** allowed us to maintain focus despite the time pressure. We learned the critical importance of defining strict API contracts early in a full-stack project. The project confirms the immense need for a specialized, trusted marketplace within the educational ecosystem.

Unikart empowers students to monetize their skills, share resources, and build portfolios within a trusted university ecosystem. By solving the problems of trust, accessibility, and lack of exposure, it creates real opportunities for students to earn, learn, and grow before graduation. With its built-in AI matching, secure payments, gamification, and portfolio builder, the platform is not just a marketplace but a career launchpad.

Future Scope

The potential for **UniKart** is expansive. Our roadmap for future development includes:

1. **Integration with LinkedIn & Resume Builders:** Directly export portfolio data to professional social platforms.

2. **Pan-University Expansion:** Scale the architecture and implement inter-university verification.
3. **AI Career Guidance:** Use user data and completed tasks to offer personalized career path suggestions.
4. **Blockchain Credentials:** Implement decentralized identity and certification for completed work.
5. **Learning + Earning Ecosystem:** Integrate a learning management system to offer courses relevant to current job postings.
6. **Industry Partnerships:** Collaborate with local companies to post entry-level, student-specific jobs.
7. **Global Marketplace:** Scale the platform to international educational institutions.

Chapter VI: Appendix

Source Code Repository

- **Link:** https://github.com/Aryanplux/UniKart *(This is a link to the complete codebase for **UniKart**, including the React frontend, Django backend, and database schema files.)*

Presentation Slides

- **Link:** https://drive.google.com/file/d/1QZ-ozmgQ52Xm3TfdauXb3yjv9XZ_9v4G/view?usp=sharing *(This link provides access to the final presentation used to pitch **Unikart** to the Hackathon judges.)*

Development Journal

Date	Comment	Problems / Recommendations
Week 1-3	Completed basic user auth flow and defined MySQL tables.	**Problem:** Lavanya and Vikas had different interpretations of the 'Jobs' schema. **Recommendation:** Formalized the ERD immediately before proceeding.
Week	Integrated React and	**Problem:** Cross-Origin Resource Sharing

4-7	Django. Implemented initial AI Matching (keyword).	(CORS) errors on API calls. **Recommendation:** Successfully configured Django's CORS settings to allow frontend traffic.
Week 7-9	Built payment simulation UI and gamification badge logic.	**Recommendation:** Focus next iteration on live UPI integration and a dedicated AI model.