

TEAM NAME - CIPHERS_2.0

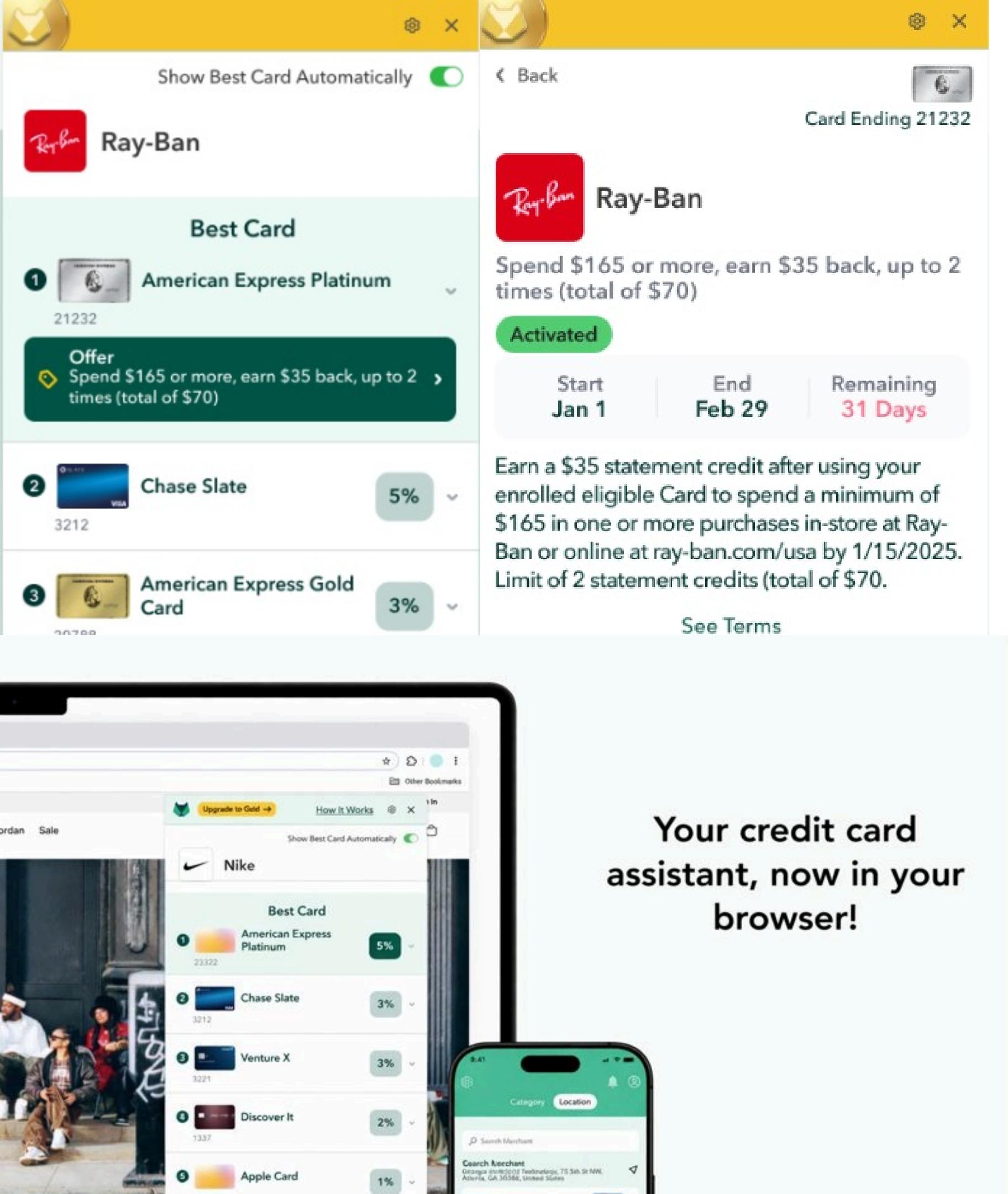
TEAM MEMBERS - M. KARTHIK SHASHANK VA

Problem Statement - 2

With the explosion and clutter in the cards space, consumers often face confusion regarding the benefits of their credit cards. This lack of clarity prevents them from fully utilizing the card's value beyond its basic functionality of credit and payments.

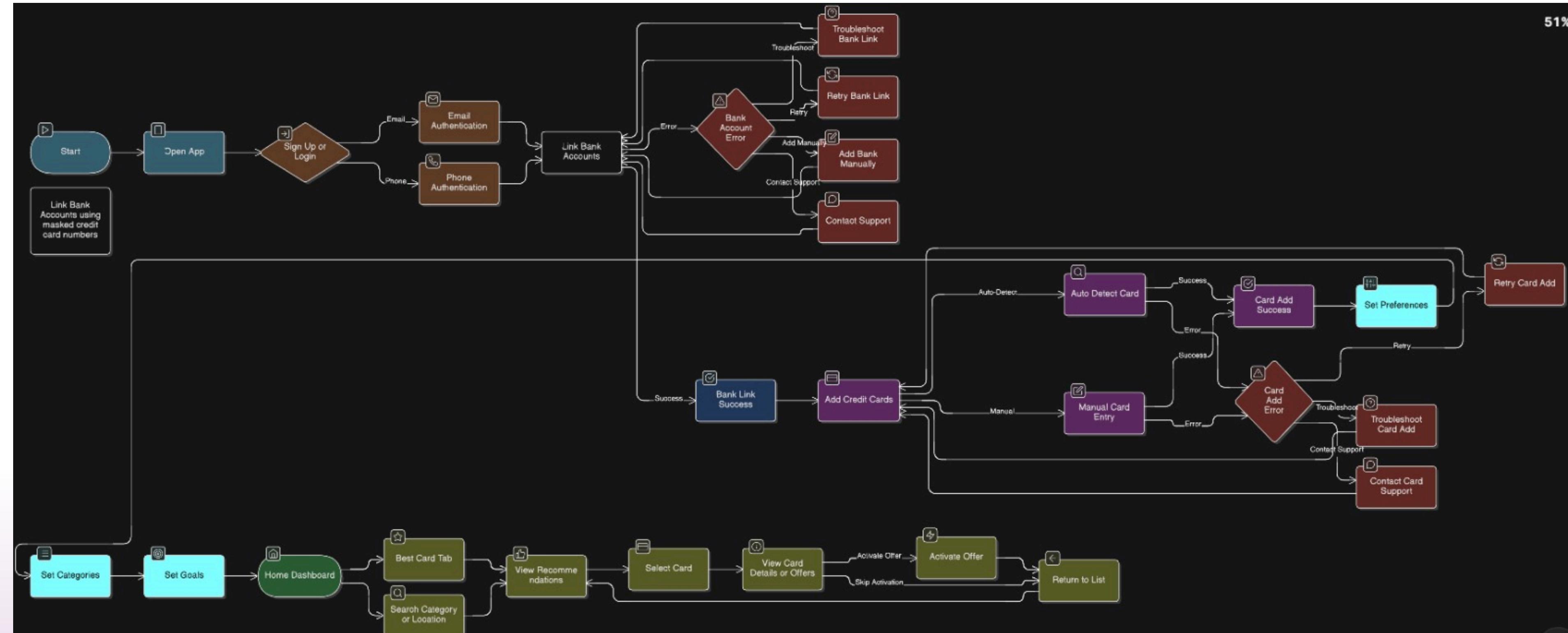


PROPOSED SOLUTION



- Visa cardholders often underutilize the benefits attached to their credit cards due to fragmented information, complex terms, and lack of timely awareness. The proposed solution is an AI-driven intelligent agent that enables users to instantly discover, understand, and utilize their Visa card benefits by entering a masked/test card number.
- The system aggregates card-linked benefits from Visa-authorized sources and uses Generative AI to convert complex terms and conditions into simple, human-readable summaries. It further enhances usability by offering context-aware, personalized recommendations based on factors such as user profile (e.g., student), location (e.g., proximity to IIT Chennai), and lifestyle patterns.
- To ensure inclusivity, the agent supports multi-language output (English and Tamil), improving accessibility for regional users. The solution follows a privacy-first design, ensuring no real card data is stored or processed beyond session-level awareness. This AI agent transforms a static credit card into a proactive financial assistant, maximizing user value while maintaining full compliance with data security and privacy norms.

USER WORK FLOW



APPLICATION LAYER:

- Framework: React Native – enables shared codebase for fast iteration, real-time sync, custom animations, and native integrations (e.g., bank connectors, push notifications).
- Tooling/Enhancements:
- TypeScript – standard for type safety in modern setups.
- State management: Redux, Zustand, or React Query/TanStack Query – handles transaction data, rewards syncing, and UI state.
- UI/animations: Reanimated, Gesture Handler, or custom animated components – supports smooth counters (e.g., balances, progress trackers).

BACKEND/API/DATA PROCESSING LAYER:

- Language/Server: Node.js – supports JavaScript/TypeScript consistency, real-time features, and web scraping/sync logic.
- Web Scraping / Connectors: Go-based declarative engine (e.g., Ferret-like) – enables custom, proprietary data extraction from external portals for deep credit card aggregation (balances, offers, transactions).
- Cloud / Infrastructure: AWS – handles backend services (e.g., EC2/Lambda for compute, S3 for storage), database hosting, and secure credential management.

DATABASE PostgreSQL or MongoDB:

- Caching/Queues: Redis – manages rate-limited operations, sessions, and async tasks.
- Authentication/Security: JWT or similar – provides secure access with bank-level encryption.
- Real-time/Push: Firebase Cloud Messaging or AWS Pinpoint – delivers notifications (e.g., expiring offers, sync alerts).

EXTERNAL INTEGRATIONS:

- Visa Developer APIs (Mock/Test Mode) – Card benefits and metadata
- Location APIs – Contextual recommendations (e.g., near IIT Chennai)

UNIQUE SELLING POINT

- **AI-driven personalized credit card recommendations** — Analyzes your spending patterns to suggest the optimal "next card" by evaluating millions of combinations across 130+ options, prioritizing sign-up bonuses, category bonuses, and base rates for maximum long-term value.
- **Holistic credit card aggregation in one place** — Consolidates rewards balances, transactions, statement balances, credit limits, due dates, autopay status, credit scores, recurring charges, and bills from multiple issuers into a single, easy-to-read dashboard.
- **Real-time best card suggestions by category and location** — Instantly shows which card to use for any purchase type or merchant, factoring in current offers and reward rates to maximize earnings on every spend.
- **Comprehensive benefits and perks tracking** — Centralizes all card perks, tracks usage (e.g., credits, lounge access), sends reminders for expiring benefits, and calculates true value versus annual fees.
- **Secure, user-controlled data syncing** — Uses proprietary connectors for deep data access with bank-level encryption; users can unlink and remove data anytime, with manual card entry as a privacy-focused alternative.
- **Spending insights and optimization tools** — Provides AI-powered categorization, custom rules, spend trends, reward tracking, and projections to help users understand and increase their overall rewards efficiency.
- **Tiered premium experience** — Offers advanced automation, deeper personalization, business spend tools, and higher-value features in paid plans, designed to pay for themselves through increased rewards and savings.

MARKET STUDY AND BUSINESS MODEL

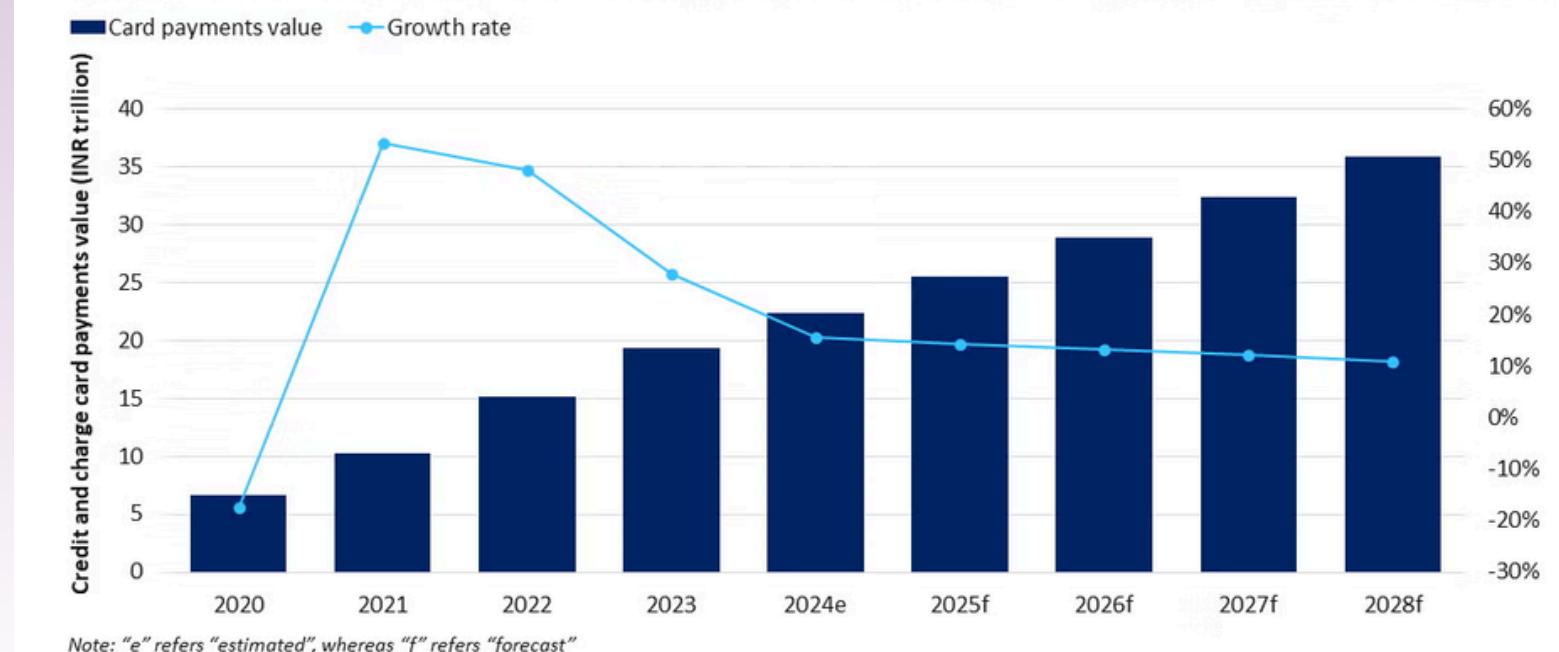
MARKET OPPORTUNITY:

- The rapid growth of digital payments has significantly increased credit card adoption, especially among students and young professionals. However, most users remain unaware of the full range of benefits attached to their cards due to complex terms, fragmented information, and lack of timely awareness. This creates a clear gap between the value offered by card networks and the value actually realized by users, highlighting the need for intelligent systems that simplify and contextualize card benefits.
- In markets like India, this challenge is intensified by varying financial literacy levels and language barriers. With rising smartphone usage, increased acceptance of AI-powered financial tools, and demand for personalized digital experiences, there is a strong opportunity for an AI-driven assistant that proactively surfaces relevant card benefits and improves accessibility.

BUSINESS MODEL:

- The solution adopts a B2B2C model, where the AI agent is integrated into bank, fintech, or neobank applications within the Visa ecosystem. Instead of charging end users, the platform is licensed to card issuers, enabling them to improve customer engagement, increase benefit utilization, and enhance overall user experience.
- Revenue is generated through enterprise licensing, API-based pricing, and optional analytics services for partner institutions. Strategic collaborations with merchants can further enable co-branded offers, creating value for users, issuers, and Visa while ensuring scalability and long-term sustainability.

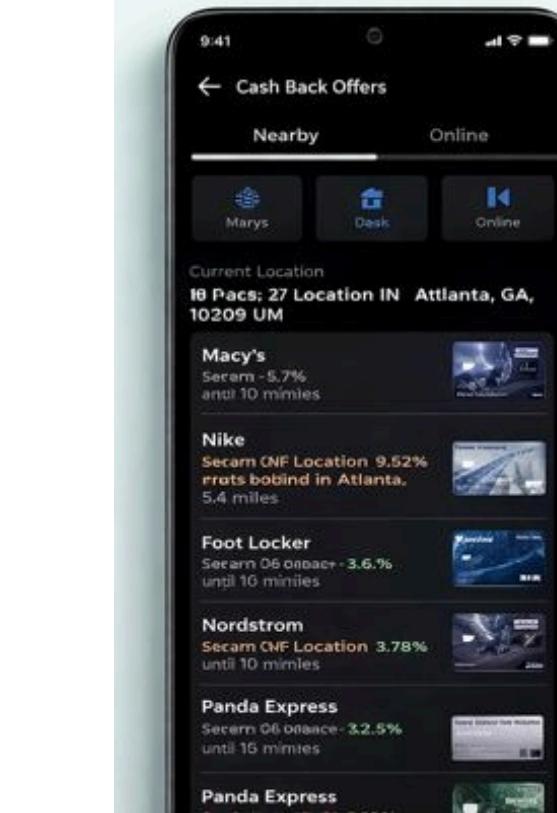
India: Credit and Charge Card Payments Value (INR trillion), 2020-2028f



GlobalData.

Source: GlobalData Banking and Payments Intelligence Center

CASH BACK OFFERS
Discover savings
at merchants
around you



AGGREGATION
View balances, bills,
utilization and credit
scores



BONUS TRACKER
Track progress
towards sign up
bonuses



RESEARCH AND REFERENCES

- **Visa Developer Platform – Card benefits & APIs**

<https://developer.visa.com/>

- **Studies on credit card benefit underutilization**

<https://www.sciencedirect.com/science/article/pii/S0304393224000722>

- **Research on Gen-AI for financial summarization**

<https://ieeexplore.ieee.org/document/10386313>

- **Privacy-by-design principles in financial systems**

<https://www.ardentprivacy.ai/blog/the-7-principles-of-privacy-by-design/>

- **Introducing Visa Intelligent Commerce On AWS: Enabling agentic commerce with Amazon Bedrock AgentCore**

<https://aws.amazon.com/blogs/machine-learning/introducing-visa-intelligent-commerce-on-aws-enabling-agentic-commerce-with-amazon-bedrock-agentcore/>

- **Documentation of maxrewards**

<https://maxrewards.com/platinum>

THANK YOU

This solution transforms a Visa card from a passive payment tool into an intelligent, privacy-safe financial companion.

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Shashank VA

