Afif Ahmed

GET PDF

Software Engineer

afif.ahmed@hotmail.com

+6594899827

Work experience

Google (2016 - Present)

Tez Android App

Tez is a payment app built for the Indian market using UPI as its underlying payment gateway. The app was launched on Android and iOS platform.

- Built and maintained the Discover Search screen of Tez android app that serves as an entry point for discovering users, merchants and payment methods.
- Implemented a low bandwidth phonebook syncing mechanism. Built a caching layer to improve latency of loading Tez contacts. Architected payment gateways in the app for paying through various methods like UPI ID, bank account number, phone number etc.
- Built the conversation screens responsible for showing the order history with a peer and integrated it with the payment gateways. Built "All transaction" screen to show all payment activities of the user.
- Built "Rewards" screen in the app that allows users to view the list of scratch cards they won. Built a retryable client to server syncing mechanism that allowed users to scratch cards offline.

Mixer - Conversation and Messaging Infra (2017 - 2018)

Mixer was a migration of Google Pay/Tez's old conversation and messaging infrastructure. The project brought about increased fault tolerancy, developer velocity and lower fanout.

- Designed and built a low latency microservices based architecture that served conversations and messages with a lower fanout.
- Conversation storage service was built on top of spanner. The system decreased latency by 40% of the RPC that serves chatheads with interactions on the homepage of the app.
- The system resulted in lower resource utilization and lower fanout.
- System was more fault tolerant; gracefully handled any backend going down

Security and Data Protection in Google Pay (2017 - 2018)

The Google Pay system has a concept of actors decoupled from GAIA IDs. All the individual backends represent ownership of objects using actor ids. This was not very secure since it was easy to fetch anybody's data using the actor ids in the service request. We needed a auth layer for every service that could verify whether the secure gaia mint in the side channel owns the actor whose object it is trying to access.

- Built a performant library (~10ms at 50p latency) to be used across Google Pay to do authorization check of user data against the end user credentials presented.
- Secured our order backend using this library, wrote down data access policy guidelines for our team and oversaw the security and data protection of a number of other subteams (gold, gifting etc.).
- This project ensured that a compromised server would not be able to access protected data from some other backend servers. It also ensured that a malicious employer would not be able to access data without leaving a trace.

Growth Experiments Framework (2019)

Growth Experiments Framework is a system that made creating experiments a non engineering job. After this was launched it enabled product managers and marketing team to create and run experiments without involving an engineer. It saved hundreds of engineering hours.

- Designed and built a configuration microservice to do CRUD on experiment configurations.
- Designed and built an evaluation microservice to evaluate whether an experiment is enabled in the current context for a particular user.
- Built caching layer to be able to serve upto 5000+ QPS.
- Integrated the system with an internal web tool that can be used by PMs to create experiments.

Digital Gifting to Anyone (2019)

Built a system to allow digital gifting of various Google Pay objects (scratch cards, collectibles, gold etc.) to anybody outside of Google Pay.

- Built externally shareable gift via links.
- Gift to anyone was used to drive the viral Diwali Campaign.

Scaling Incentives globally (2020-2021)

Scaling the Google Pay Offers and Rewards system to 30+ countries.

Intern at Amazon (2016 - Present)

Developed an architecture that listened to packaging feedback events in realtime and handled them. The architecture was built using a couple of Amazon Web Services namely Redshift and Simple Queuing Service.

Skills

- Android App Development
- Architecting highly scalable systems serving 100M+ users.
- Microservices
- Java, C++, Python, HTML, CSS, Javascript

Education

Bachelor in Computer Science And Engineering, Jadavpur University (2012-2016)