Case Study

Predictive Analytics:
Music Recommendation & analytics based on consumer preferences

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Client Profile

Patari.pk is Pakistan's fastest growing multimedia platform. Patari works with artists to get exposure to their content via newsletters, album launches and podcasts. It engages users through content curation and content recommendation.

Patari was opened on Public on September, 2015 and currently (1st November, 2015), they are streaming 700k songs a month and have 20k daily sessions across mobile and web applications. They have been featured in local and international media and are increasingly becoming synonymous with Pakistani music.

Business Challange

In today's economy, startups are under extreme pressure to create USP's that they can compete on. Success adds more pressure to deliver and startups can increasingly feel overwhelmed because they have to attack too many problems in a relatively short amount of time.

Two of these problems for Patari were high quality actionable Analytics and generating user recommendations for music from the User Event after studying the usage patterns of the sites patrons increasing engagement.

Showcase: Custom Event Management based Analytics

Google Analytics is a good tool to start off with and study your users, however in order to leverage more power off of your analytics data, you need to build your own data lake within your organization.

A framework was made to understand the data whereby concepts such as songs, artists, albums and labels could be acted upon via events such as plays, favorites, shares. Reporting would furthermore require time based granularity.

Event data would first go into a data lake for storage and concurrently also be loaded into the best in line Open Source tools for near real-time data analysis such as ELK so that anyone in the organization can be trained to make custom dashboards to query information and draw insights.
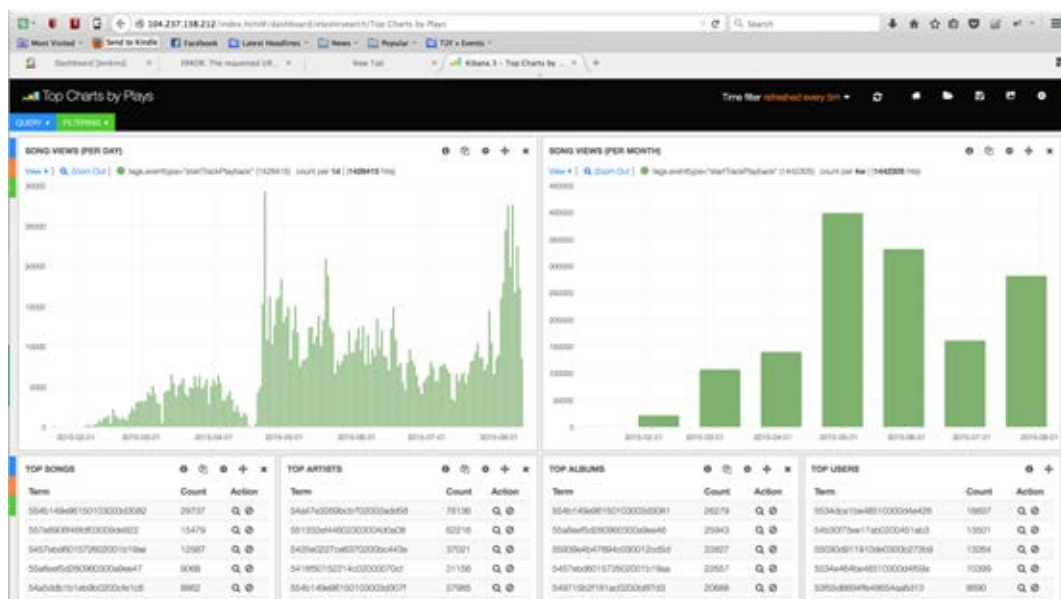
Case Study

Figure 1 ELK based Query System

Another reporting layer was made using tools data science tools like Pandas and Mongodb for mission critical data that was run on a daily basis off of the persistent event data from the data lake. This was architected using data science tools such as PANDAS and mongodb and it was built with accuracy in mind so as to be used in billing and contracts.
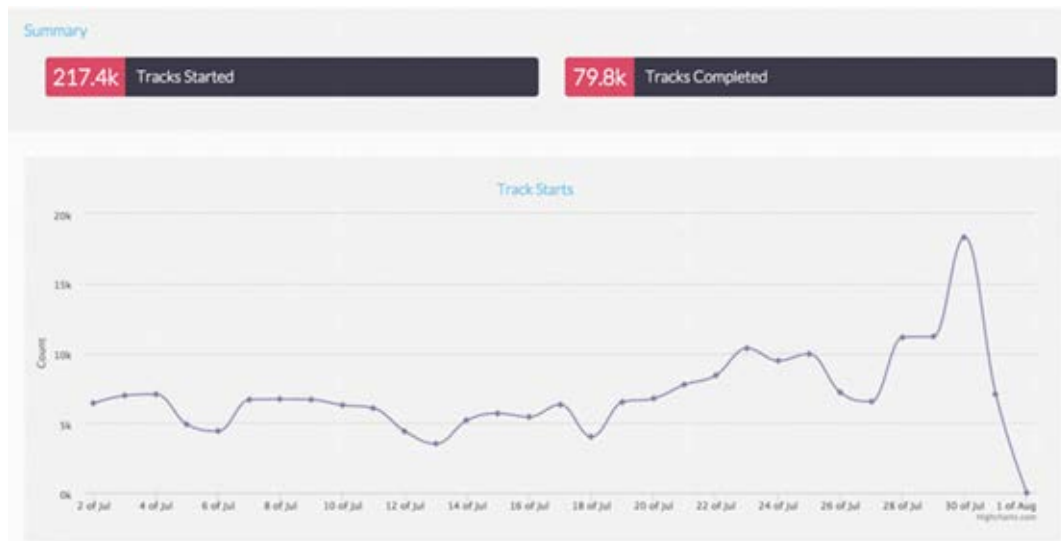

Figure 2: Statistic for billing and contract management.

Showcase: Efficiency

These systems painstakingly optimized so that the re-computation of a days worth of data could be done in less than 10 seconds for the purposes of verification and also applying other rules for data aggregations.

A small technical talk about efficiency and optimization is available at: *http://slides.com/iqbaltalaatbhatti/mo#/*

Showcase: Efficiency

An approach to recommendation was devised to suggest recommend items / songs to users based on the basket of items that they listened to. Within genre and across genre recommendations are available via a Recommendations button that analyzes the last 10 million user activity data points to suggest further music.

This feature has been an instant hit amongst users and 35% of the song plays are recommended and 65% are user selected.
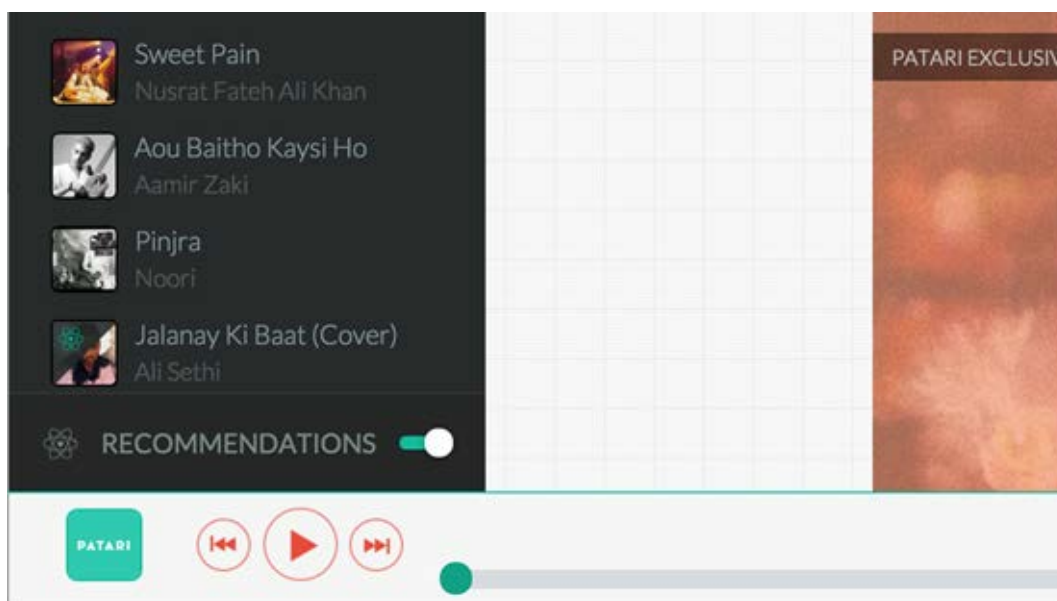

Figure 3: Song Recommendation in Patari

Showcase: Gamification

Gamification features are under development where users shall be able to earn points by incentivizing actions that promote usage and viral adoption of Patari. These points would be redeemable for on site vouchers and special offers.

Technology Stack

The system is designed the following components: Python, Mongodb, Elasticsearch, Logstash, Kibana, PANDAS, Nginx, Apache Mahout, Fluentd, and Hadoop. For a detailed technology overview please contact us at *business@acit.com.*

About ACIT

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