

# Alpha Cohort Study

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Data Science - General Assembly

# Problem

- Saavn.com: India's largest digital music startup
- Saavn's User Base is driven by Growth (New Users) & Retention (Returning Users)
- How can we drive more New Users into becoming Retained Users?
- What are the key differentiating features that drive certain users to return, and others to not?
- How does the use of certain features effect a user's retention?

# Data Set

- Rows: Unique, first time users of Saavn.com on an unspecified date
- Columns: Events being tracked on Saavn.com
  - Cells illustrate the amount of times each user triggers a corresponding event during a 30-day period
  - Column 1: refers to each user's "alpha status".
    - Users given an alpha value of "1" if they return at least one time after 30 days, "0" if they do not

Alpha	Visits	song.detail.click	browse.featured playlists
1	4	6	3
0	1	0	7

# Methods

- **Logistic Regression**
  - Feature Extraction
  - Alpha Status prediction based on Continuous Variables
- **Dimensionality Reduction**
  - Principal Component Analysis
  - prcomp package in R
- **Decision Trees**
  - Recursive Partitioning
  - rpart Package in R

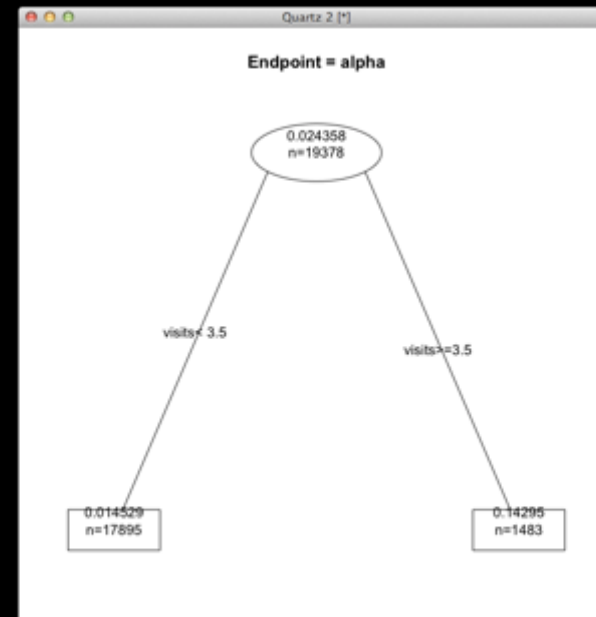
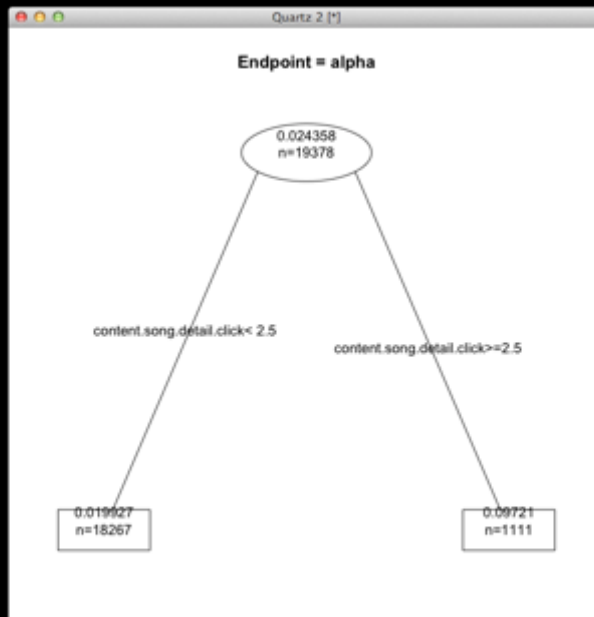
# Results: Logistic Regression

Coefficients:

	Estimate	Std. Error	z value	Pr(> z )	
(Intercept)	-4.040010	0.055015	-73.434	< 2e-16	***
visits	0.056463	0.004942	11.425	< 2e-16	***
content.find.similar.songs.click	-0.147933	0.253759	-0.583	0.55991	
content.similar.song.click	-0.740009	0.249550	-2.965	0.00302	**
content.song.detail.click	0.089323	0.016879	5.292	1.21e-07	***
content.playlist.detail.click	-0.097767	0.280313	-0.349	0.72726	
header.browse.new.releases.click	0.094814	0.019548	4.850	1.23e-06	***
header.logo.click	0.088296	0.017440	5.063	4.13e-07	***
home.songmap	0.480631	0.168966	2.845	0.00445	**
home.weekly.top.click	0.196847	0.041450	4.749	2.04e-06	***
share.song.fb.click	0.194042	0.064581	3.005	0.00266	**
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Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1					

- content.song.detail.click, content.similar.song.click, header.logo.click & home.weekly.top.click each proved statistically significant after feature extraction
- Each of these features illustrate a less surfaced way for users to browse content

# Results: Decision Tree



- Taking a deeper dive into the song detail page event, we find a split at 2.5 clicks / month.
- Users who clicked into the song detail page 2.5x or more increased their mean alpha status to 10%

# Findings: Song Detail

- Identifying key differentiating features utilized by alpha users gives the product team direction in finding a better way to engage our users
- Saavn.com currently does not have a true "Browse" functionality
  - Our most obvious replacements for browse are lists of editor-curated playlists, new album releases, and search.
- Song detail pages contain clickable metadata such as the song's singer, songwriter, movie it's featured in, etc.

# Findings: Song Detail

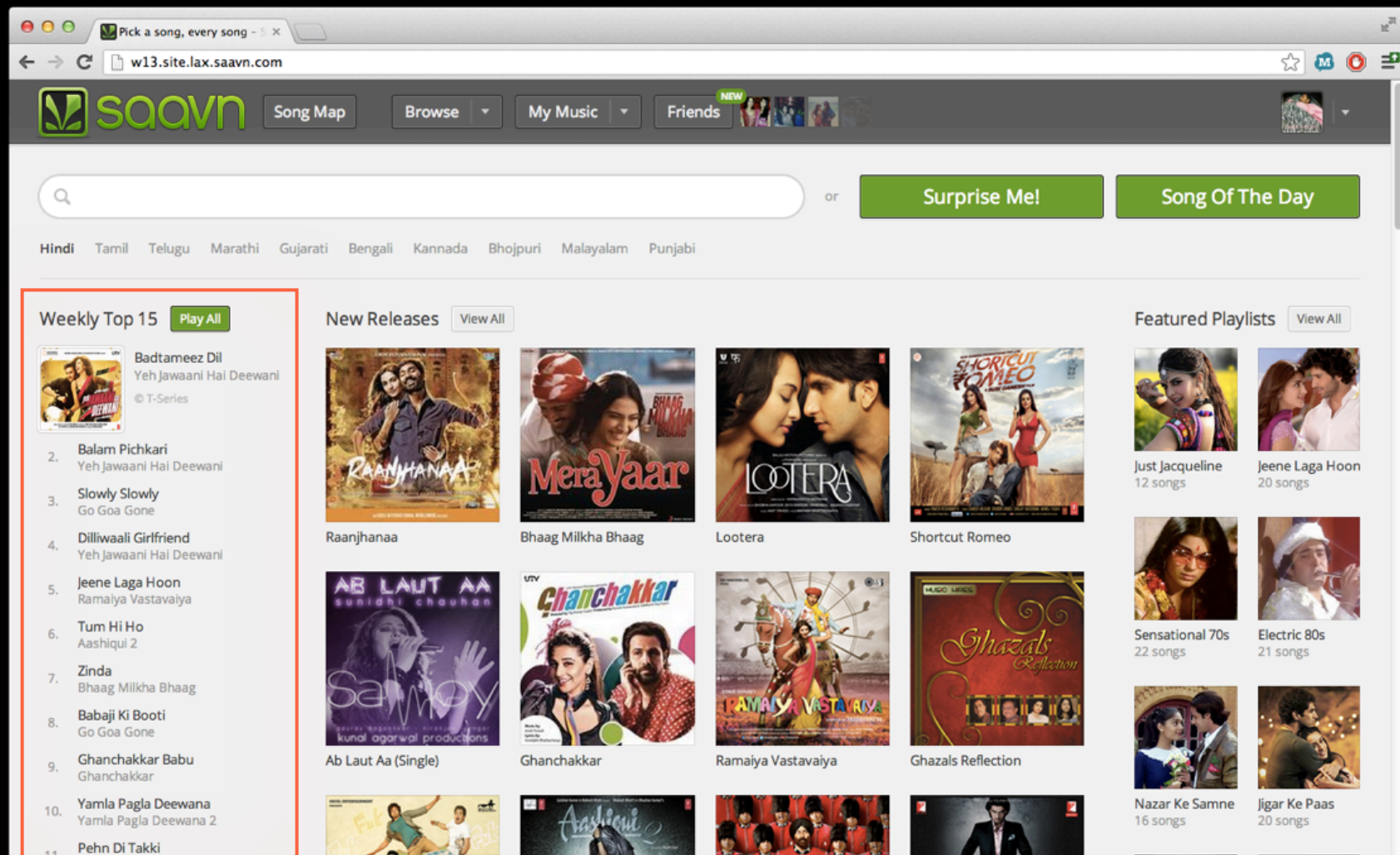
- Logistic Regression and PCA showed "content.song.detail.click" to be one of the more significant features with regards to a user's alpha status.
- Recursive partitioning showed us that a user's chance of becoming an alpha user increases from 2% to nearly 10% if they visit at least 2.5 song detail pages per month.
- Clicking through metadata on Song Detail pages give users a more fluid way to browse.
- The action of clicking similar songs surfaced in the song detail page was also a statistically significant event according to our regression model.



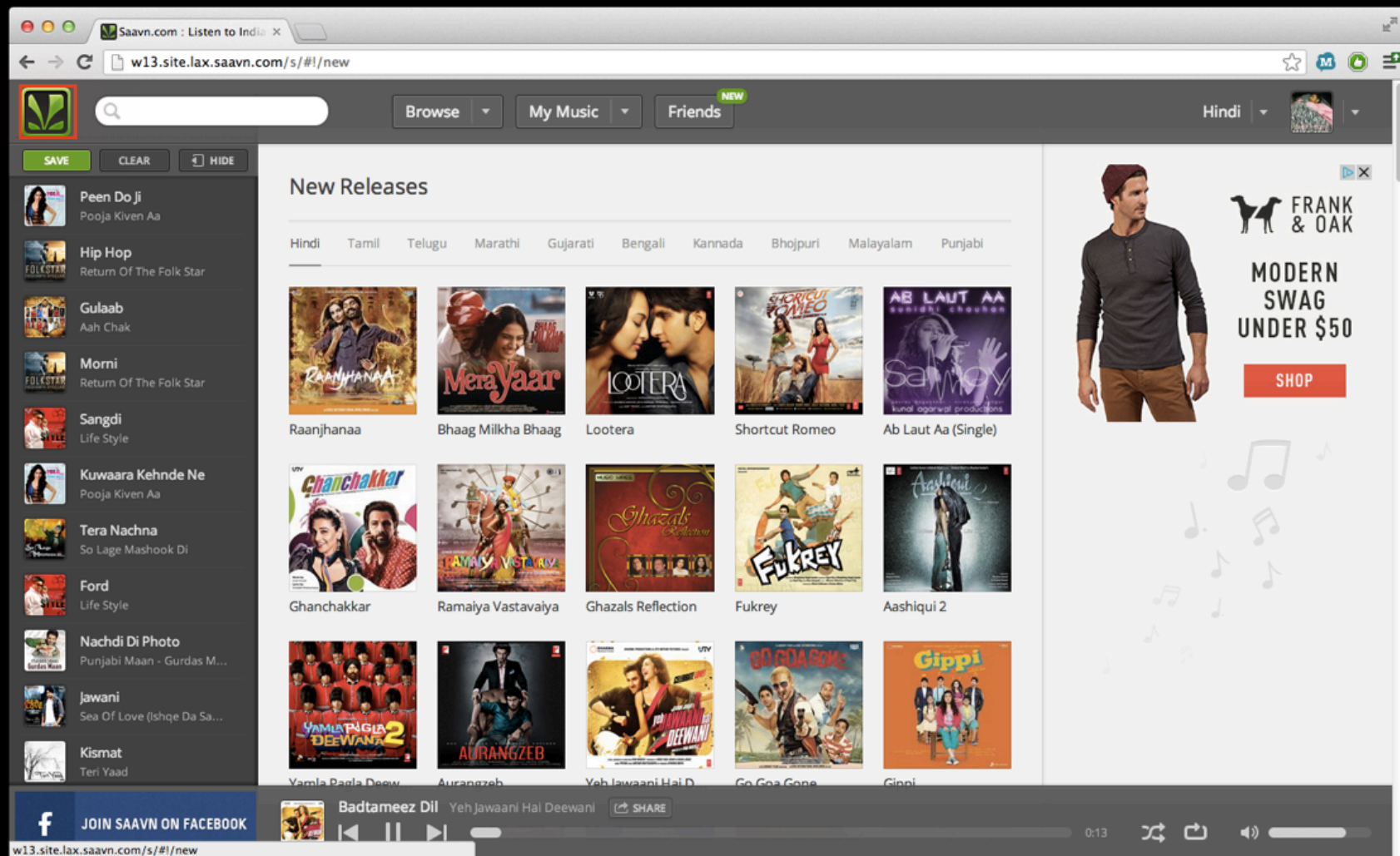
# Findings: Saavn's Player Page

- Saavn.com's Homepage is organized quite different from the Player Page
- Many alpha users engaged with the "Weekly Top 15" playlist located in Saavn's Homepage, but not in the Player Page
- Additionally, the regression model & PCA showed header.logo.click event as being significant, showing that users were attempting to return to the homepage to browse content.

# Findings: Saavn's Homepage



# Findings: Saavn's Player Page



# Findings: Saavn's Player Page

- In order for users to access the “Weekly Top 15” playlist in the player page, they are forced to navigate through the drop down menus in the header
- My findings suggest that if the Player Page were organized similar to the default Saavn homepage, users would browse more comfortably from the player

Thanks!

Questions?