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# Predicting XYZ Premium Subscribers

MSBA 6131: Homework 2

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# Problem Definition

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## Context

XYZ is a music-listening social networking website. They provide both basic services for free, and additional premium capabilities for a monthly **subscription** fee.

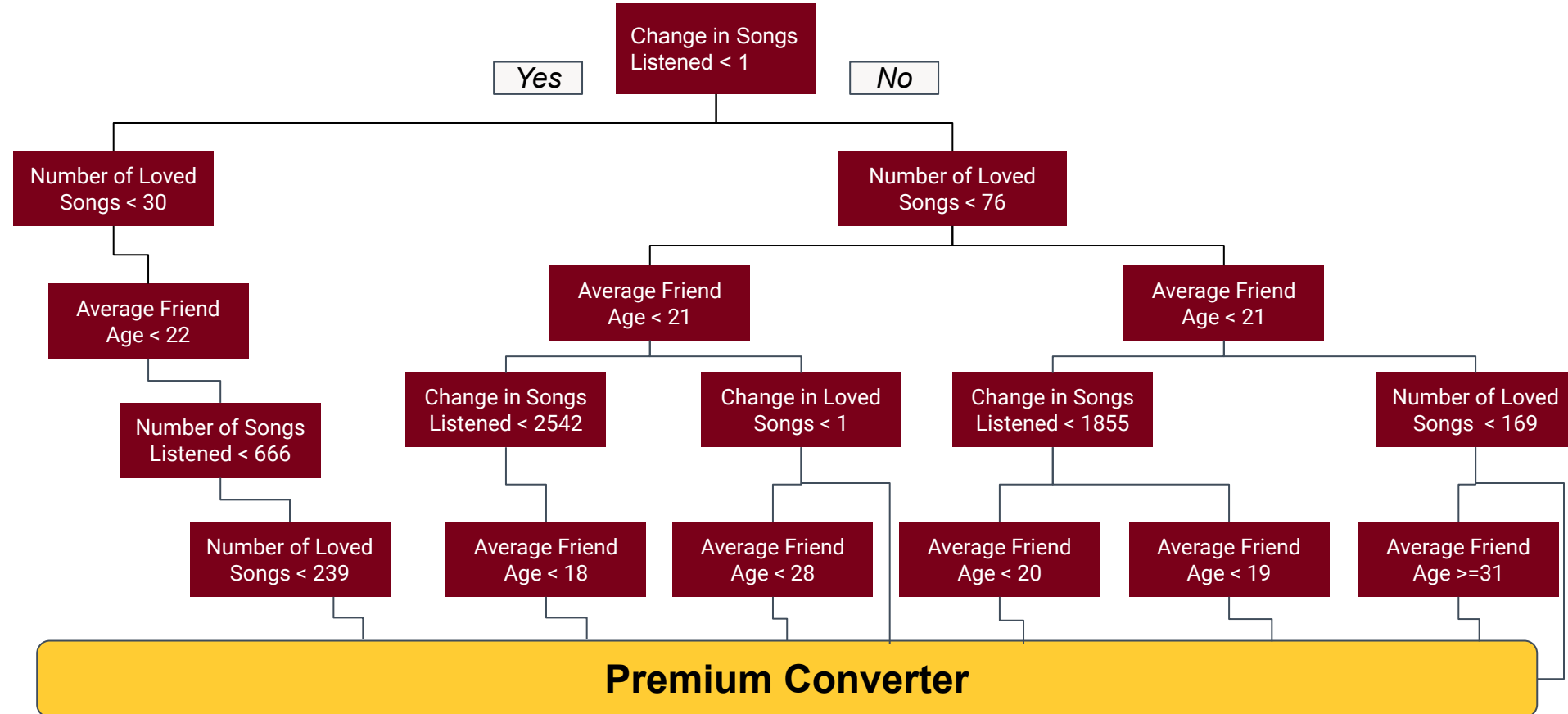
## Problem

XYZ wants to increase the **efficiency** of future **marketing campaigns** by targeting customers more likely to convert to a premium subscription.

## Objective

Based on the previous marketing campaign data, **predict** customers who are likely to **convert** from free to premium subscribers in the next six month period, if targeted by a promotional campaign.

# Decision Tree



# Benefits from Model

- **Decreased marketing costs.**
- More effective utilization of time and resources.
- **Create personalized marketing campaigns.**
- Provide incentives to for likely premium customers.

- **Better understand your customers.**
- Capitalize on friends of premium customers.
- **Gain insight on features most important to customers.**



- Prioritize feedback from targeted customers.
- Resource division based on targeted vs. non-targeted customers.
- **Try to improve customer satisfaction for highly convertible customers.**

- **Predict demand from model.**
- Can optimize pricing for premium subscription based on this demand.
- Can set sales targets based on the prediction of adopters.

# Recommendations

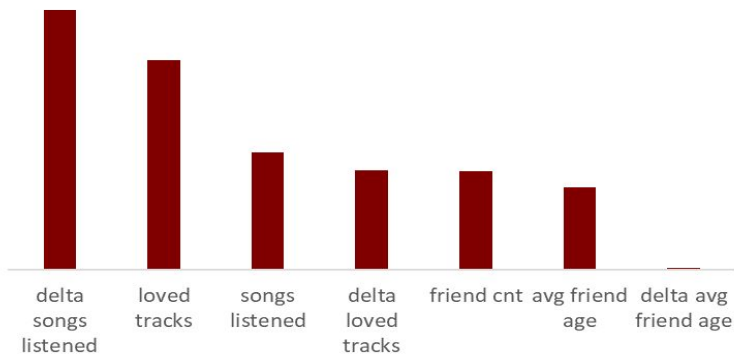
<b>Traits of Premium Converters</b>	High number of loved songs High number of songs listened to	↑ in the number of songs listened to over 3 months ↑ in the number of songs loved over 3 months	High average friend age
<b>Interpretation</b>	Users are more likely to convert if they are listening to and liking a lot of songs	Users are more likely to convert if they are increasing the number of songs listened to and liked	Users are more likely to convert if they have older friends
<b>Recommendations</b>	Put ads before user's most listened to and liked songs	Prioritize free features that make it easy for users to find new songs	Connect users with older friends

# Evidence

## Why 7 features?

We chose 7 features based on the “information gain” of these metrics

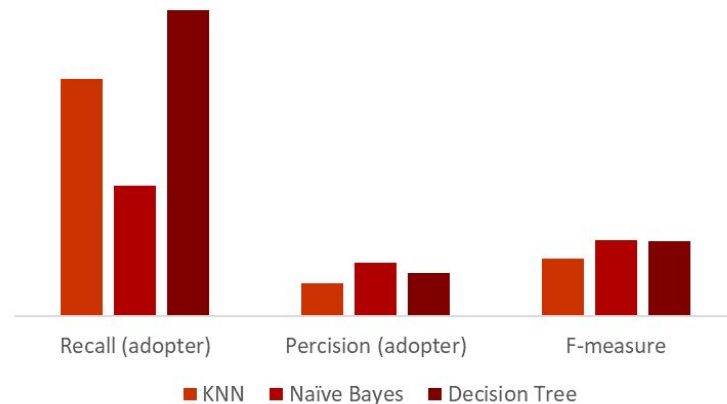
- Reduce the complexity of the model
- Eliminate redundant and irrelevant features
- Improve performance
- Improve interpretation



## Why Decision Tree?

We chose Decision Tree over KNN and Naive Bayes based on the following factors

- Better Recall
- Better Precision
- F-measure



# Questions?

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# Appendix: Solution Map

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