



# User Churn

How to anticipate and reduce it!

November 2015



# User Churn isn't going away! ← Problem

Big Data  
Projects

What is churn? When is it critical?  
What can we do to reduce it?

Big Data  
Providers

What is available in the market, that can help  
businesses reduce churn and grow their user base?

Big Data  
Professionals

What strategies are being used to predict churn  
efficiently and successfully?

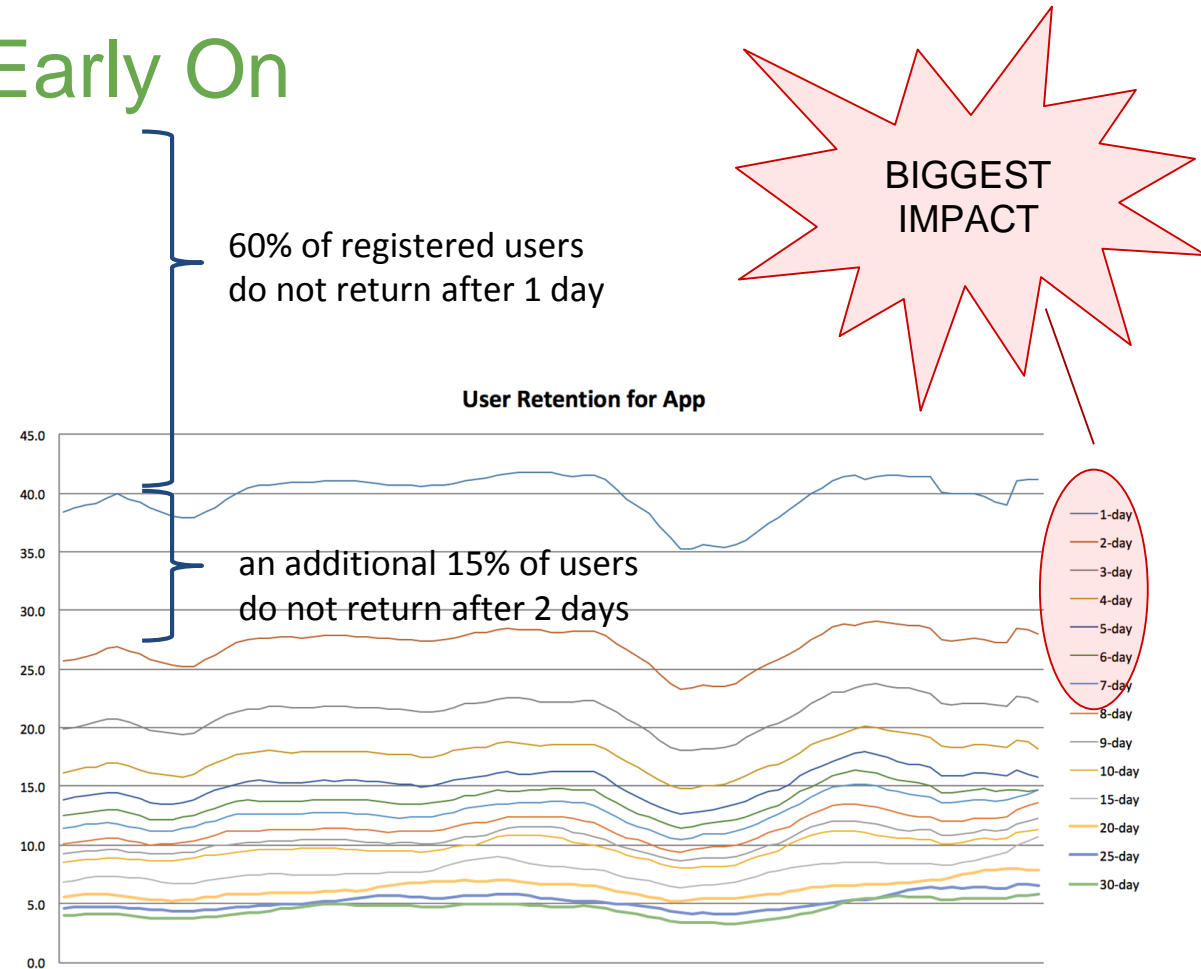
# High Churn Probabilities Early On

## Churn

How many users don't return after 14 days of inactivity (for example)

## Retention

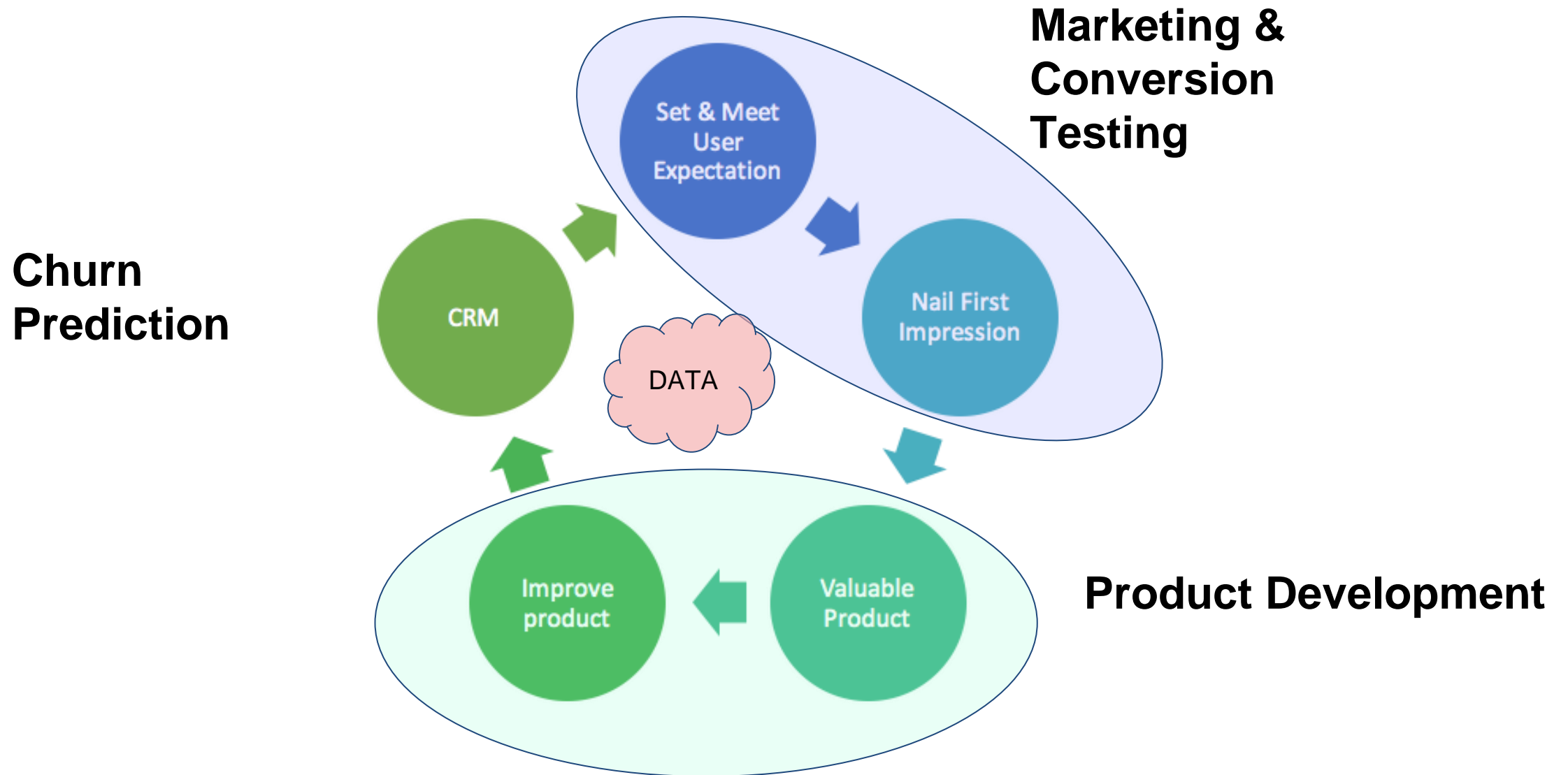
How many users return for a visit



Churn is highest at the start of the user experience ← very common trend

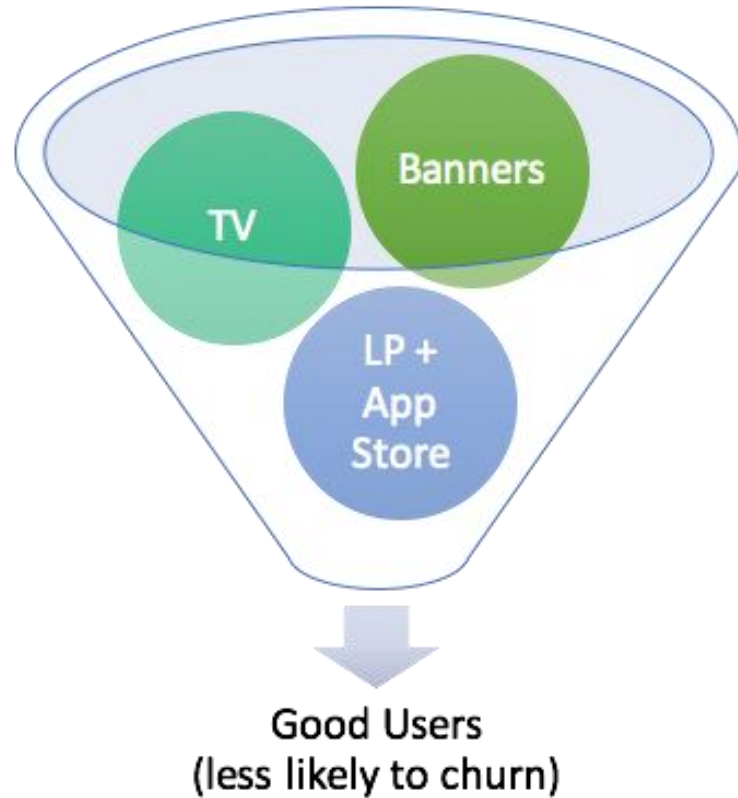
⇒ A large part of the analytical focus should lie here!

# Things that can reduce Churn



# Marketing & Conversion

Attracting the Right Customers



nanigans  


- Banner styles and designs

- Texts, Screenshots, Video Ads

- ASO

- Country Group Correlation &

- Google's CausallImpact Model



- Landing Pages

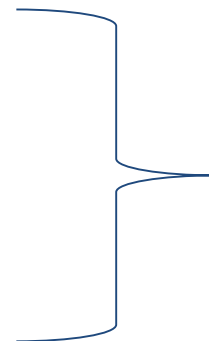
 unbounce

 Optimizely

# Product Optimization

## 3 Ways to Introduce Product Features

1. Switch It On  
(Pre/Post Analysis)
2. Try It Out  
(A/B Test)
3. Understand It  
(A/B/C/D Test)



**Omniata.**

# Churn Prediction – Our Model

## Goal

Predict whether Dragon City (iOS) users will churn in the first week, based on early activity, to be able to react fast and re-engage with users before they leave for good.

## Sample

- New Game Users over a period of 3 months
- 48 first playing hours
- Observe if churned during their first week  
(Churn definition: 14 consecutive days of inactivity)
- Sample Size: 885.000



# Churn Prediction – Our Model

## Methodology

- Logistic regression (Robust, Fast, Easy to use and to interpret)
- Response variable: Churn (binary)
- Predictor variables: Different KPI from the 48 first playing hours
- The predictor variables eventually used, included Device Type, Number of Sessions, Login Errors, Dragon Breeding
- Validation Metric: Accuracy (AUC)

## Results

- **72% Accuracy !** (surpassing our goal of 70%)  
⇒ For a pair of cherner/non-cherner, we can predict their behavior correctly 72% of the time.
- Time spent preparing data & building model: 16 hours



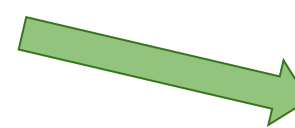
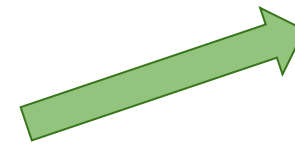
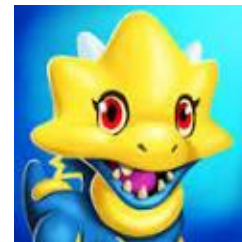
# Churn Prediction – Application Examples

**For Predicted Churn Users ...**

→ **Push Notifications with Custom Rewards**



→ **Cross Promotion**





Have a Great Day!



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