GDC

Lifetime Value

The long tail of mid-core mobile games

Tammy Levy
Director of Product

Tamara Levy

Director of Mobile Product

Kongregate

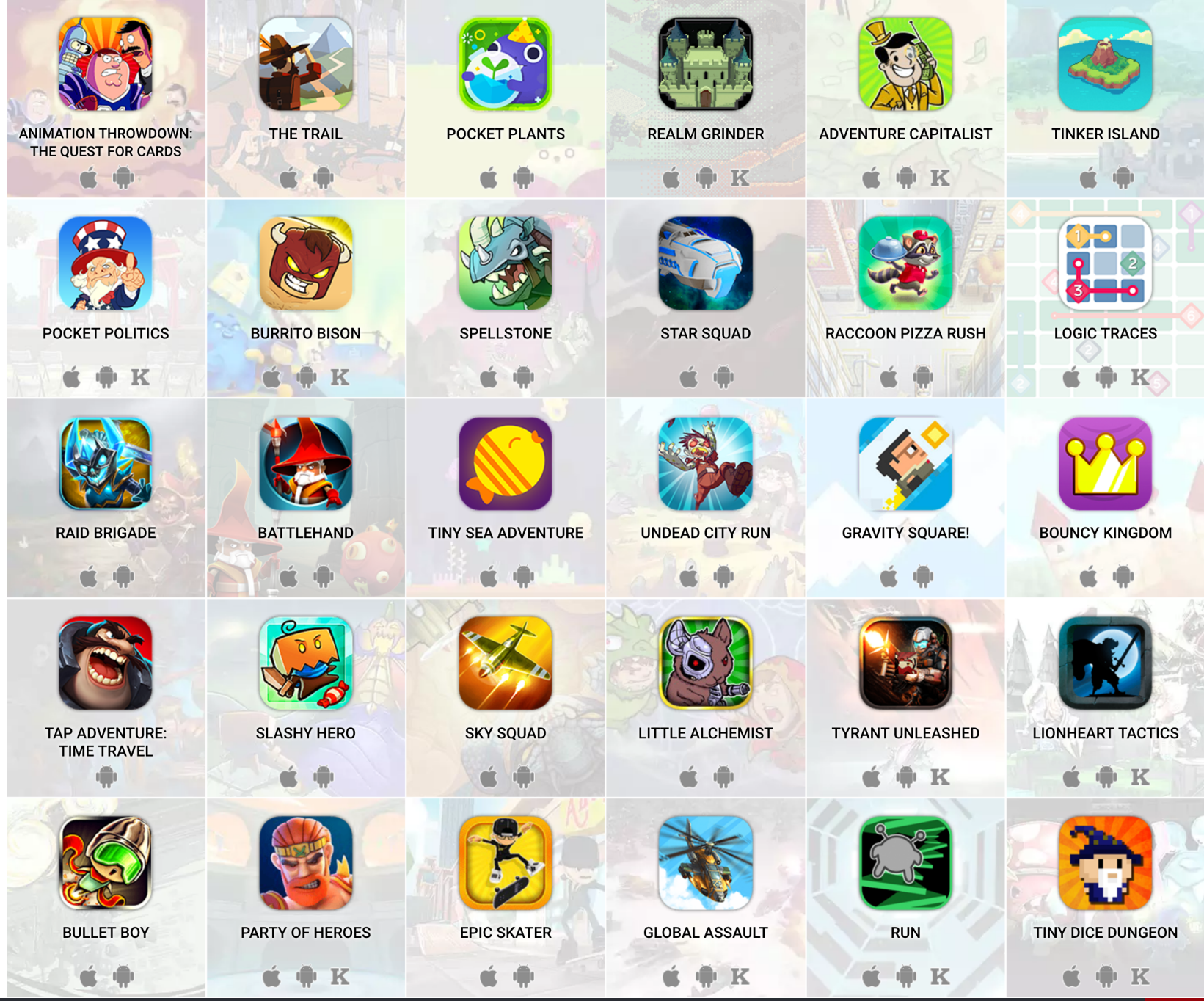
Web Platform

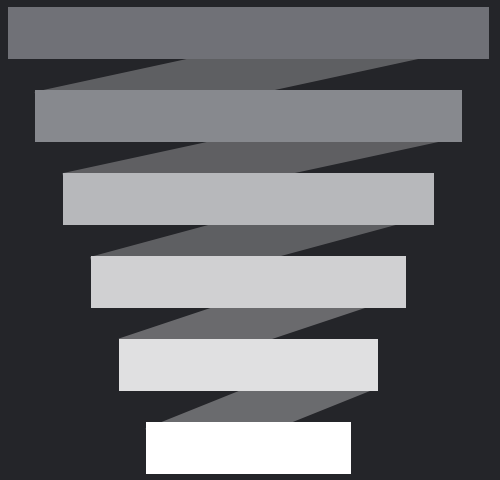
100,000+ Uploaded Games

Mobile Publisher

30+ Games

100M+ Downloads





Games that **grow**

The two ends of the **funnel**

Build Games That Can Grow

Goal: ROI Positive

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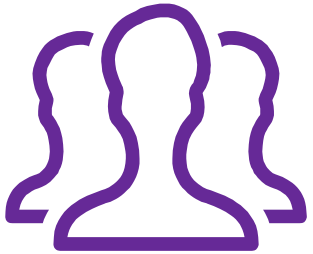

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Higher **LTV**

Strong Game Mechanics

Lower **CPI**

Approachable Art

Positive **ROI**

LTV > CPI

UA Costs by Theme and Genre

CPI widely vary based on the game's theme theme, art style and genre

Casual: **Low CPIs**

Mid-Core: **Medium CPIs**

Core: **High CPIs**

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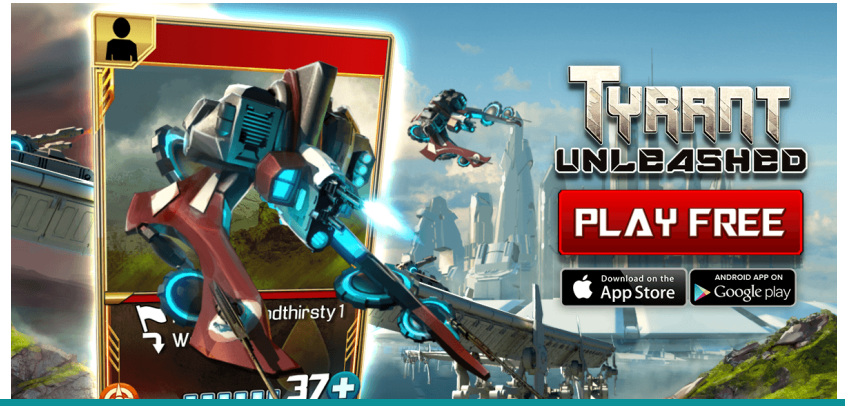
Mid-Core: **Medium CPIs**

Core: **High CPIs**

Known IPs: **Low CPIs**

Fantasy: Medium **CPIs**



Sci-Fi: **High CPIs**

KPIs by Genre

Genres have performance “bands”

Core design decisions drive core KPIs

(There are always exceptions)

CCG & RPG

BattleHand

RTS

Star Squad

Incremental / Clicker

AdCap

Runner

Bullet Boy

Arcade

Tiny Sea Adventure

KPIs by Genre

Mode: most frequent behavior

genre	# of games	d1	d7	d30	aprdau	ltv (180 days)
CCG & RPG	7+	35%	10%	3%	$0.30 - $1.00	$1.5 - $5.0
RTS	4	40%	20%	10%	$0.10 - $0.20	$1.3 - $3.5
Idle / Incremental	5+	45%	25%	15%	$0.08	$1.5
Runner	5	35%	8%	1%	$0.03	$0.10
Arcade	5	20%	5%	1%	< $0.01	$0.02

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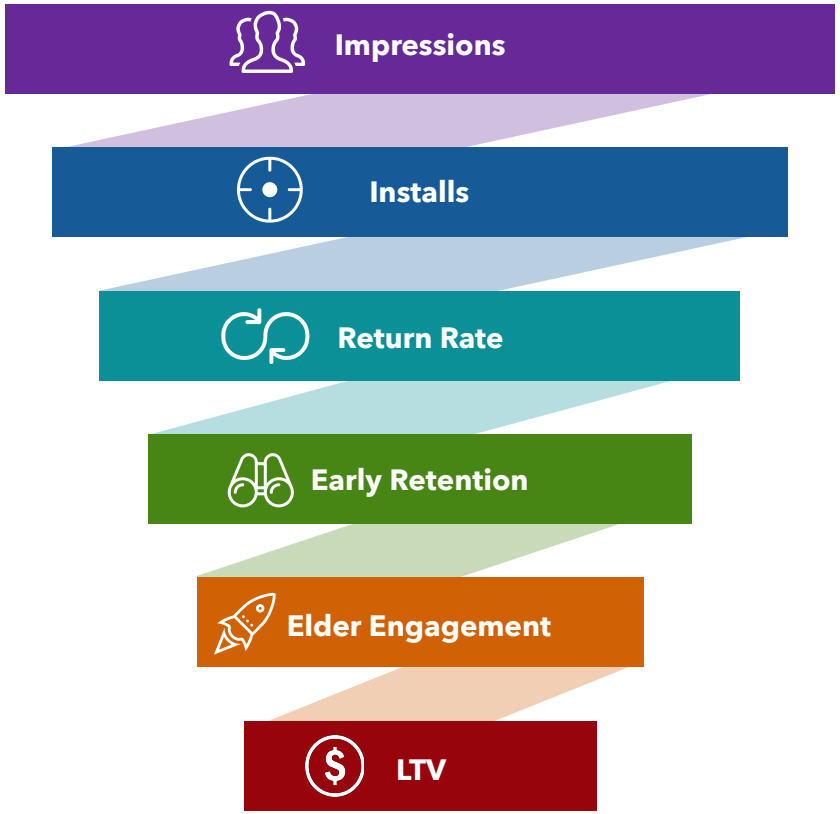
Funnel Optimization

Every step matters



Funnel Optimization

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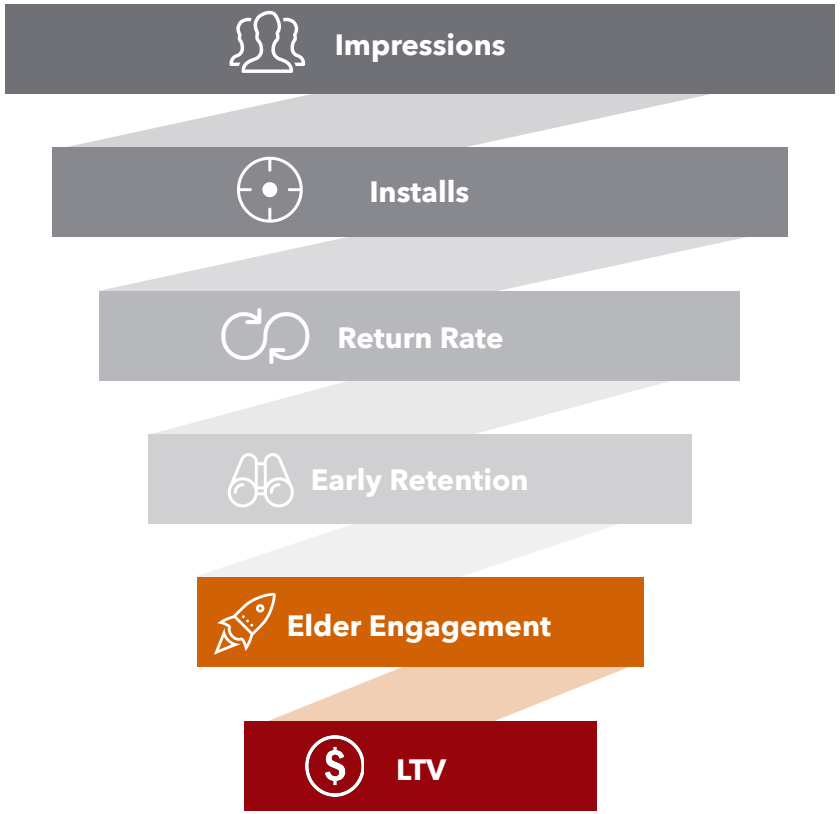


Looking beyond early KPIs

After all, LTV is **lifetime** value

Player Retention

Time in Game

retention

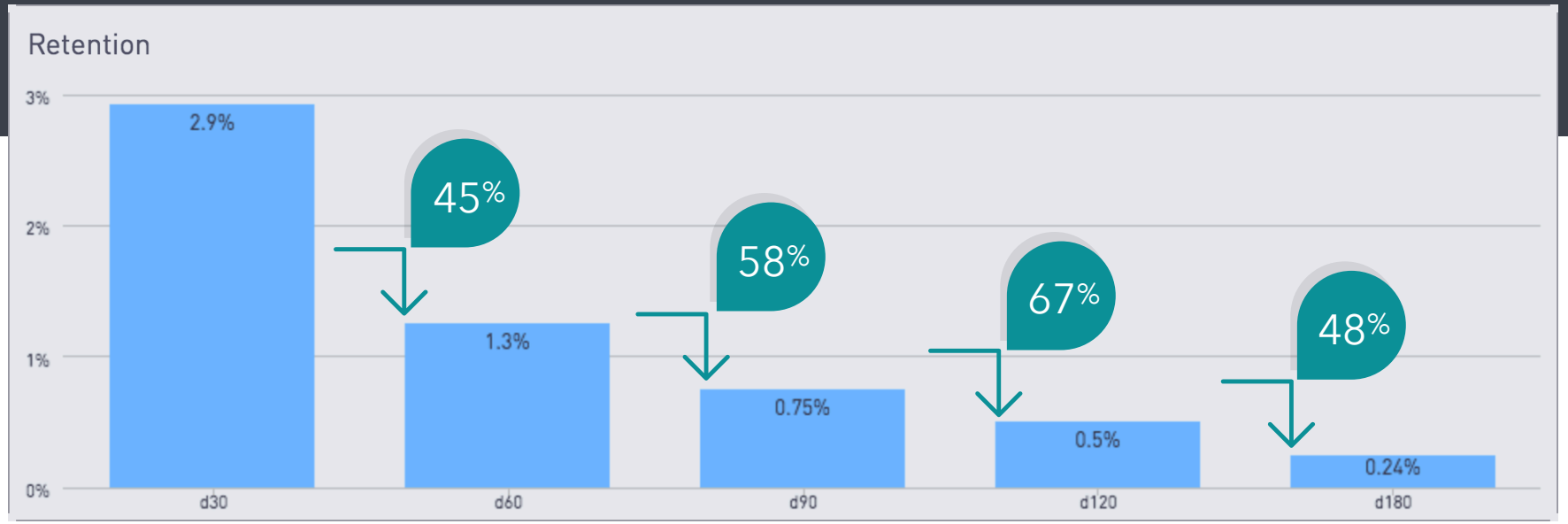
Early Retention

Comparison: Raid Brigade has much stronger d1-d7 retention

	Raid Brigade	Tyrant Unleashed
genre	ARPG	CCG
d1	36%	22%
d7	13%	7%
d30	3%	3%

Elder Retention

Looking beyond d30



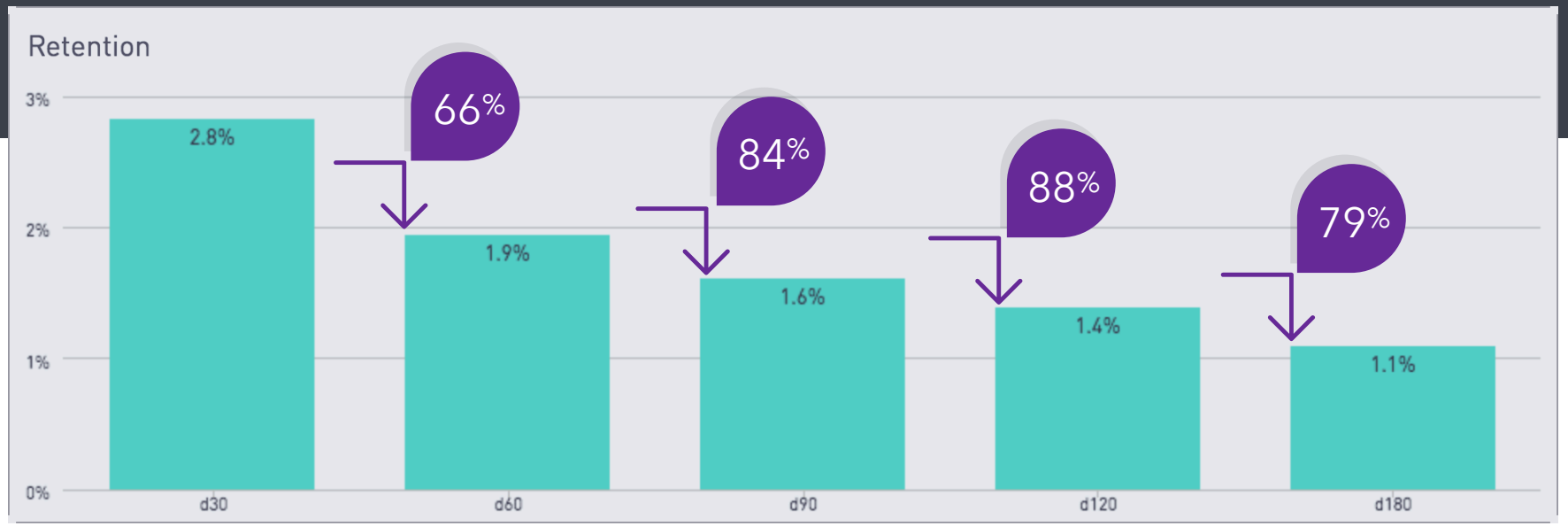
Raid Brigade

Halves every 30 day period

8% retained from d30 to d180

Elder Retention

Looking beyond d30



Tyrant Unleashed

Similar starting point (d30)

Players who retain after d30, stay for a long time

40% retained from d30 to d180

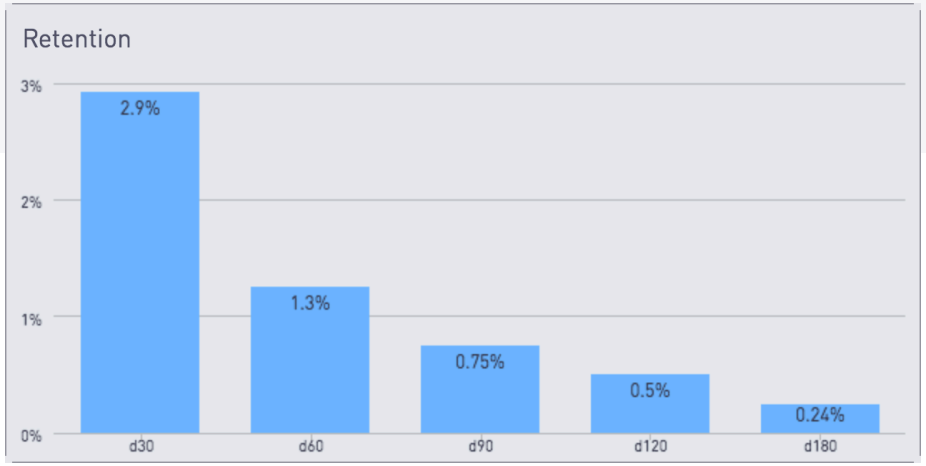
Looking Beyond

d1 - d30 doesn't tell the whole story

Raid Brigade

d1 = 36%

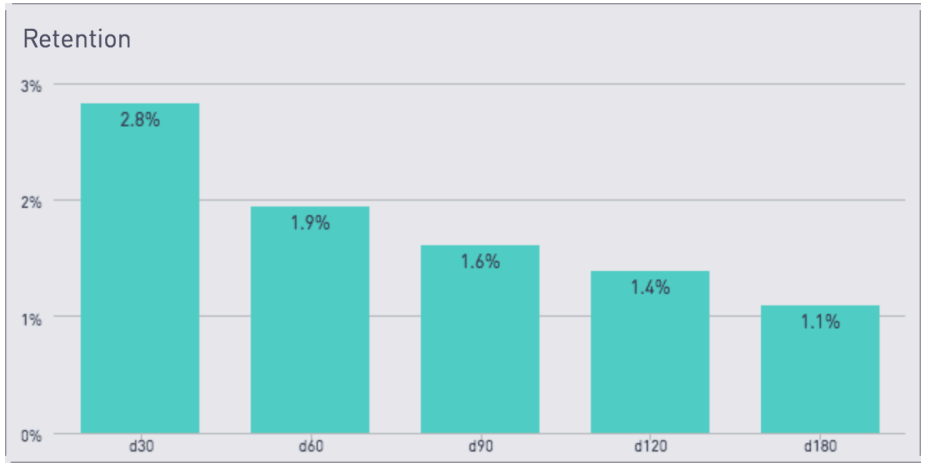
d180 = **0.24%**



Tyrant Unleashed

d1 = 22%

d180 = **1.1%**



Look beyond **d30**

Lifetime Spend

Desire to Spend

arpdau

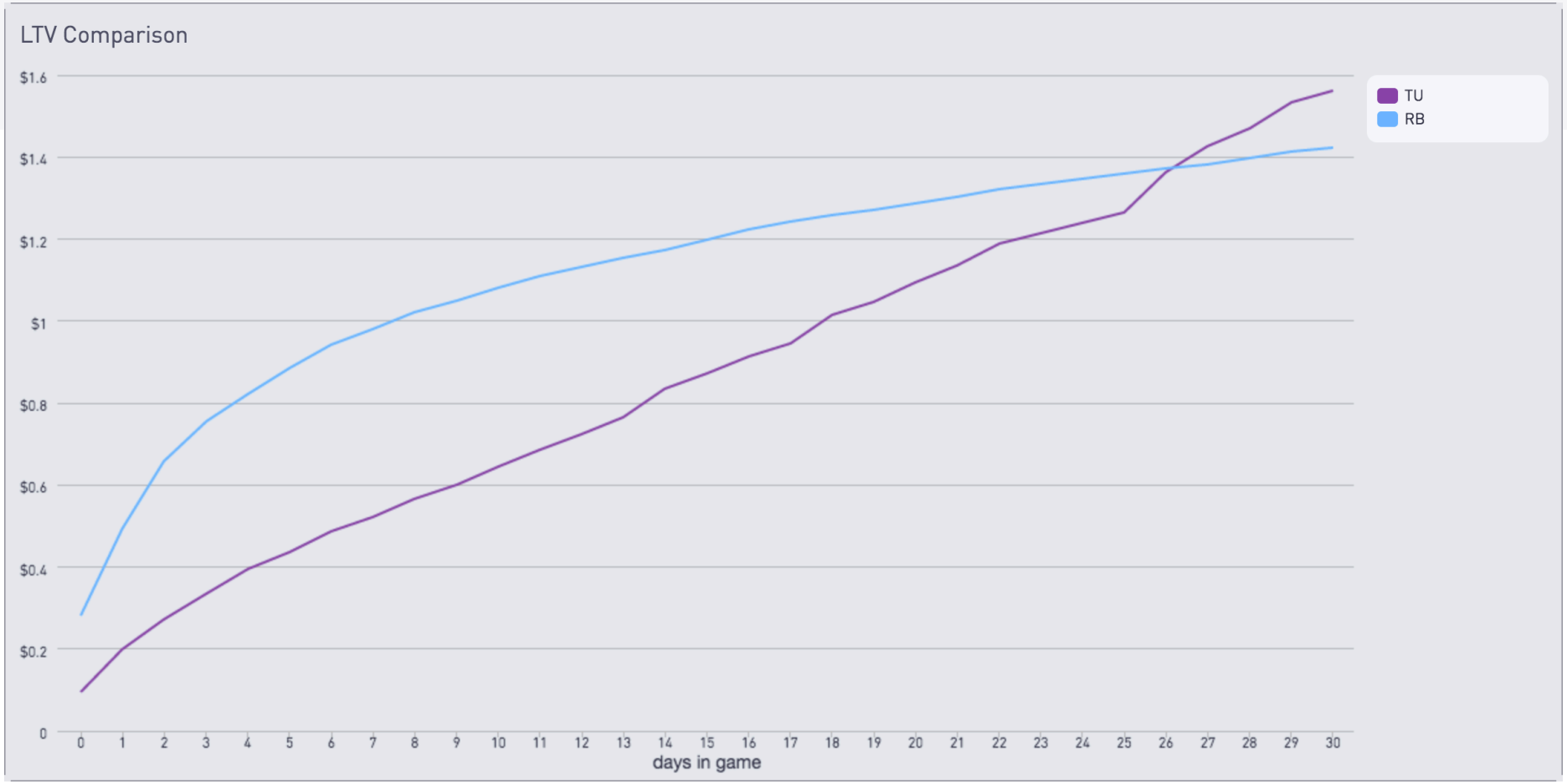
Lifetime Spend

Comparison: Tyrant's LTV is more than double

	Raid Brigade	Tyrant Unleashed
genre	ARPG	CCG
d1	36%	22%
d7	13%	7%
d30	3%	3%
arpdau	$0.40	$0.63
ltv (180d)	$1.9	$4.7

Comparing d30 LTV

Tyrant 10% higher due to stronger ARPDAU



Comparing d30 LTV

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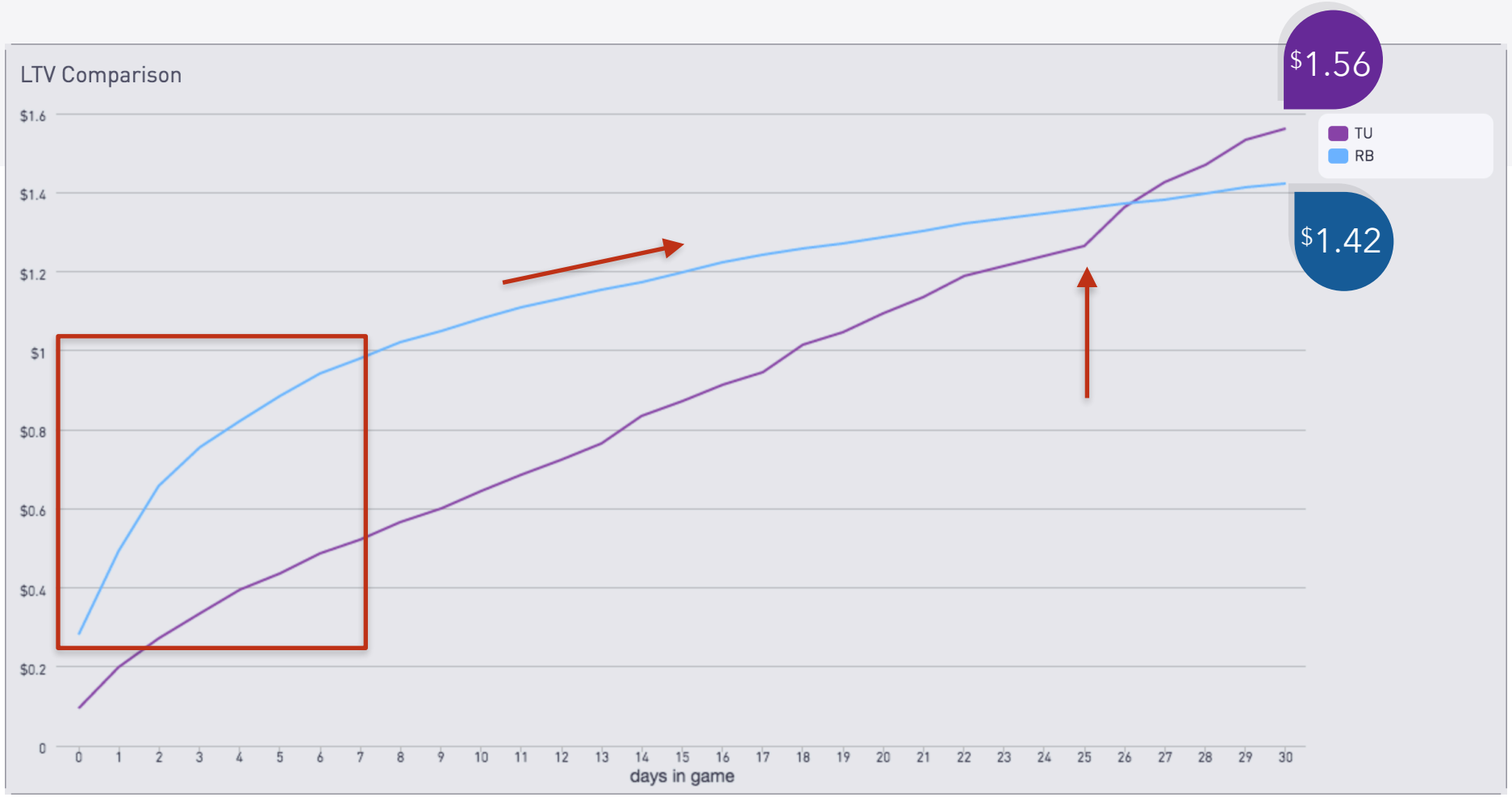
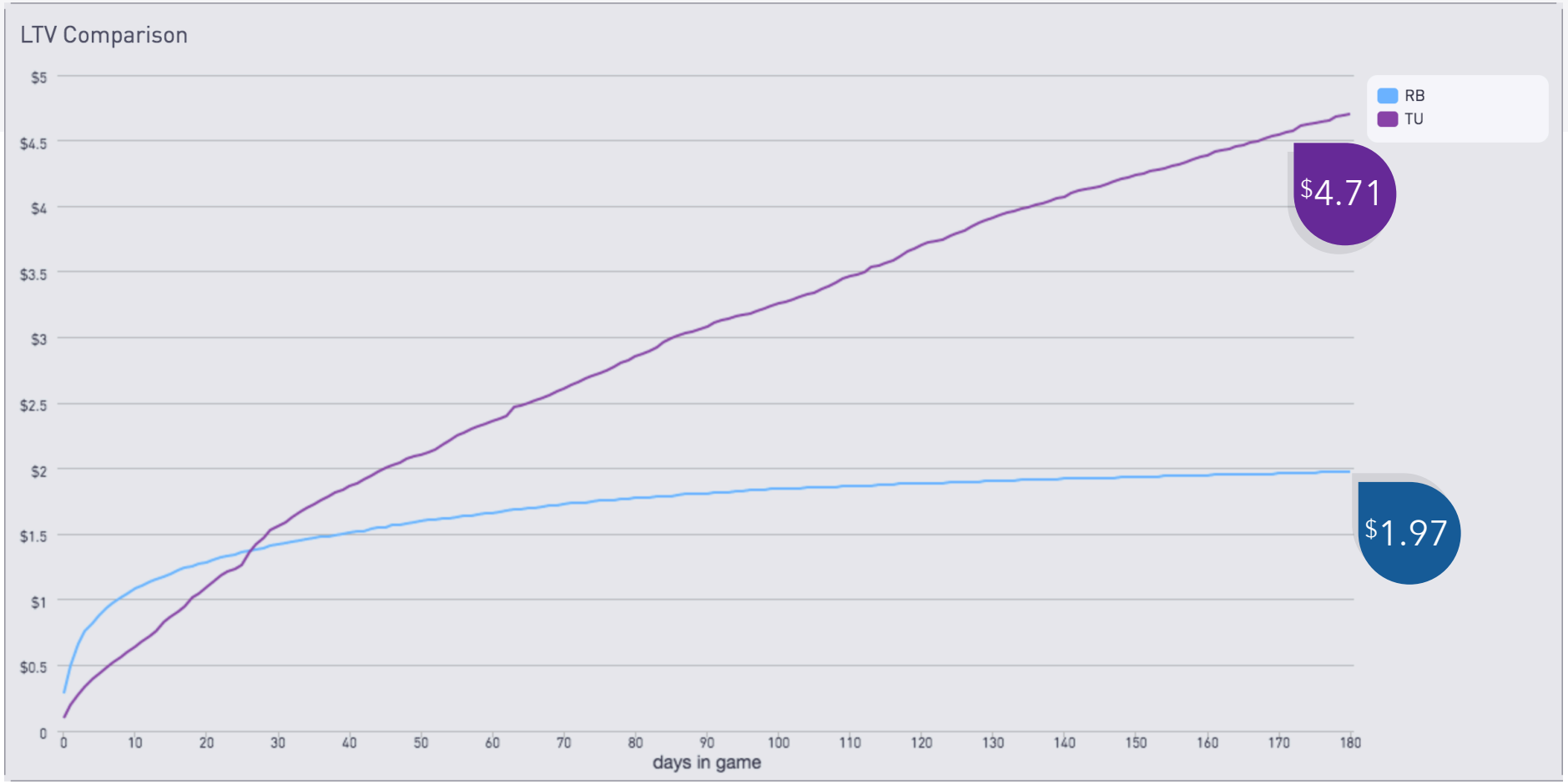


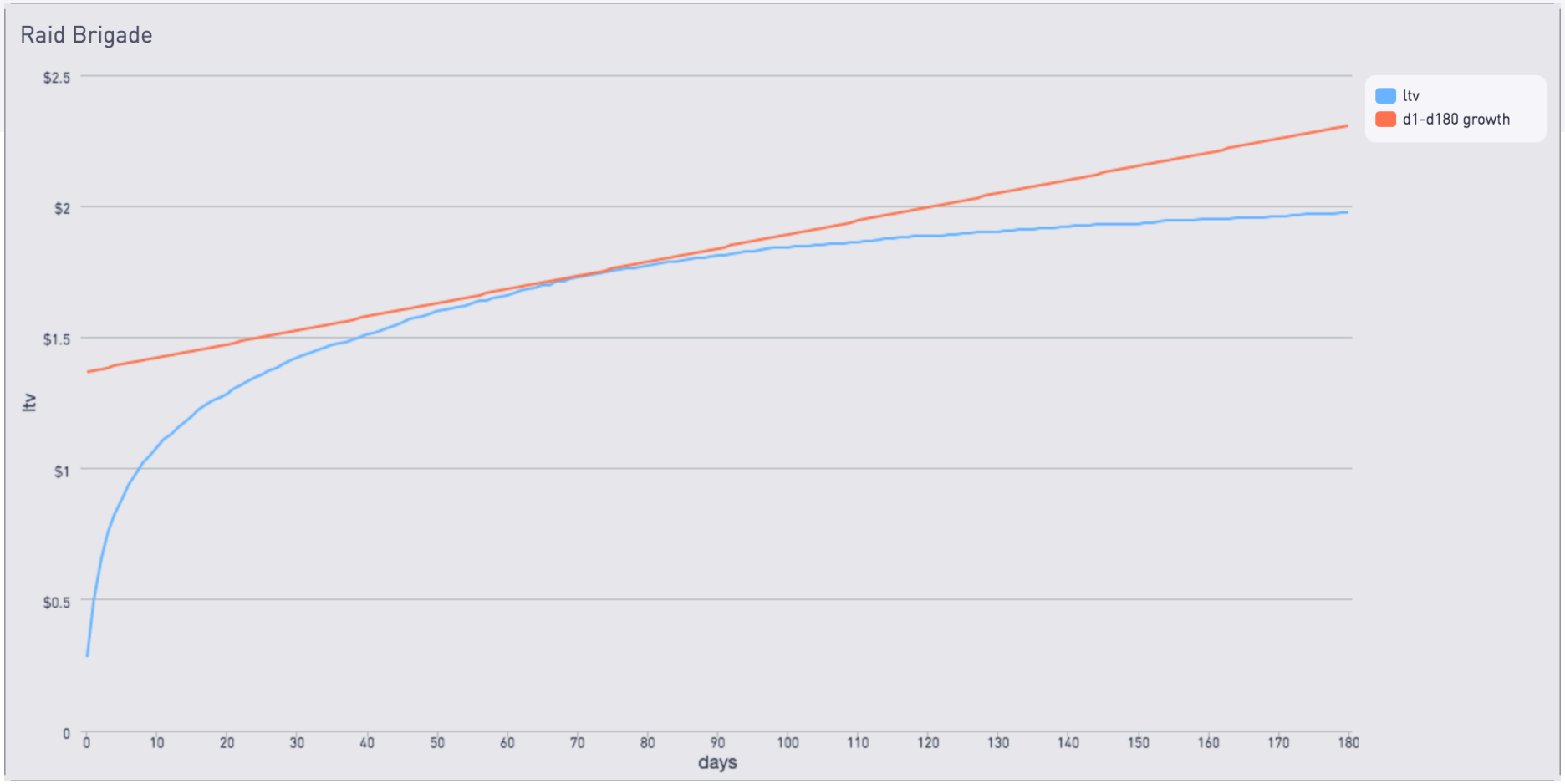
Comparing d180 LTV

Tyrant LTV grows faster



Rate of Growth

Slope => How fast does LTV grow?



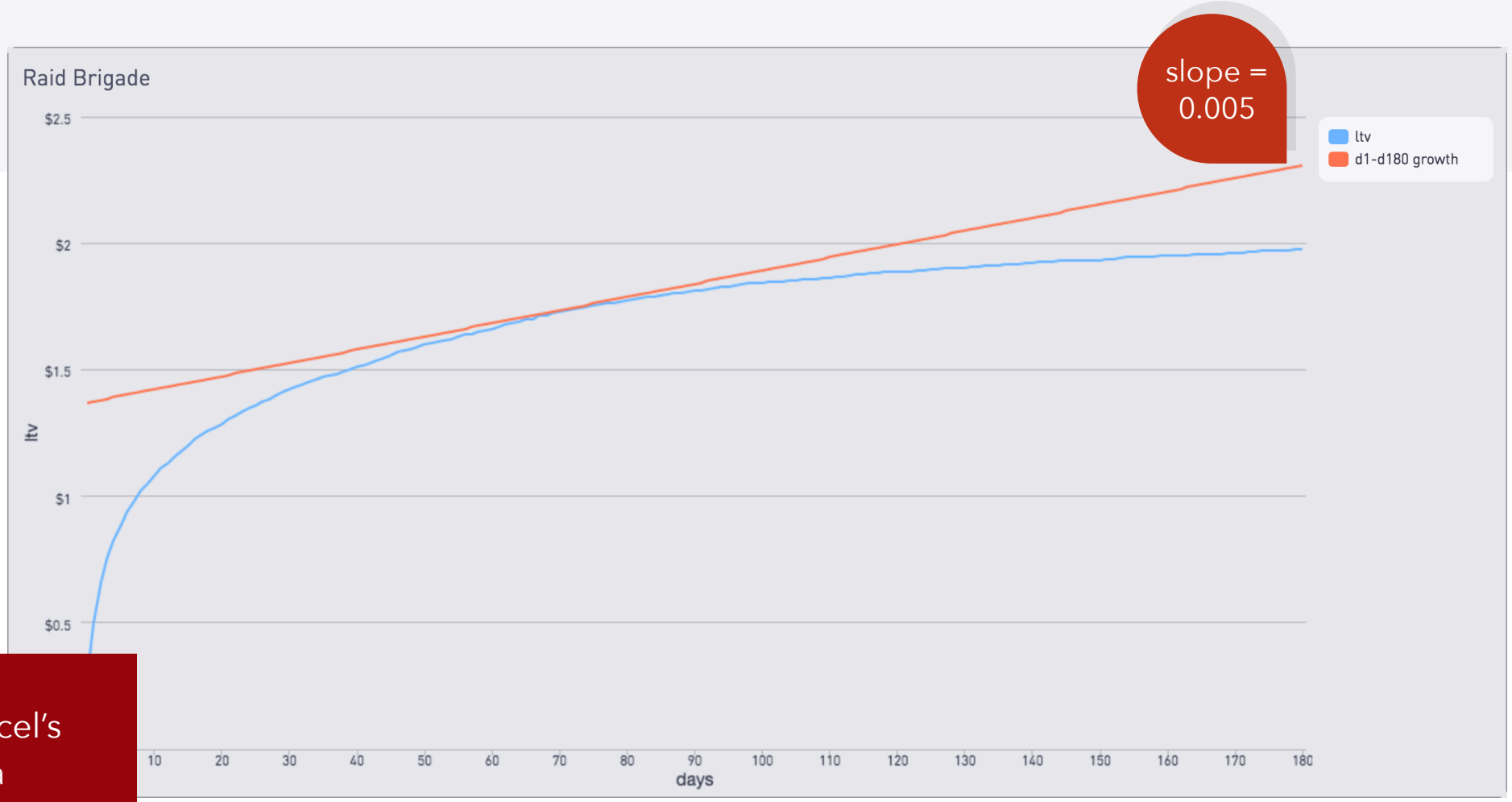
Rate of Growth

Slope => How fast does LTV grow?

1. Linear Regression
2. Slope

Rate of Growth

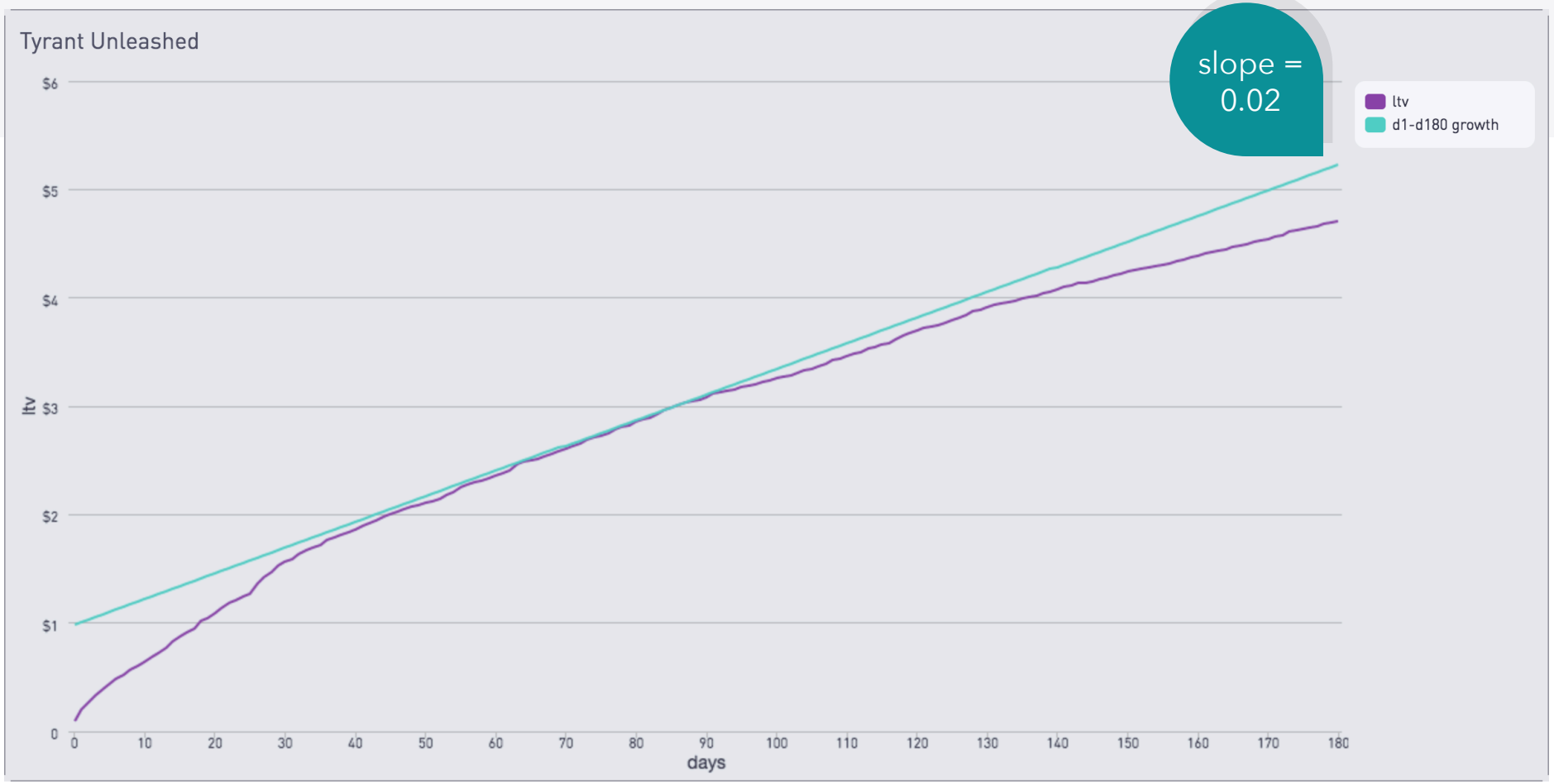
Slope => How fast does LTV grow?



or just use excel's *slope* formula

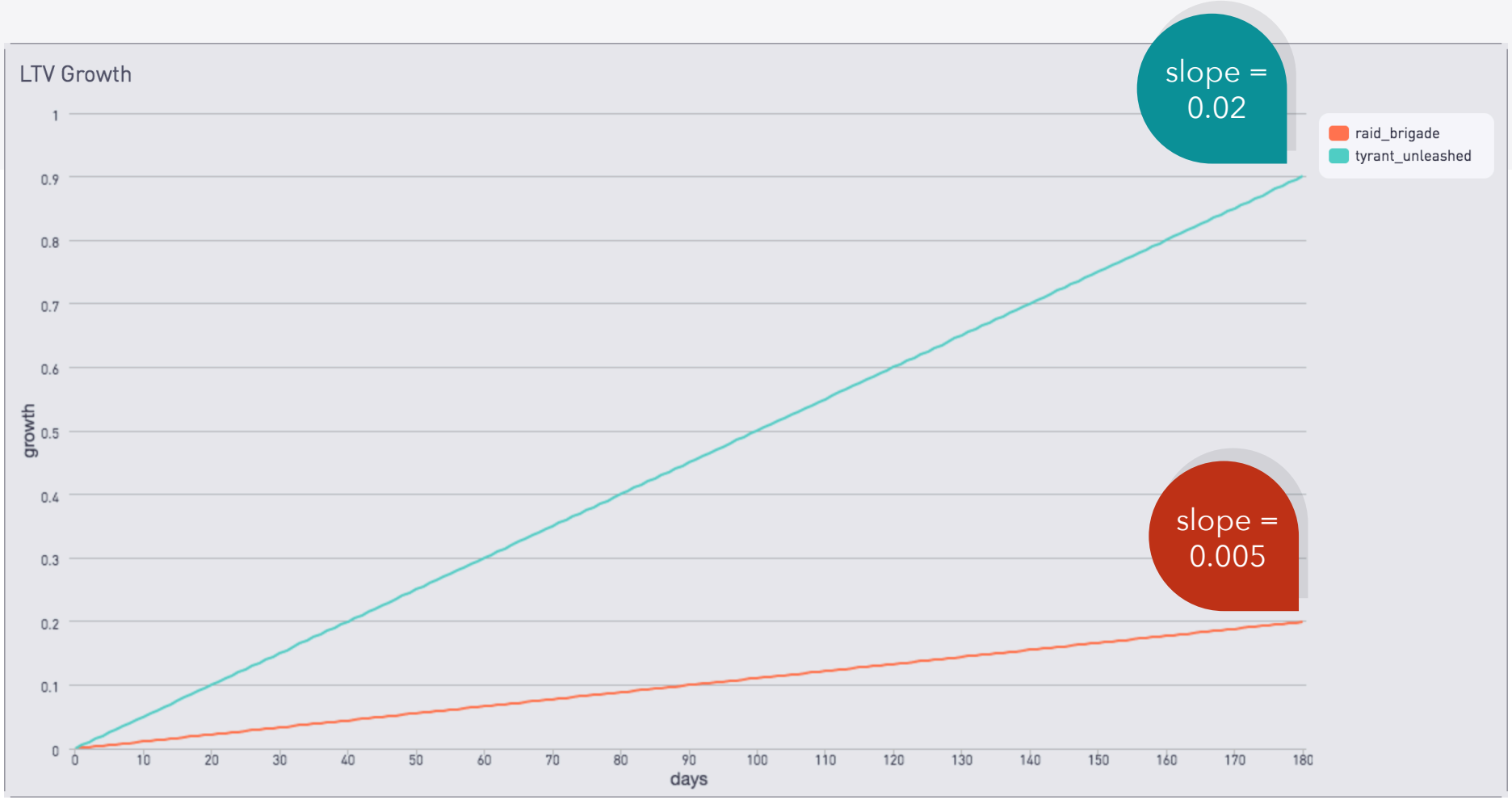
Rate of Growth

The longer players stay => the larger their investment



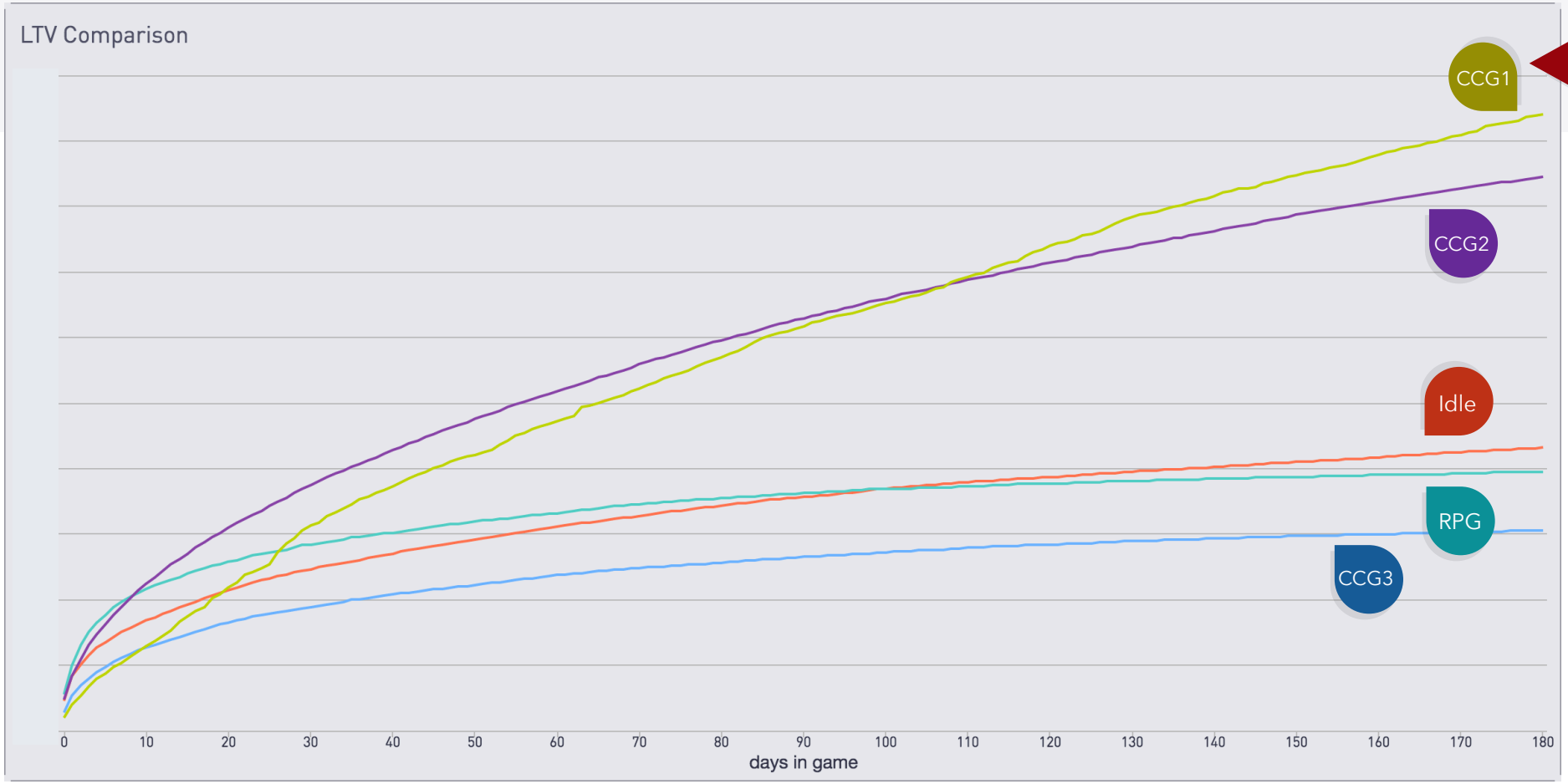
Comparing Growth

Tyrant Unleashed vs. Raid Brigade



Comparing d180 LTV

Different games, different growth patterns



CCG1 3x CCG3

LTV Growth can **accelerate** after d30

Lifetime Value

Time in Game

retention

*

Desire to Spend

arpdau

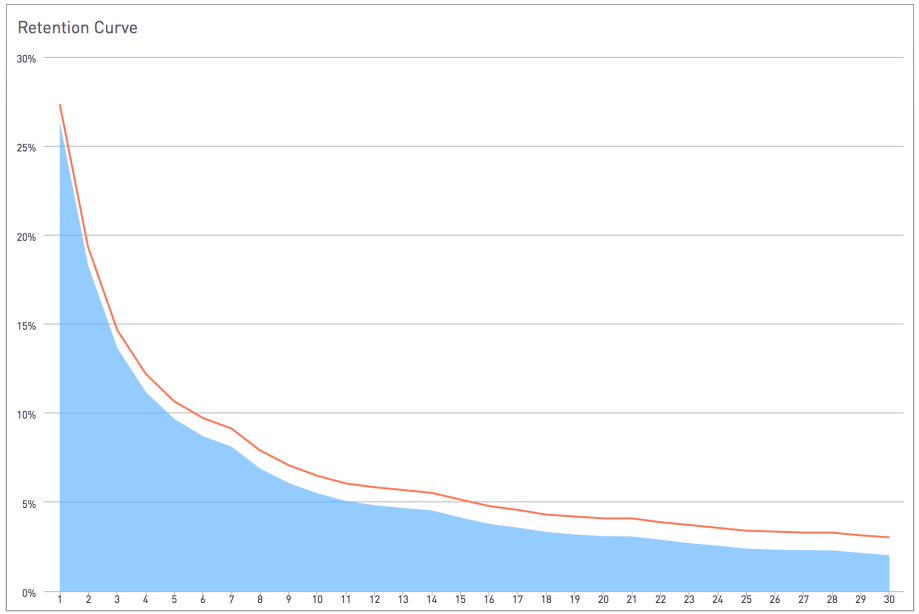
=

Player Value

ltv

Projecting LTVs

Simple LTV calculation



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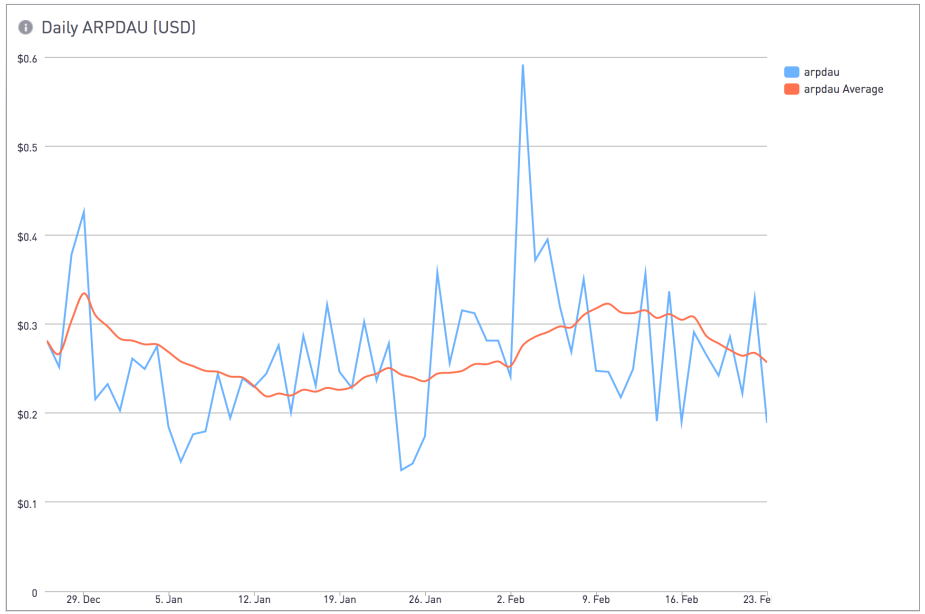


Player Lifetime

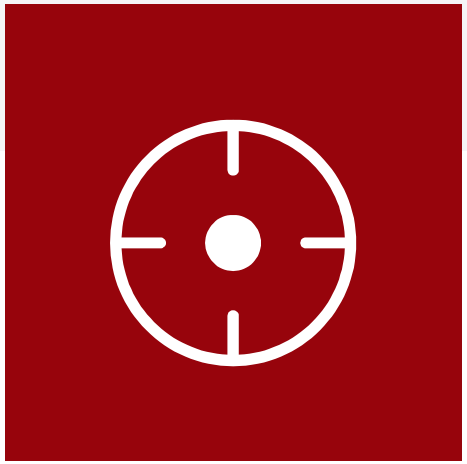
Area under the retention curve

Player Value by Day

ARPDAU

Projecting LTVs

Use retention and monetization curves



Accuracy

Similar to retention

Use the monetization curve

Projecting LTVs

Use retention and monetization curves

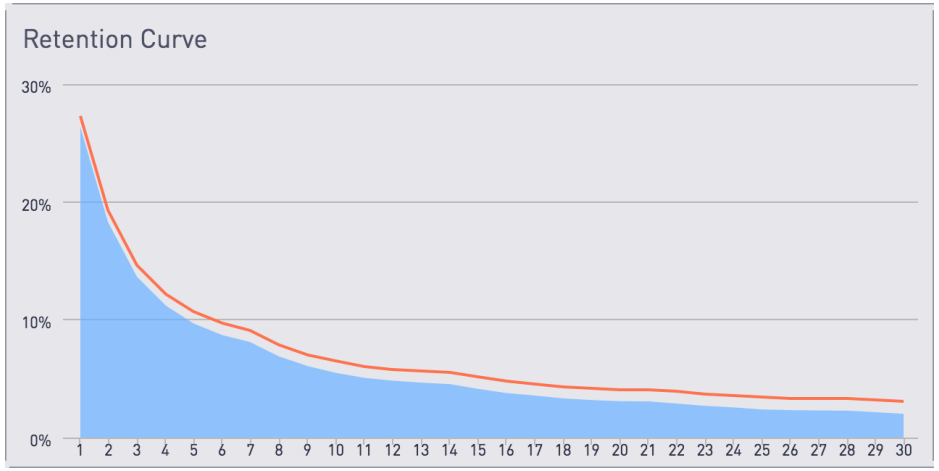
Accuracy

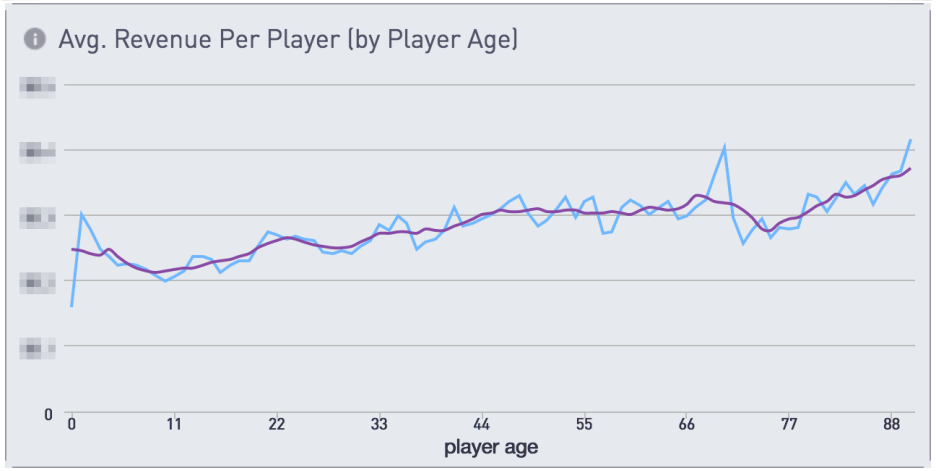
Similar to retention

Use the monetization curve

	Inputs	
Retention		
d1	40.0%	
d7	20.0%	
d30	10.0%	
d90	n/a	
d180	n/a	
Monetization (by player age)		
d1	$0.05	
d7	$0.15	
d30	$0.20	
d90	$0.30	

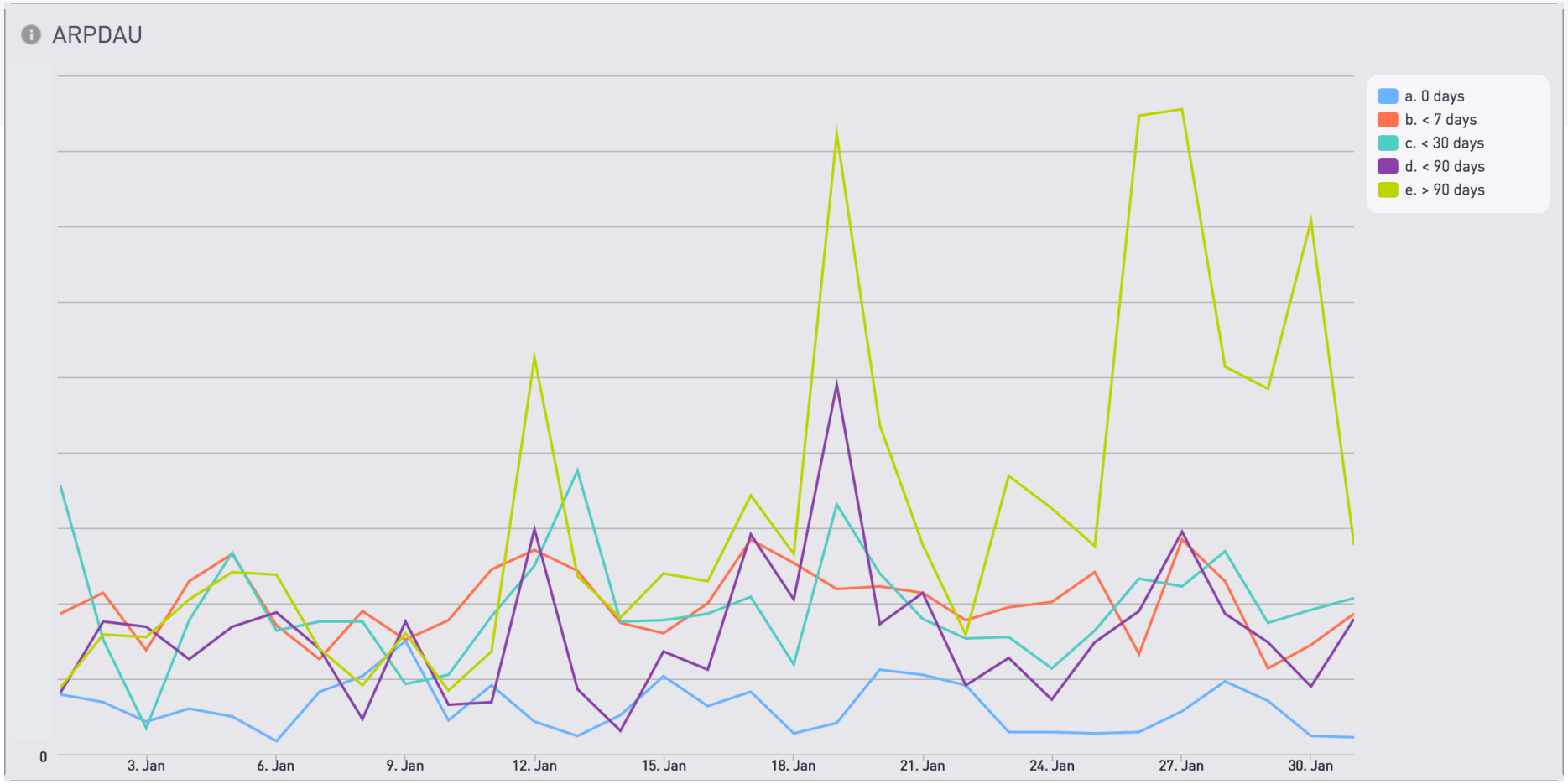
Outputs	
Projected LTVs IAP Only	
3 mo	$1.83
6 mo	$2.80
12 mo	$3.54
18 mo	$3.65





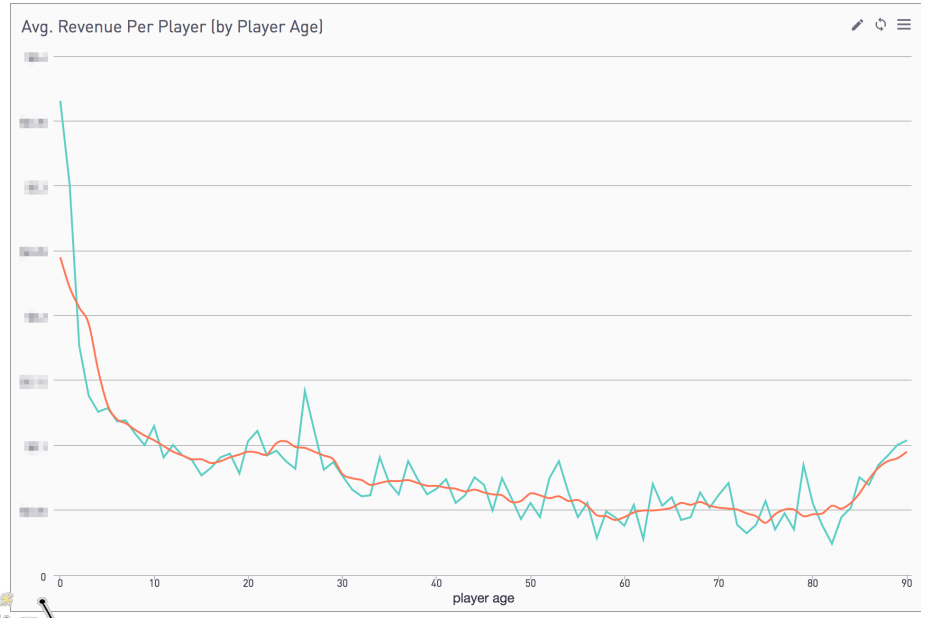
Projecting LTVs

Daily revenue comes from players of all ages



Projecting LTVs

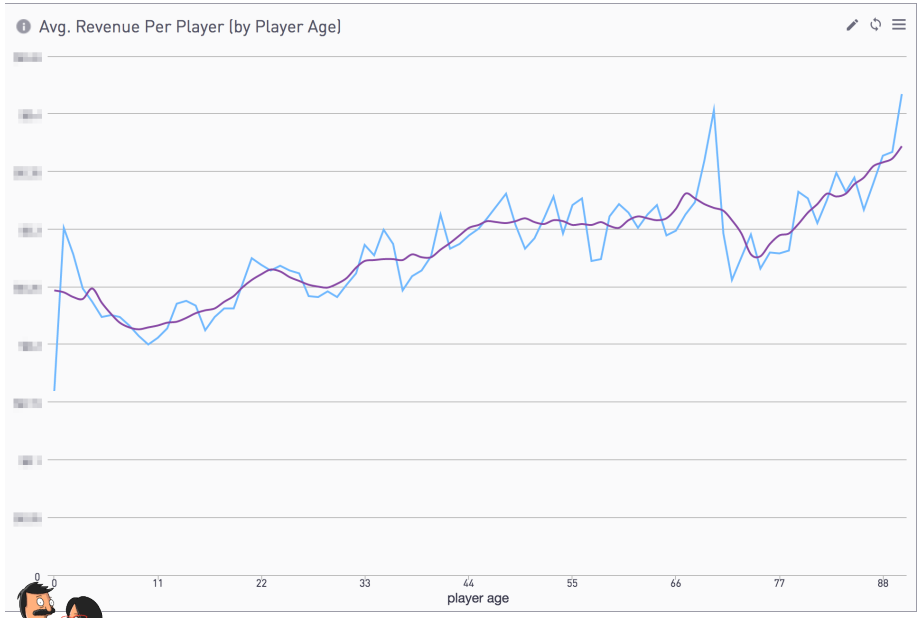
Spend patterns vary by game and genre



Upfront Spend

Highest spend on d0

Some growth after d80



Deep Monetization

Lowest spend on d0

Spend doubles from d0 to d90

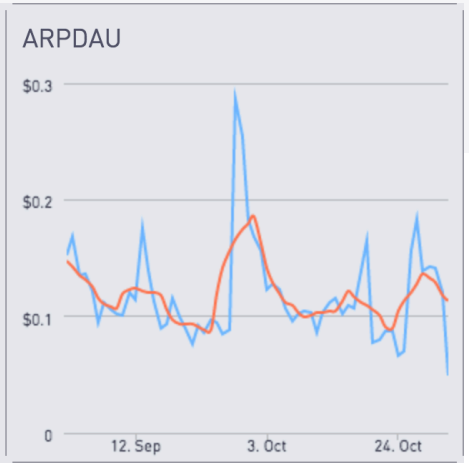
Projecting LTVs

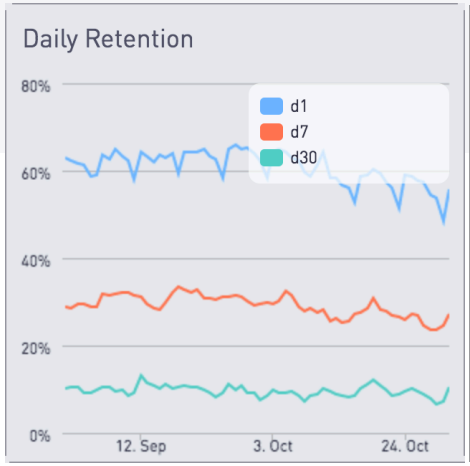
Example A: Upfront Monetization

1

$0.119

Avg. ARPDAU





Flat ARPDAU

6 mo. LTV: **$1.60**

Projecting LTVs

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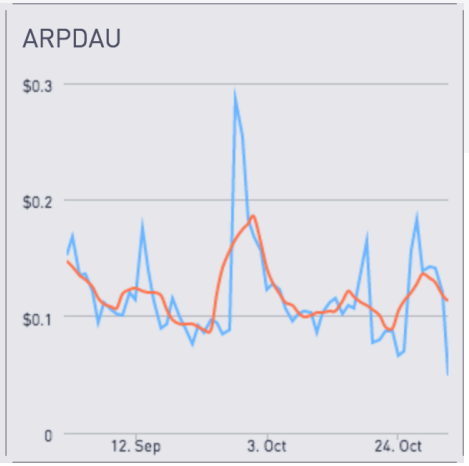
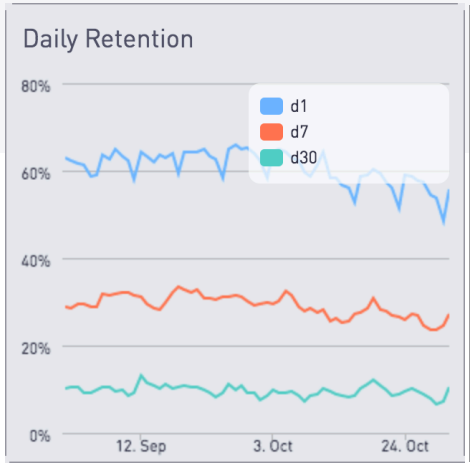
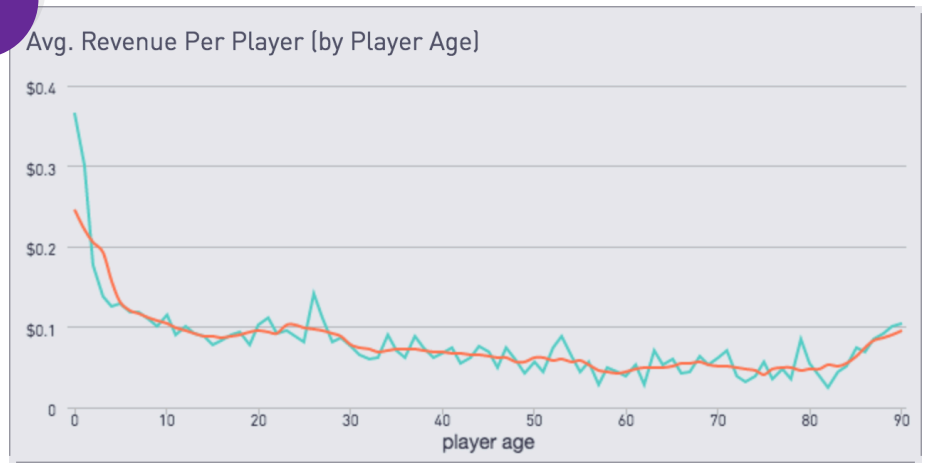




Flat ARPDAU

6 mo. LTV: **$1.60**

2



Inputs	
Retention	
d1	60.0%
d7	30.0%
d30	10.0%
Monetization (by player age)	
d1	$0.35
d7	$0.12
d30	$0.06
d90	$0.05

ARPDAU **Curve**

6 mo. LTV: **$1.36**

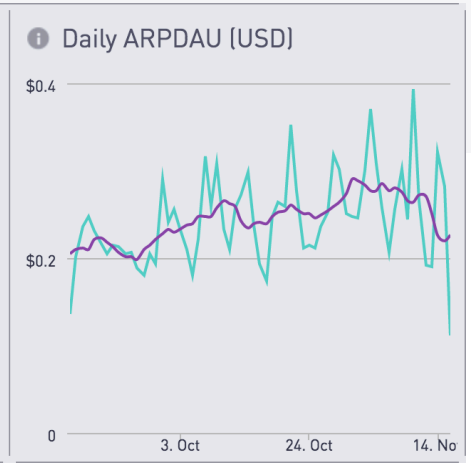
Projecting LTVs

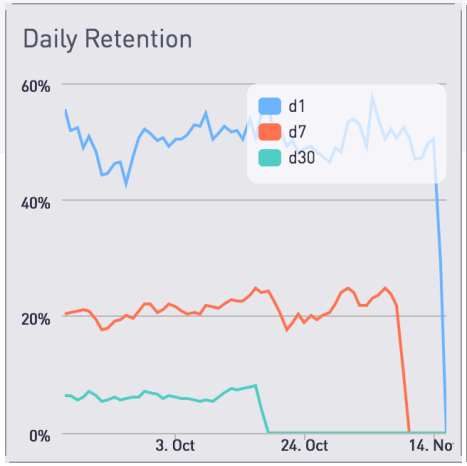
Example B: Deep Monetization

1

$0.244

Avg. ARPDAU (USD)





Flat ARPDAU

6 mo. LTV: **$2.02**

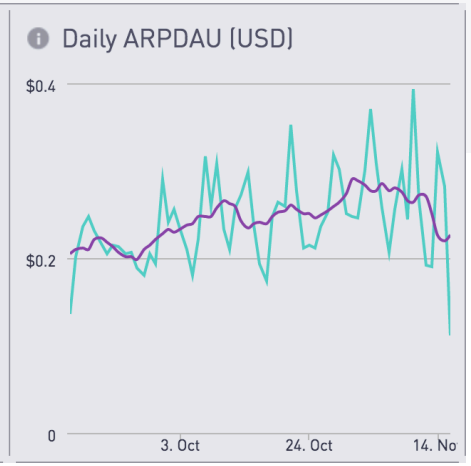
Projecting LTVs

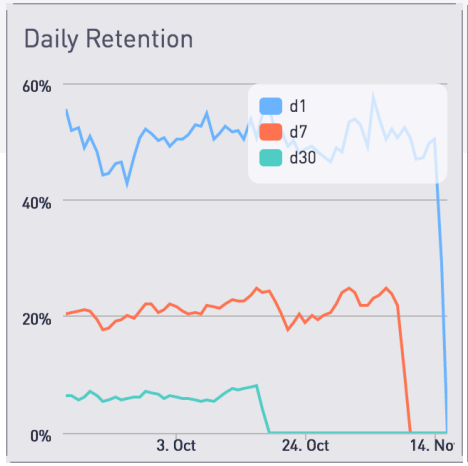
Example B: Deep Monetization

1

$0.244

Avg. ARPDAU (USD)

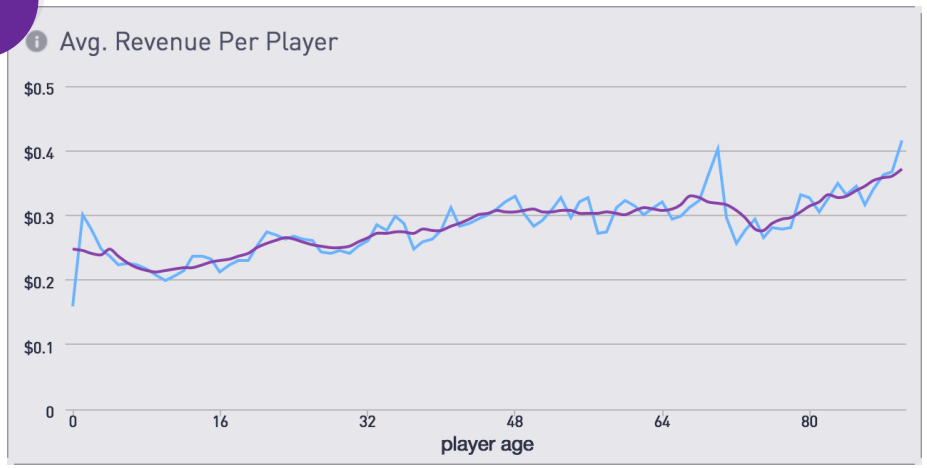




Flat ARPDAU

6 mo. LTV: **$2.02**

2



Inputs	
Retention	
d1	50%
d7	20%
d30	6%
Monetization (by player age)	
d1	$0.22
d7	$0.20
d30	$0.24
d90	$0.40

ARPDAU **Curve**

6 mo. LTV: **$2.62**

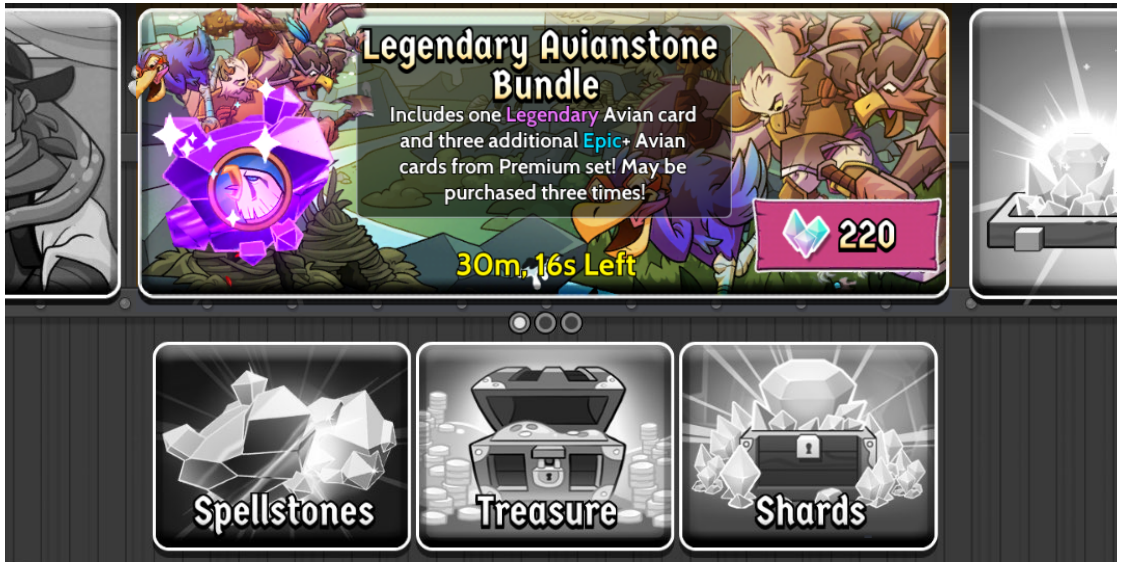
Spending curve **to project LTVs**

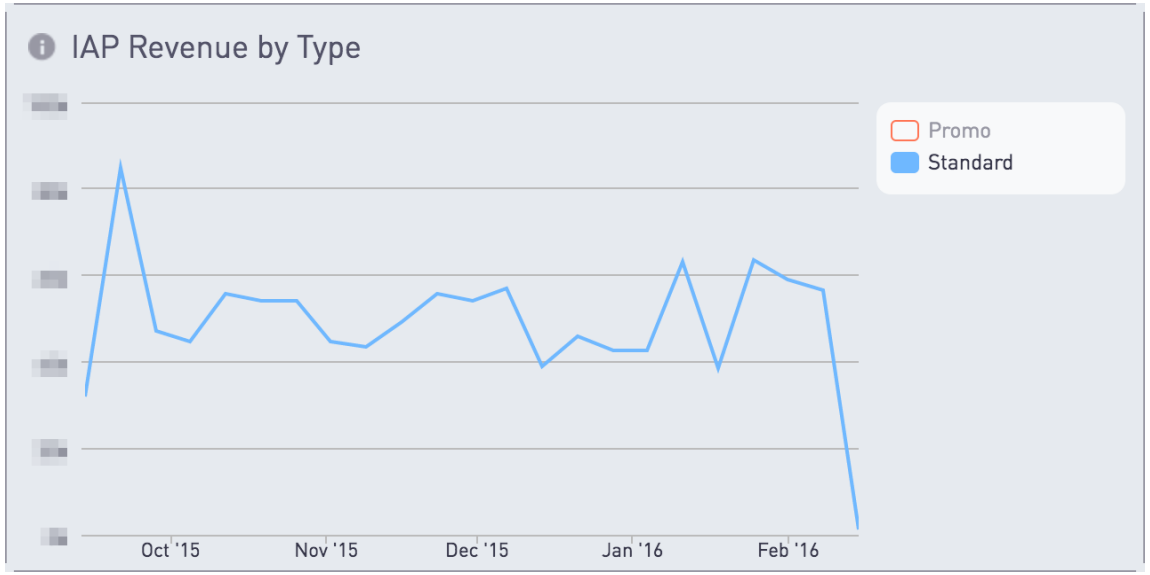
Live servicing is crucial

Maximizes **long term** KPIs

Content **Cadence**

New content, regularly

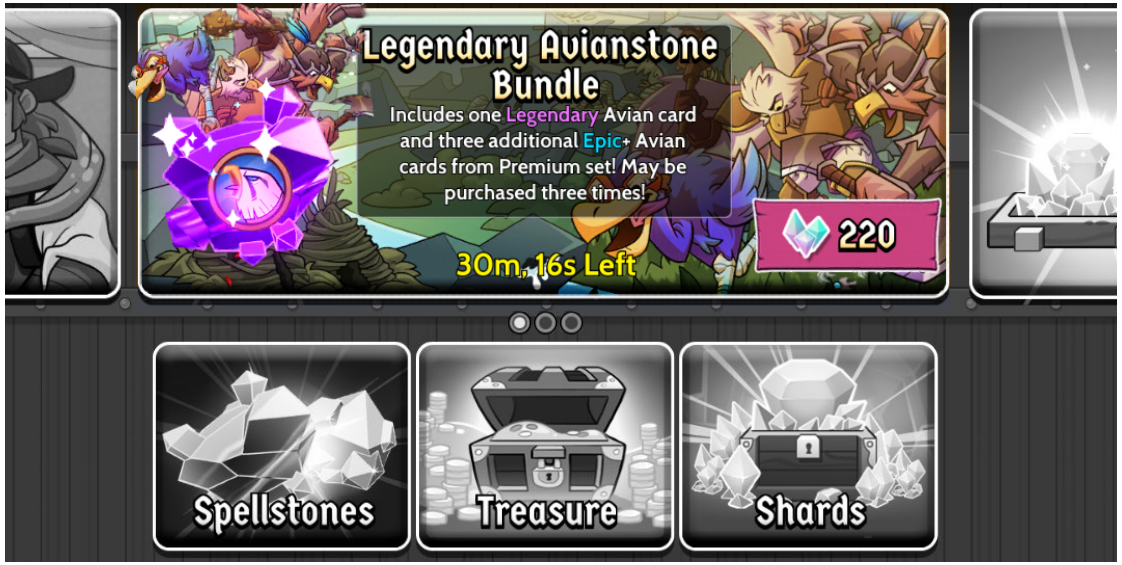




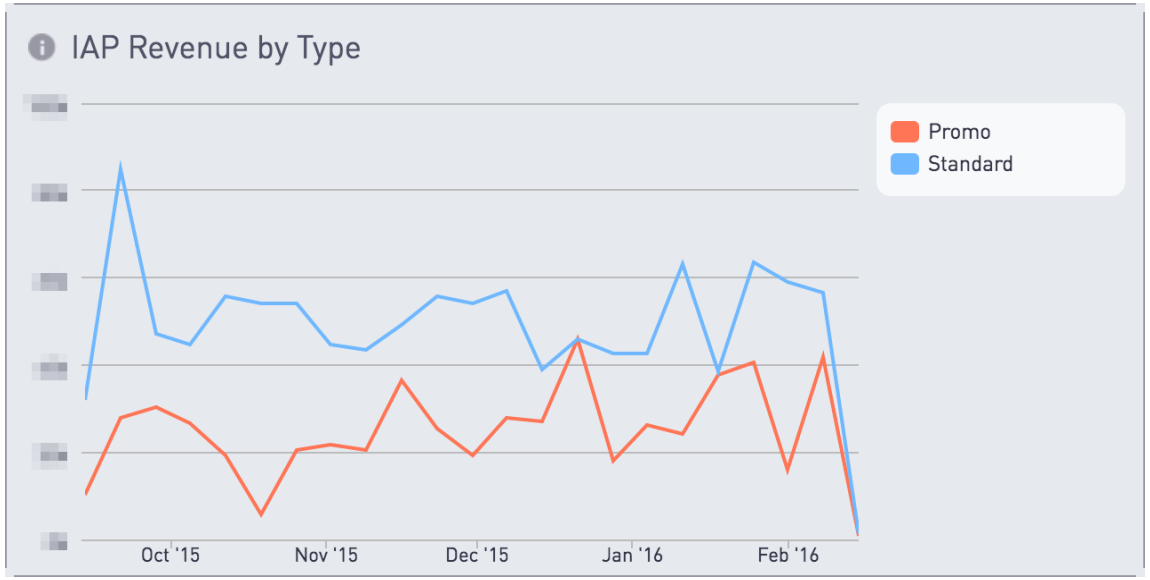
Limited time packs and bundles

Content **Cadence**

New content, regularly



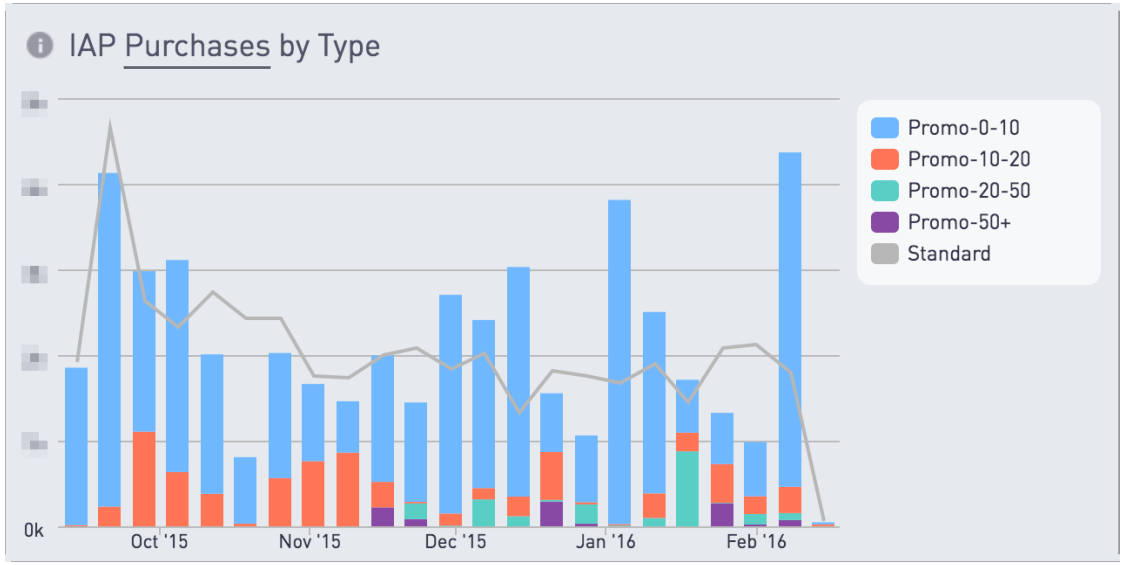
Limited time packs and bundles



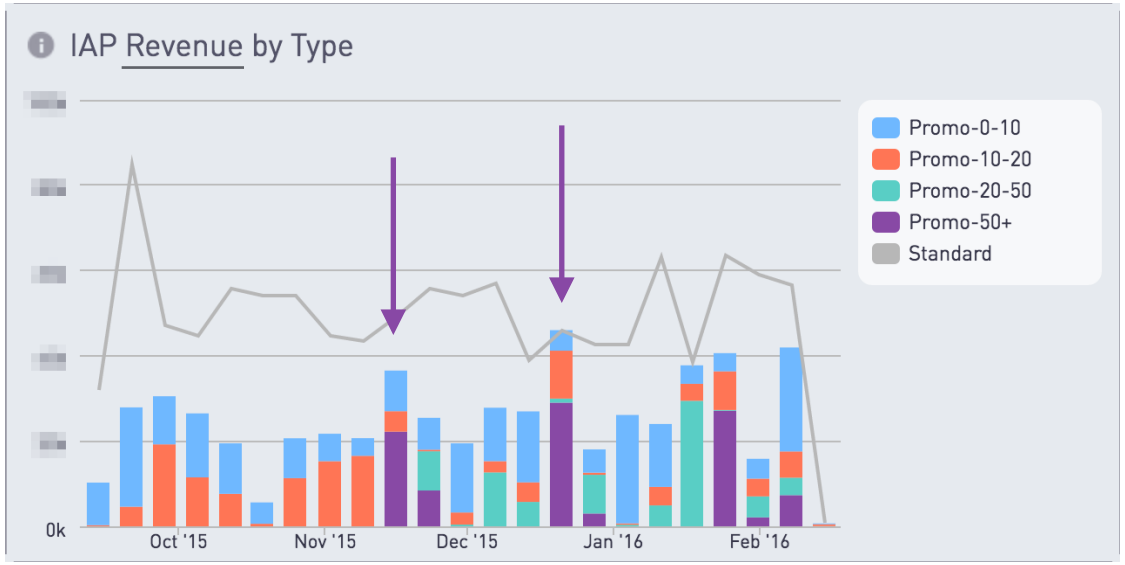
Increase revenue baseline

Target Different **Player Types**

Different approaches, similar lifts



Lower price points generate **more purchases**



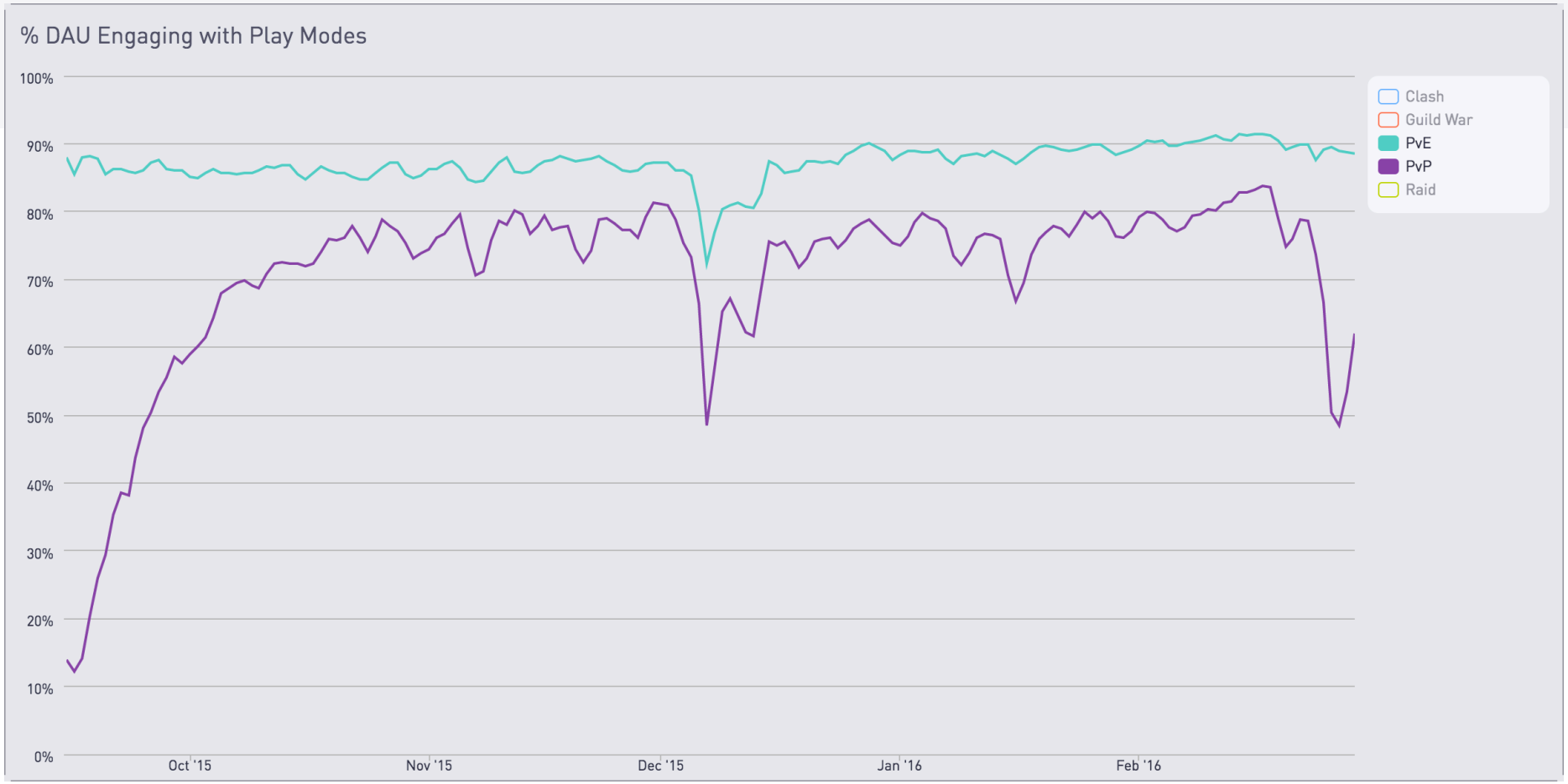
Higher price points offset fewer purchases

Limited Time Events

Adding content without hurting core play modes

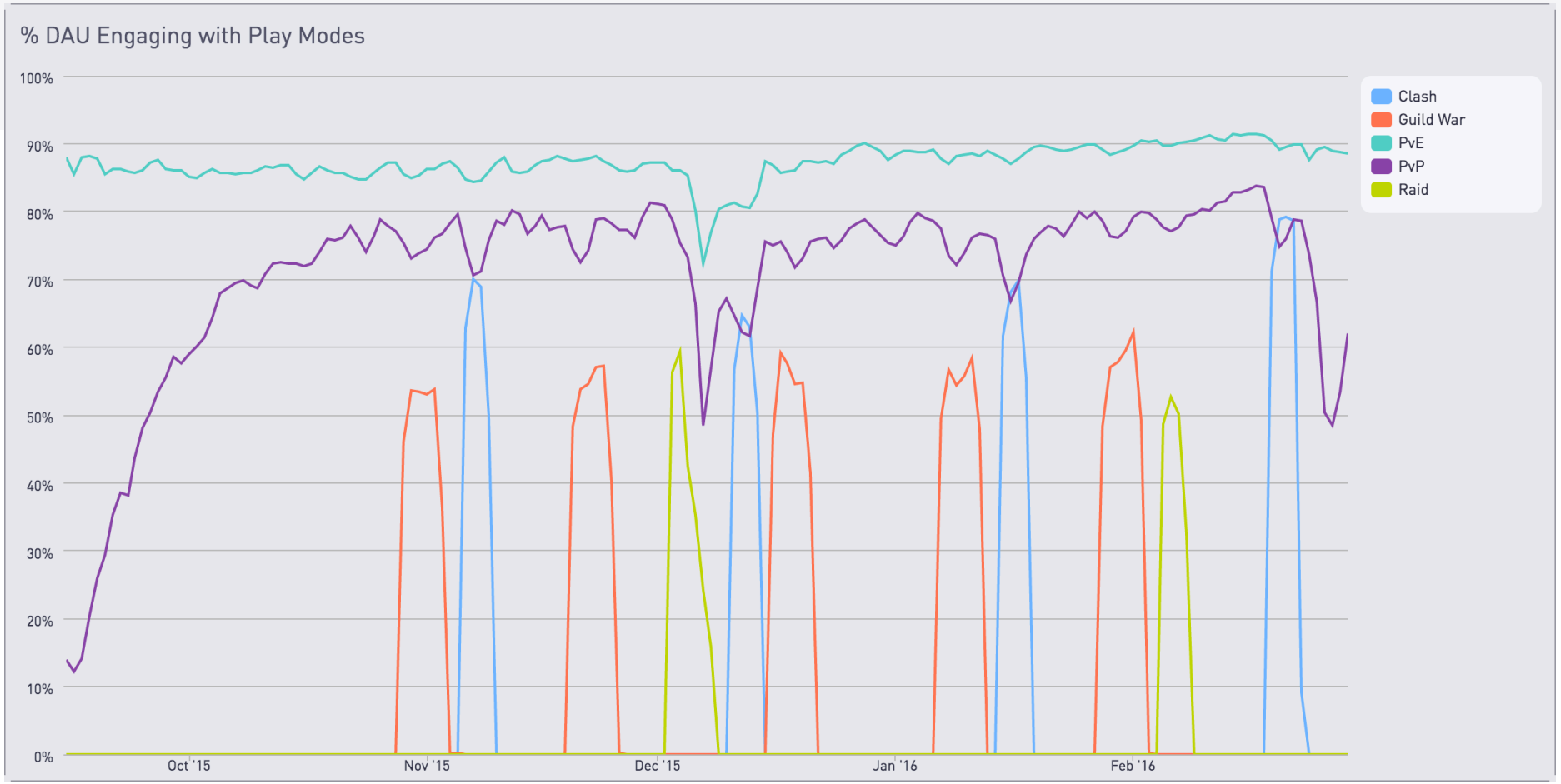
Limited Time Events

Adding content without hurting core play modes



Limited Time Events

Adding content without hurting core play modes



Monetization Growth

Competitive Events: Players are more likely to monetize

Servicing Elder Players

Live PvP released as one year celebration

Servicing Elder Players

Live PvP released as one year celebration

Key Takeaways

Long Term Retention

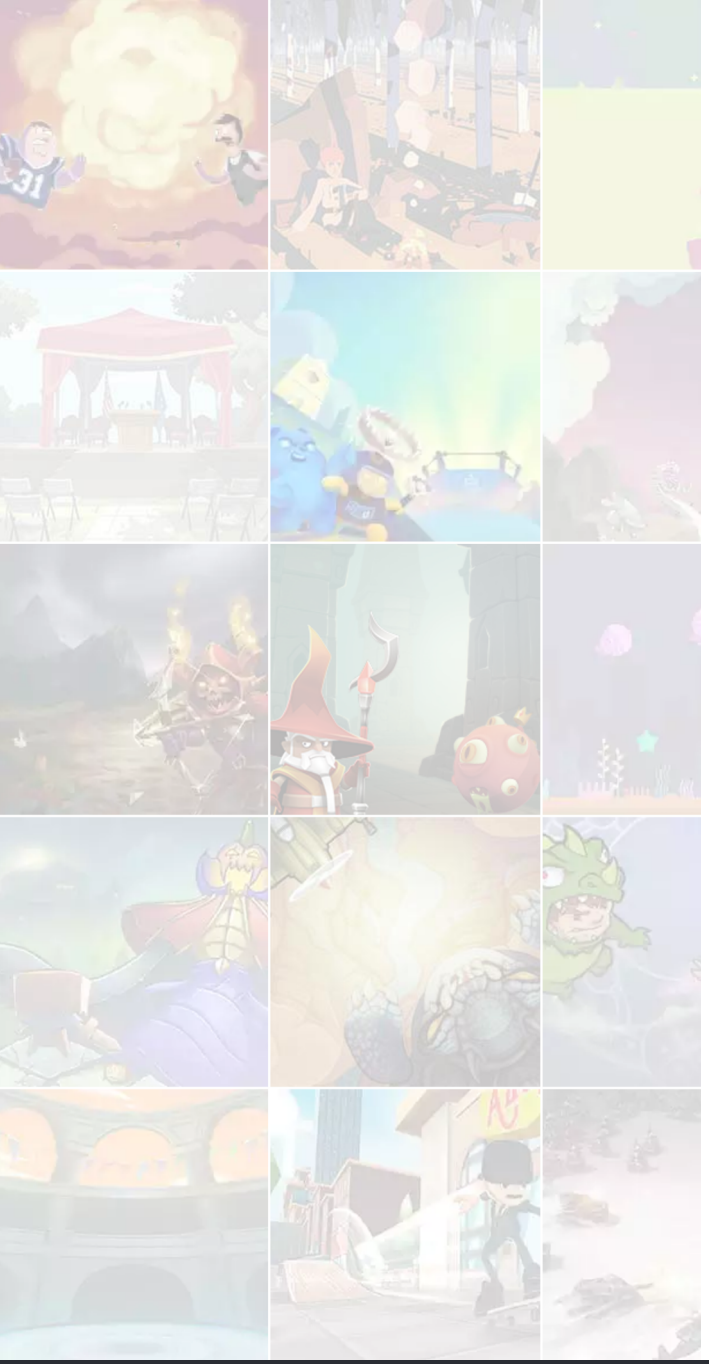
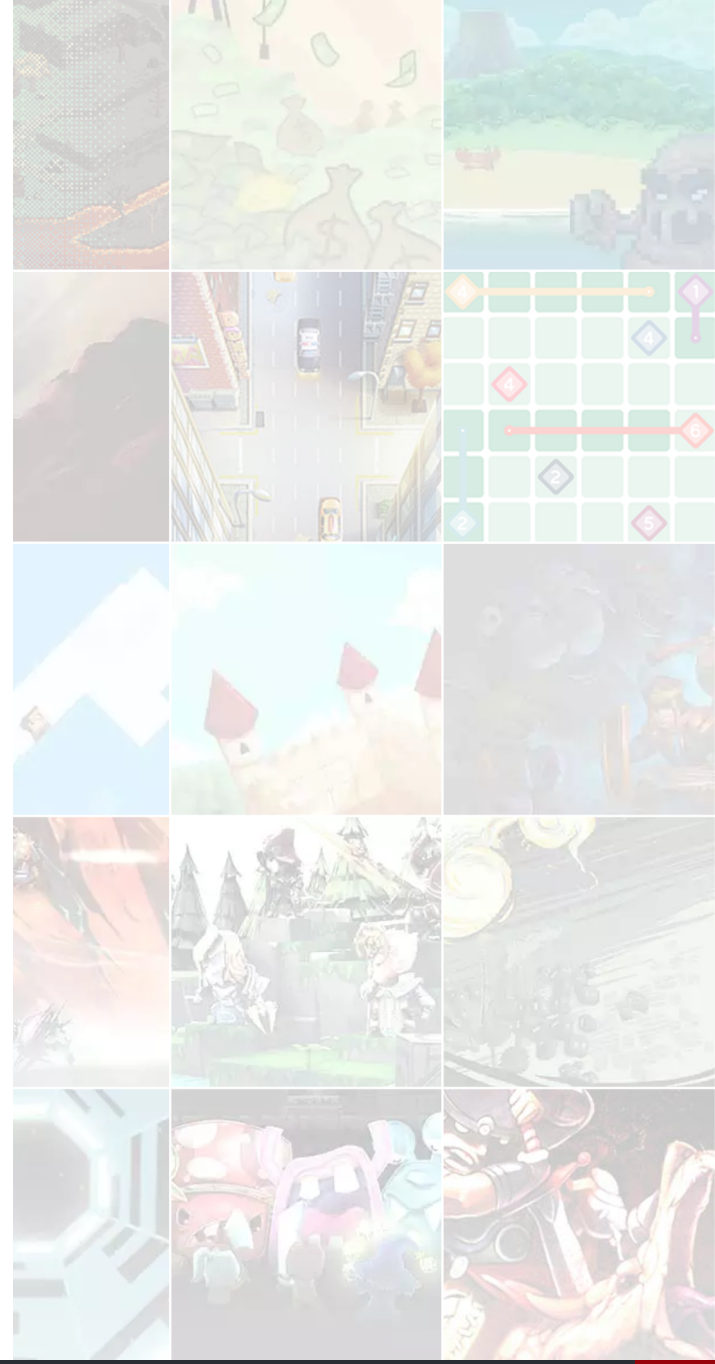
Look beyond d30

LTV Growth

LTV can accelerate after d30

Projecting LTV

Use the spending curve for more accurate LTVs

Thank you

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