
Data Analysis & Exploration on Mobile Game Data

Soft Launch

Game Studio has just completed the soft launch for its game - Data Studio. The soft launch was conducted from 2019-08-01 to 2019-09-15, during which 228,635 unique users have installed the game.

The team would like understand if the new game has performed well and they should go ahead with the global launch.

→ **Overall Growth**

- **install**

→ **Engagement**

- Daily & Monthly Active Users

- Stickiness

- Retention Rate

→ **User Experience**

- Start, Leave, Lose, Restart and Success

- Currency Flow

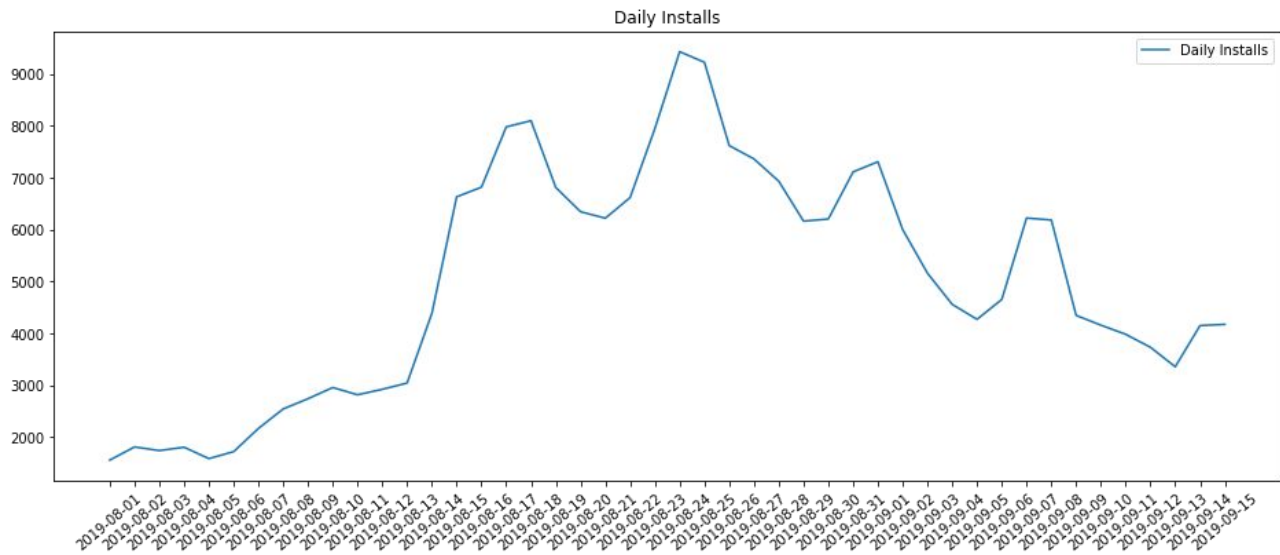
→ **Monetization**

- conversion

- Time to Purchase

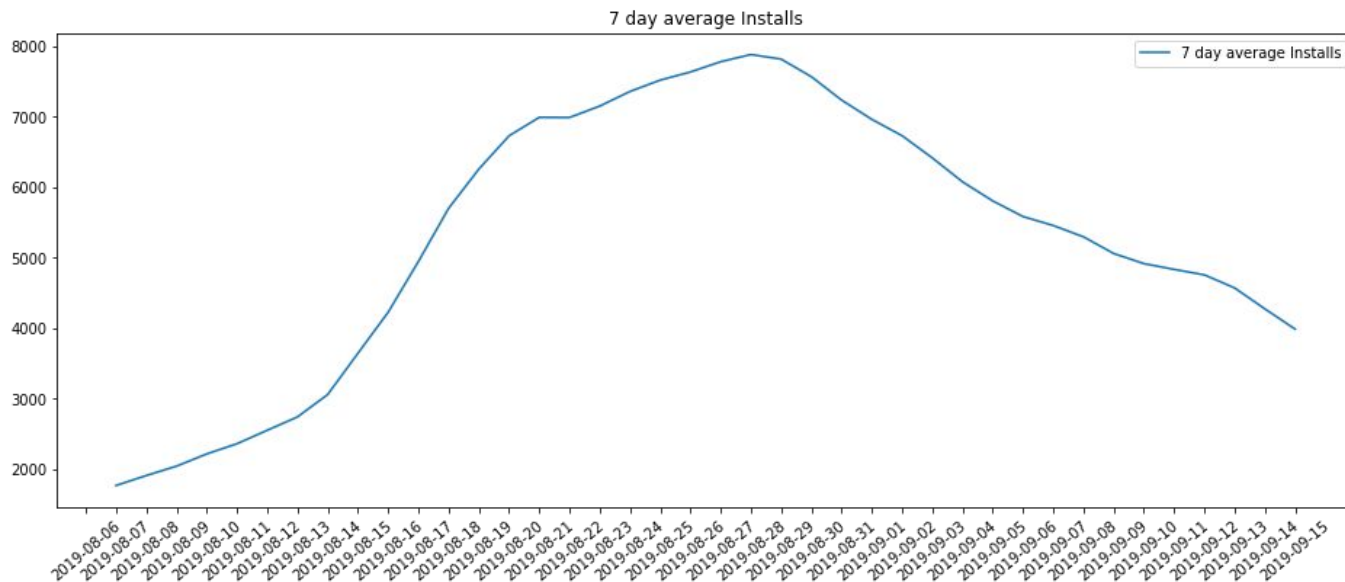
- Average Revenue & Cost per Install

Overall Growth - Installs



Daily installs go up rapidly after soft launch on 1st of August and come down gradually with spikes during the weekend. Let's smooth it out by looking at 7-day average of installs.

Overall Growth - Installs



The 7-day average of installs confirms the overall trend identified, which is very normal for a new game.

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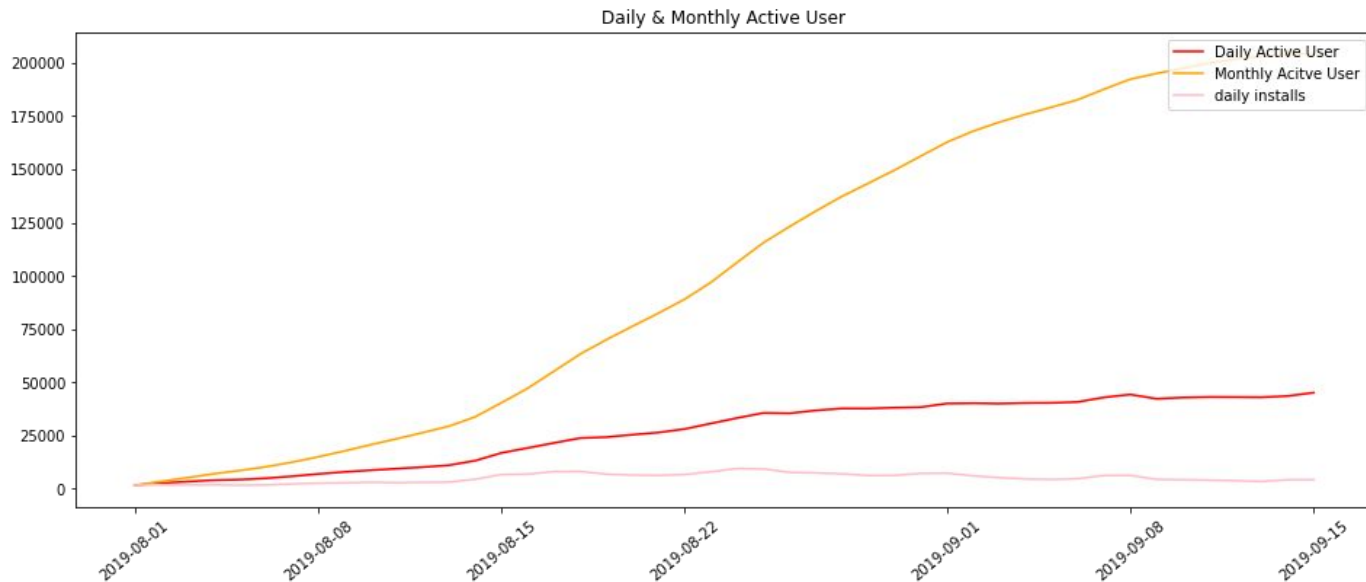
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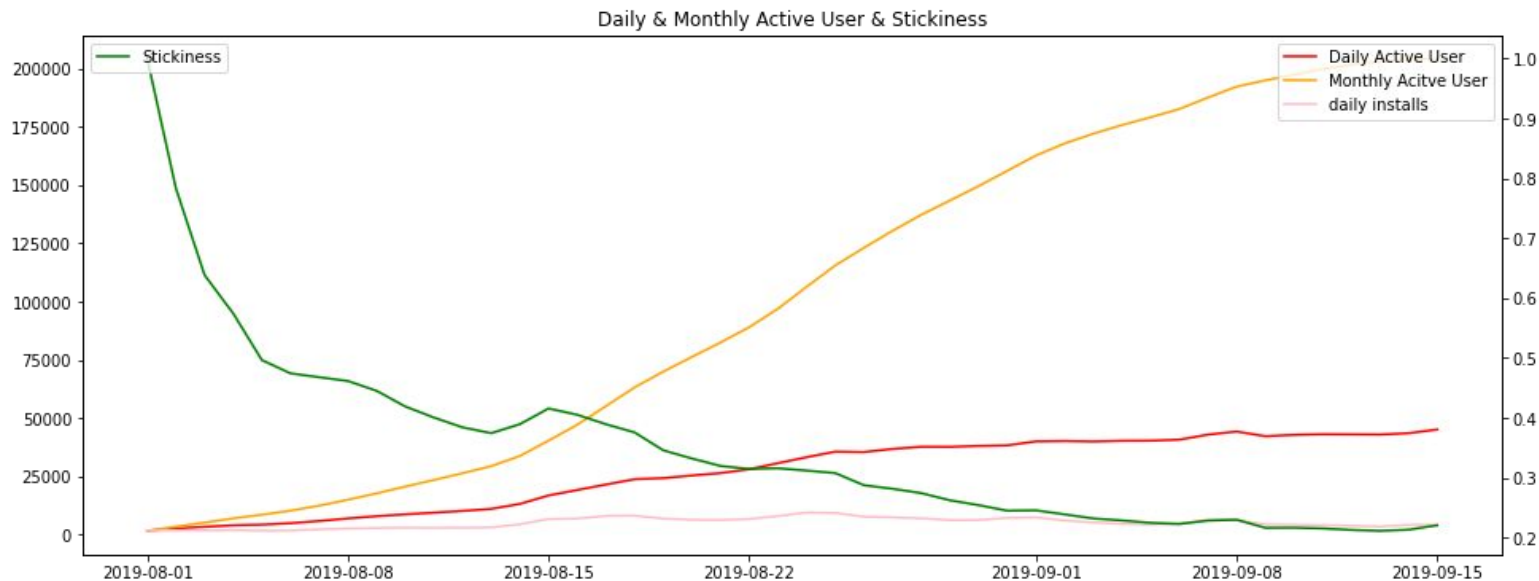
- conversion
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Engagement - DAU & MAU



Both DAU and MAU are growing given a relatively stable supply of daily installs, which is a good sign. It's worth to note that MAU is growing more rapidly. Let's see the stickiness (DAU / MAU).

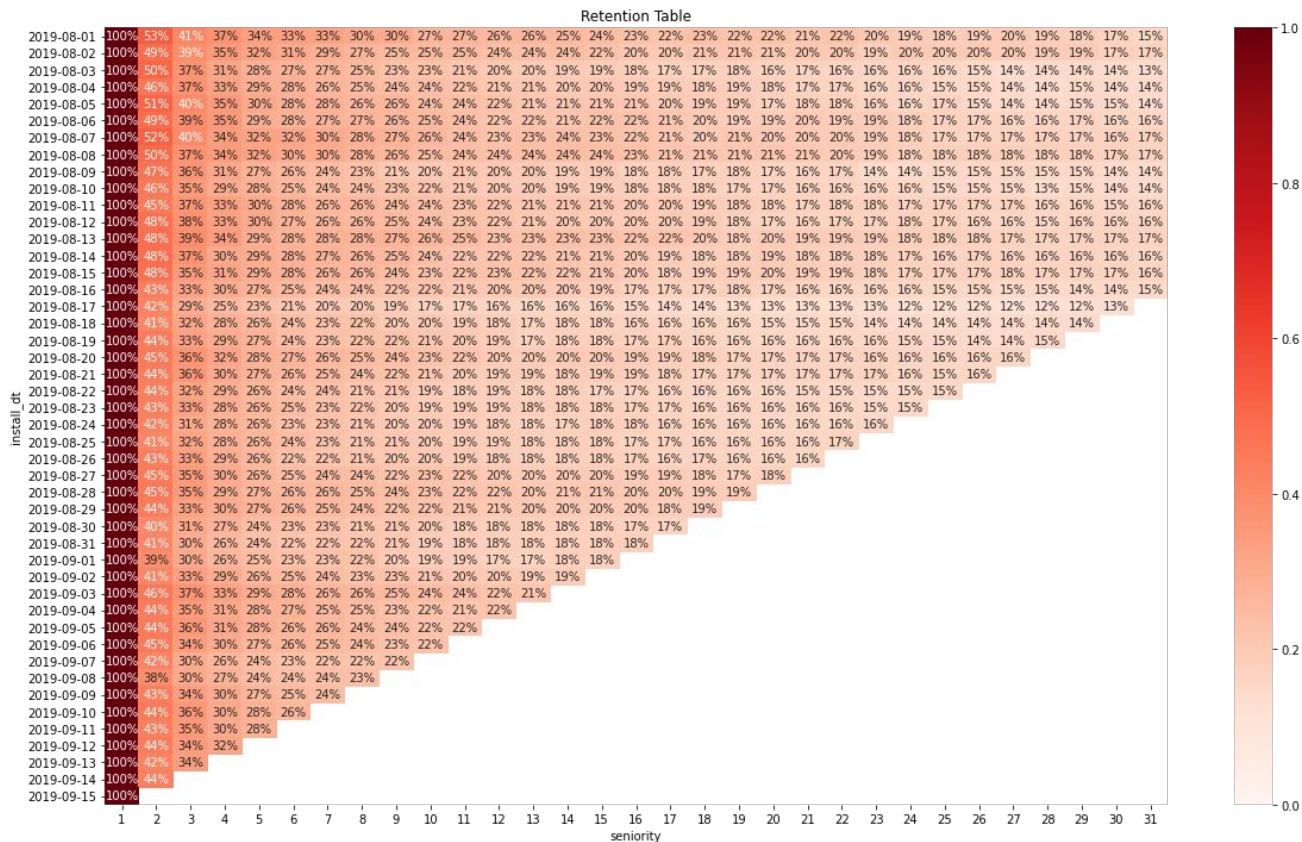
Engagement - Stickiness



30 days after launch, the stickiness stabilises to around 22%, which is good news. This is above most successful gaming apps - close to 20%*.

* Source: <https://gameanalytics.com/blog/metrics-all-game-developers-should-know/>

Engagement - Retention



- Day 1 retention: 45% vs industry top 32%
- Day 3 retention: 31%
- Day 7 retention: 24% vs industry top 8%
- Day 30 retention: 15% vs industry top 3%

Data Studio seems to do well on retention as our retention rates are well above industry top performers

* Source:

<https://www.blog.udonis.co/mobile-marketing/mobile-games/key-mobile-game-metrics>

* only showing up to the 30th day

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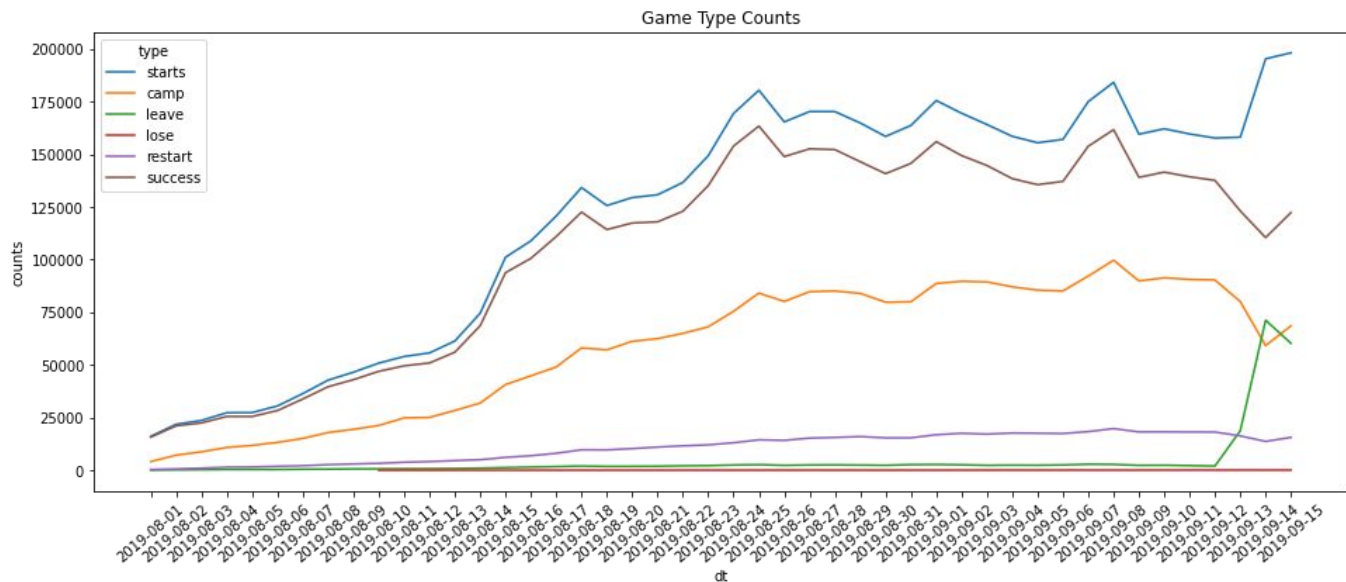
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- **Start, Leave, Lose, Restart and Success**
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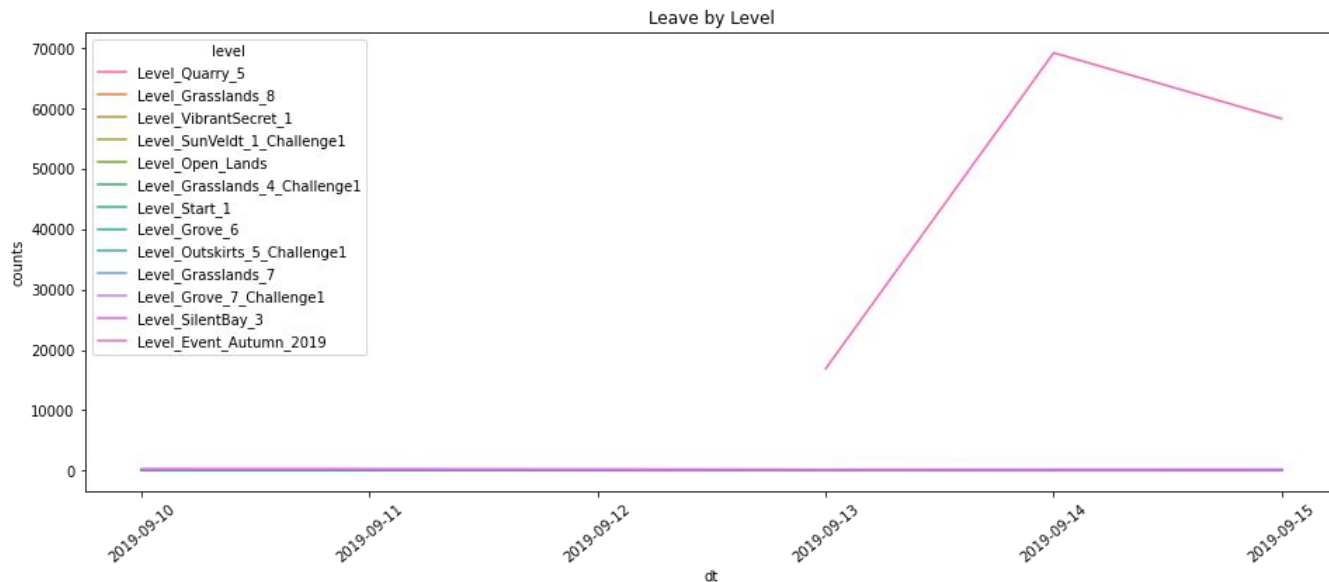
User Experience - Start, Leave etc



Start*, success and camp are expected to increase as we acquire more users. However, Leave seems very strange that Leave skyrocketed at the end the of soft launch. Let's have a deeper look.

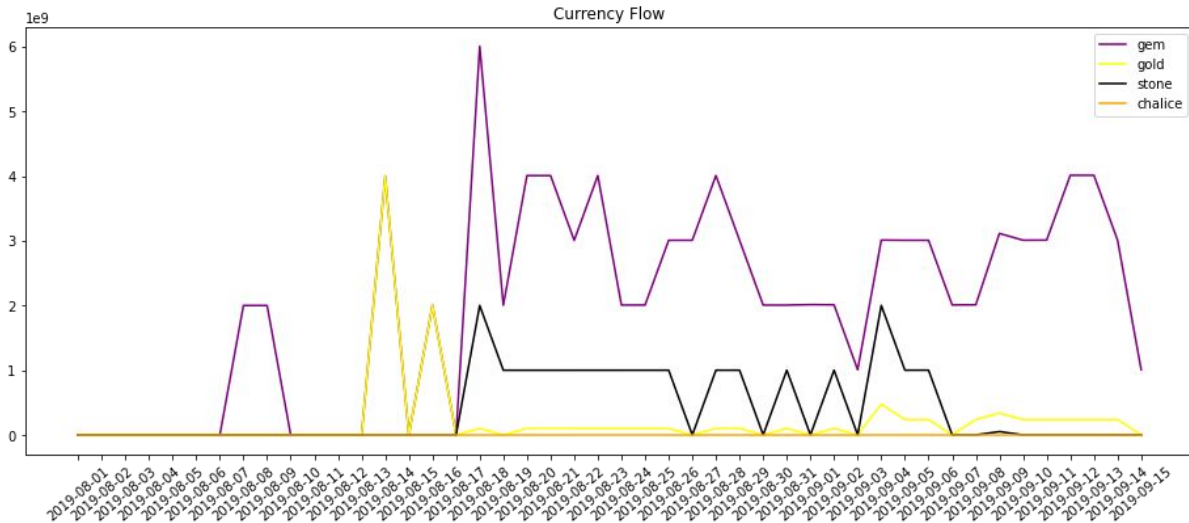
*start = leave + lose + restart + success

User Experience - Leave



It seems all of a sudden Level_Event_Autumn_2019 accounts for the most leaves. It could be many things. The level is too hard; there is a bug etc. - this needs an investigation

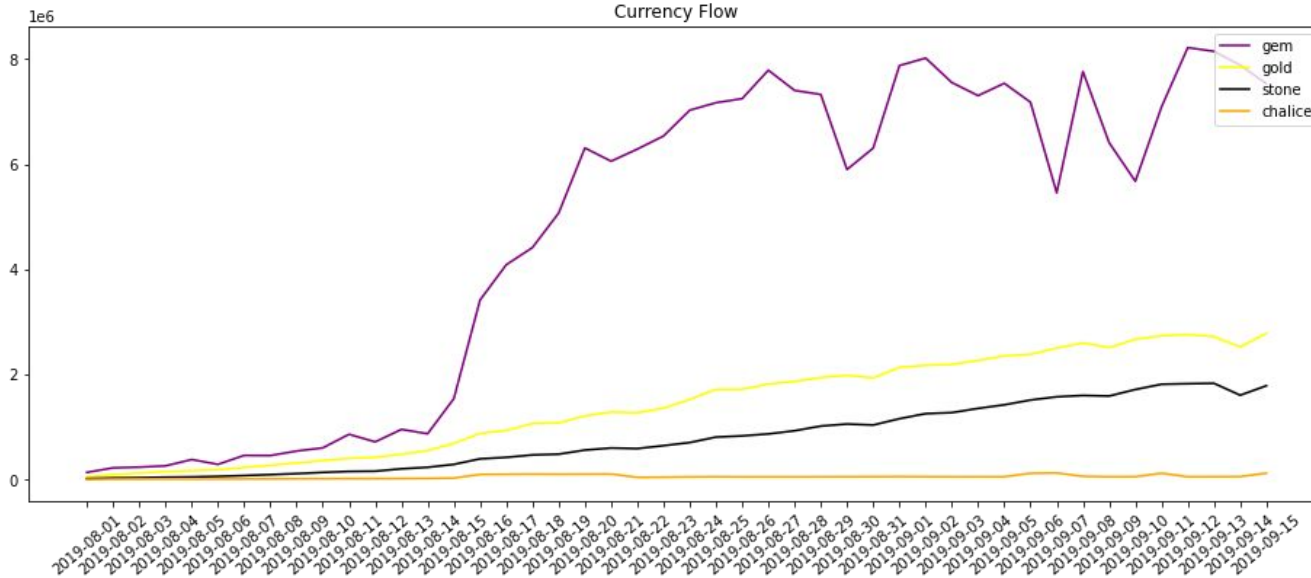
User Experience - Currency Flow



	dt	uid	gem_amount	gold_amount	stone_amount
0	2019-08-08	96371	1999987208	400	87
1	2019-08-09	96371	1999986366	400	99
2	2019-08-14	86673	1999979816	1999995548	2275
3	2019-08-14	96371	1999979345	1999995548	2275
4	2019-08-16	86673	1999977105	1999995548	2275
5	2019-08-18	37702	999999929	99999999	999999999

some of the spikes don't make much sense. Let me zoom in. It appears that some users have crazy amount of gem etc so I am guessing these are the testers. Let me remove them and do the visual again

User Experience - Currency Flow



After removing the outliers, the currency are more stable except for gem, which skyrocketed after launch since users started to convert . In general it looks good as if there are much hard currency, there is no need to pay; or else, the game is too hard and users loses patience easily

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Monetisation

- **Conversion Rate:** 8% vs industry top 1.6% *
 - This is great as it is well above industry

*source: <https://www.blog.udonis.co/mobile-marketing/mobile-games/conversion-rate>

- **Time to Purchase (for paid users):** 3.5 days
 - This is good too as this is a casual game. We need users to convert asap
- **Average Revenue & Cost per Install:** \$ 0.65 vs \$0.49
 - Amazing as we are making profit per user

Conclusion

Overall, Data Studio has performed well in **statistic numbers** - all areas of overall growth, engagement, user experience and monetisation look great, especially when compared to the industry.

However, there are a few issues I have identified:

- Level_Event_Autumn_2019 has caused significantly high number of leaves. There might have been a bug or simply too hard
- Some users are in possession of suspiciously large amount of gems, stones etc. Are they our testers or game cheaters?
- Some users' login date is before the installed date, which is very strange (identified in the codes).

Once we clear those items identified above, I think we are ready for global launch **from the data point view**. There are many other commercial aspects that should go into consideration but it's not the scope of the analysis.