# TECHNICAL SECTION

## What is the number of unique users that use the application every day?

The first question can be understood in two ways:

- De Dicto: For each Day, what is the number of unique users?
- De Re   : What is the number of the users that (each and) every day used the app?

Since the former interpretation seems to follow the pattern of the other questions and it holds the most interesting kind of data I am going to stick to it.
For this exercise I am going to consider the action "open" as "using the application".
I use this definition because I do not want to count on two different days all those people that opened the app at 23:59 but play/purchase the day after midnight.
If every action should be counted as separate use, the /*OPTIONAL*/ line must be removed.

DE DICTO

```
-- call the day,
SELECT CAST(event_time as DATE) as day,
-- Count the different Users
COUNT (DISTINCT user_id) as Number_Diff_users
FROM events
/*OPTIONAL*/ WHERE event_name = 'open'
GROUP BY day;
```

## What is the daily number of users that open the app more than 10 times?

```
-- sort by date & count the players from Aux
SELECT etime,
COUNT(players) as "Player>10"
FROM (
    -- Auxiliary Tab with date and players that opened the game > 10
    SELECT CAST(event_time as DATE) AS etime,
    user_id AS players,
    COUNT(event_time) AS app_opened_by_players
    FROM events
    WHERE event_name = 'open'
    GROUP BY CAST(event_time as DATE), user_id
    HAVING COUNT(event_time) > 10
    ) as Aux
GROUP BY etime;
```

## Who are the top 10 users that spent the most buying IAPs during the three months of data?

Assuming there was a typo where "how" stands for "who".

```sql
-- group the players, sum their spending
SELECT user_id,
SUM(iap_price) as tot_spent
FROM events
GROUP BY user_id
-- order desc and limit to 10
ORDER BY tot_spent DESC
LIMIT 10;
```

## How many users played in the two most played games?

Also this exercise seems two have two different interpretations: depending on what we consider the "most played game":

- the most played considering the number of different users

```sql
-- most played by different players:
SELECT game_name,
COUNT(DISTINCT user_id) AS players
FROM events
GROUP BY game_name
ORDER BY players DESC
LIMIT 2;
```

- the most played considering the number of event_name = 'play' in total

```sql
-- group by game and count the users from the Aux tab
SELECT game_name, COUNT(DISTINCT user_id)
FROM Events
WHERE game_name IN -- choose the top 2 games
    (SELECT game_name
     FROM Events
     WHERE event_name = 'play' -- by checking only the "play" event
     GROUP BY game_name
     ORDER BY COUNT(event_name) DESC -- and ordering the game by their
total events
     LIMIT 2) AS Aux -- top 2
GROUP BY game_name;
```