REVENUE METRİCS ANALYSİS FOR MULTİ-PRODUCT GAMİNG PLATFORM

OBJECTIVE:

Review GoIT Game Department's 2022 revenue analysis and make proposals to optimize business operations and increase profitability.

DATA SET:

games_paid_users.csv

games_payments.csv

TECHNOLOGY USED:

SQL - PostgreSQL

```
ITH payment_aggregates AS (
    SELECT
        user_id,
        game_name,
        DATE_TRUNC('month', payment_date)::DATE AS payment_month,
        COALESCE(SUM(revenue_amount_usd), 0) AS total_payment
    FROM project.games_payments
    GROUP BY user_id, game_name, DATE_TRUNC('month', payment_date)
),
ayment_bounds AS (
    SELECT
        user_id,
        game_name,
        MIN(DATE_TRUNC('month', payment_date)) AS first_month
    FROM project.games_payments
    GROUP BY user_id, game_name
),
ax_month AS (
    SELECT MAX(DATE_TRUNC('month', payment_date)) AS last_month
    FROM project.games_payments
),
ll_months AS (
    SELECT
        u.user_id,
        u.game_name,
        u.language,
        u.has_older_device_model,
        u.age,
        gs.payment_month
    FROM project.games_paid_users AS u
    JOIN payment_bounds pb
        ON u.user_id = pb.user_id AND u.game_name = pb.game_name
    CROSS JOIN max_month
    JOIN LATERAL (
        SELECT generate_series(
            pb.first_month,
            max_month.last_month,
            INTERVAL '1 month'
        )::DATE AS payment_month
    ) gs ON TRUE
```

DATA SET ANALYSIS:

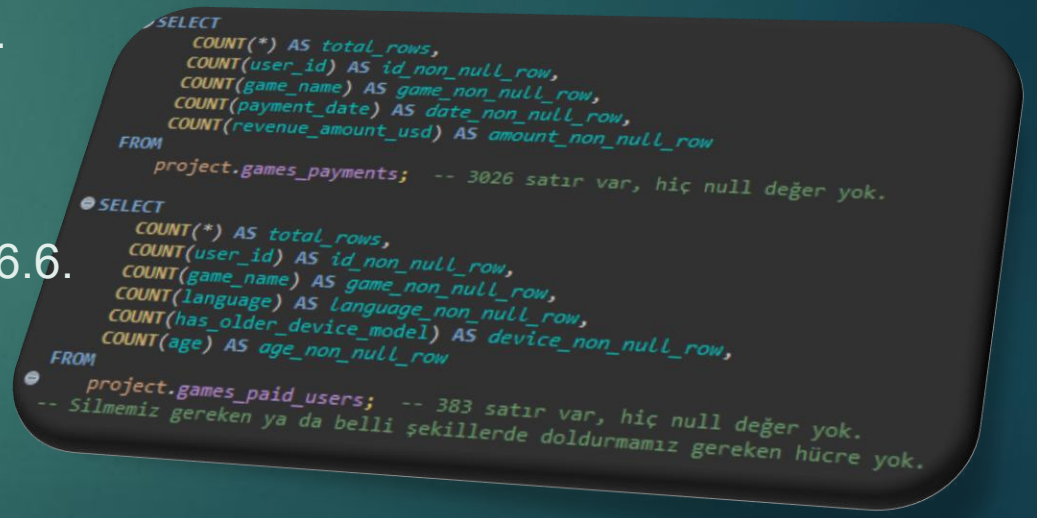
No empty, incorrect, or missing data was detected.

Data for March–December 2022 is available.

Game1 was released in October and is a very new game.

No data was found for Game2 in November.

The average user age is 23, with a standard deviation of 6.6.



```sql
SELECT
    COUNT(*) AS total_rows,
    COUNT(user_id) AS id_non_null_row,
    COUNT(game_name) AS game_non_null_row,
    COUNT(payment_date) AS date_non_null_row,
    COUNT(revenue_amount_usd) AS amount_non_null_row
FROM
    project.games_payments;  -- 3026 satır var, hiç null değer yok.

SELECT
    COUNT(*) AS total_rows,
    COUNT(user_id) AS id_non_null_row,
    COUNT(game_name) AS game_non_null_row,
    COUNT(language) AS language_non_null_row,
    COUNT(has_older_device_model) AS device_non_null_row,
    COUNT(age) AS age_non_null_row
FROM
    project.games_paid_users;  -- 383 satır var, hiç null değer yok.
-- Silmemiz gereken ya da belli şekillerde doldurmamız gereken hücre yok.
```

DATA SET MERGING:

Additions were made with feature engineering to simplify analysis.

Optimized code for performance improvement of the query,

The data set was made ready for revenue analysis and visualization.

METRICS USED:

Revenue, , Paid Users, ARPPU, MRR, New MRR, Contraction MRR, Expansion MRR, Churned Users, Churn Rate, Churned Revenue, LTV

INCOME ANALYSIS and VISUALIZATION:

TABLEAU

ASSESSMENT:

EXTERNAL FACTORS:

Russia's invasion of Ukraine - February 2022

Christmas Holidays and New Year

GAME PREFERENCE:

Removal of Game-2 from the application,

After analyzing Game-3's output data, Game-1's decision should be made.

MODES OF ACTION:

The target audience should be 15-25 years old,

Campaigns should be prepared for deactive users,

Advertising campaigns need to be updated to attract new users.

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