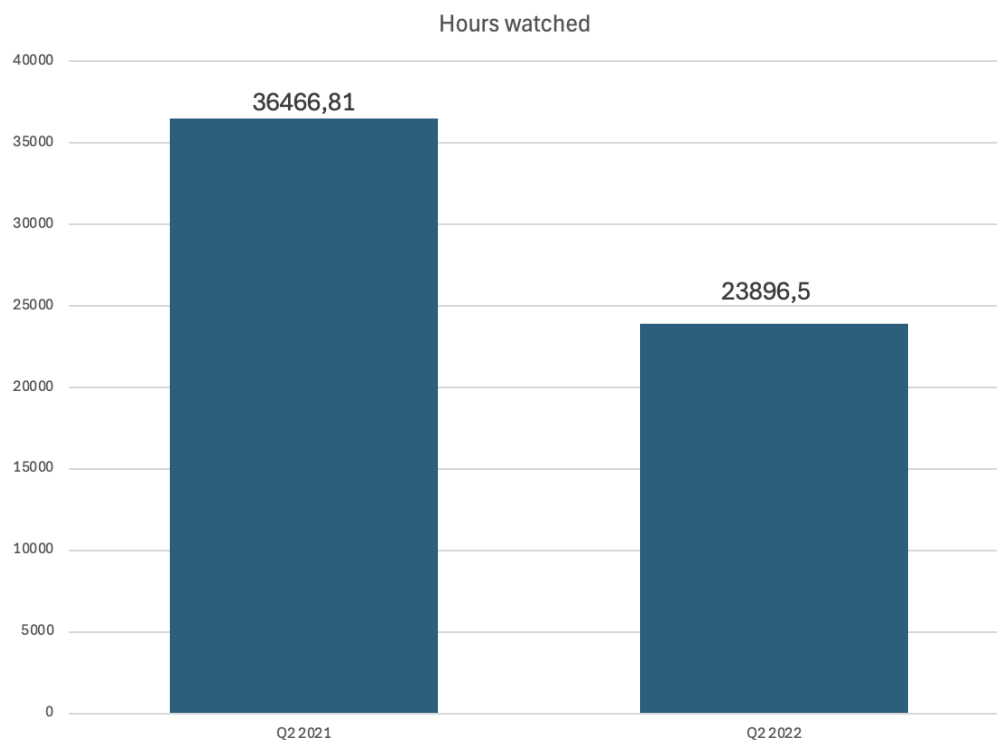


A3.3 MBAN Assignment

Lucas Sotkovszki | November 22 2024

The online learning platform introduced new features in late 2021, including career tracks, practice exams, and expanded course offerings. While the platform successfully attracted new users, the overall engagement, as measured by total hours watched, decreased from 4.77 hours per user in Q2 2021 to 2.7 hours per user in Q2 2022.

Despite a significant 15.73% increase in unique users from Q2 2021 to Q2 2022, we observed a 34.2% decrease in total hours watched, from 36,466.81 hours in 2021 to 23,896.50 hours in 2022. The primary question is whether the new features were effective in increasing student engagement, as hypothesized. Moreover, there is no information provided on what is the plan_id for free and paid subscriptions. (In the case the plan_id is 0 for the free subscriptions and the others for paying subscriptions, look at the graph in the appendix for more information, otherwise ignore it).



The probability that a student has watched a lecture in Q2 2021, given that they've watched a lecture in Q2 2022 is 7.23%. In addition, only 5.46% of users registered before June 6, 2021, remained active in 2022. This indicates a significant drop in user retention, which could be attributed to various factors, including the effectiveness of the new features or the quality of the content.

Taking into consideration that certificates are only registered in Q2 of 2022 and that it averages 8.54 days to complete a course, we can state that certifications are one of the new features added. Therefore, in Q2 2022, in April, there were issued 586 certificates, and 9073.28 hours were watched, in May 527 certifications, and 7420.34 hours were watched, and in June 638 were issued and 7403.12 hours were watched. From this information the correlation between hours watched and certificates issued is 0.0274, showing that there is no correlation between certificates issued and hours watched.

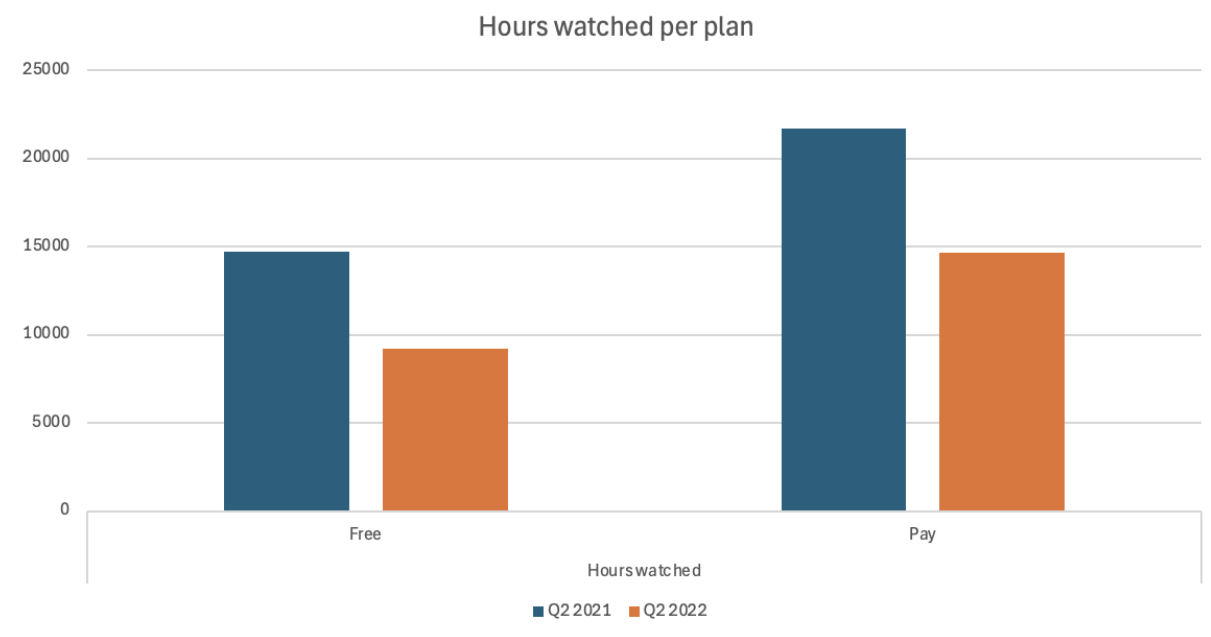
Therefore, we reject the hypothesis, the features increased the number of students interested in the course and the attraction to new students, but it decreased the engagement of older students. In other words, the platform and the new features added were effective in attracting new students, but not in retaining them.

Actionable Insights

While the new features have attracted new users, they have not been effective in retaining existing users or increasing overall engagement. To identify what are the areas of improvement we need to review the UI and UX, to identify the areas of improvement.

The decline in hours watched can be of potential issue with the platform's user experience. The online platform should conduct user research and usability testing to identify pain points and areas for improvement. The platform should focus on creating high-quality, relevant content that aligns with user needs and interests. In addition, regular introduction of new features and a diverse range of content formats can help to maintain user engagement.

Appendix





there are 4 tables. The first table is called `student_certificates` and has the columns `certificate_id`, `student_id`, `date_issued`. The second table is called `student_info`, and has the columns `student_id` and `date_registered`. The third table is called `student_purchases` and has the columns `purchase_id`, `student_id`, `plan_id`, ...



Understanding the Data Structure

Before we dive into the analysis, let's recap the structure of the four tables:

1. `student_certificates`:

- `certificate_id` : Unique identifier for each certificate.
- `student_id` : Unique identifier for each student.
- `date_issued` : Date when the certificate was issued.

2. `student_info`:

- `student_id` : Unique identifier for each student.
- `date_registered` : Date when the student registered on the platform.

Ask Gemini



Gemini can make mistakes, so double-check it

Gemini ▾

Try Gemini Advanced



3. `student_purchases`:

- `purchase_id` : Unique identifier for each purchase.
- `student_id` : Unique identifier for the student.
- `plan_id` : Identifier for the plan purchased.
- `date_purchased` : Date of purchase.
- `date_refund` : Date of refund (if applicable).

4. `student_video_watched`:

- `student_id` : Unique identifier for the student.
- `course_id` : Identifier for the course.
- `seconds_watched` : Total seconds watched for the course.
- `date_watched` : Date when the video was watched.

Potential Analysis and SQL Queries

Based on the given tables, here are some potential analyses and the corresponding

SQL queries:

Ask Gemini



Gemini can make mistakes, so double-check it

Based on the given tables, here are some potential analyses and the corresponding SQL queries:

1. Student Engagement Analysis:

• Total Minutes Watched per Student:

SQL

```
SELECT
    student_id,
    SUM(seconds_watched) / 60 AS total_minutes_watched
FROM
    student_video_watched
GROUP BY
    student_id;
```

Use code [with caution](#).



• Average Minutes Watched per Day:

Ask Gemini



Gemini can make mistakes, so double-check it

• Average Minutes Watched per Day:

SQL

```
WITH StudentDailyWatchTime AS (
    SELECT
        student_id,
        DATE(date_watched) AS watch_date,
        SUM(seconds_watched) / 60 AS daily_minutes_watched
    FROM
        student_video_watched
    GROUP BY
        student_id,
        watch_date
)
SELECT
    student_id,
    AVG(daily_minutes_watched) AS avg_daily_minutes_watched
FROM
    StudentDailyWatchTime
GROUP BY
    student_id;
```

Use code [with caution](#).



Ask Gemini



• Impact of New Courses:

SQL

```
WITH NewCourses AS (  
  SELECT  
    course_id  
  FROM  
    courses  
  WHERE  
    release_date BETWEEN '2021-12-01' AND '2022-06-30'  
)  
SELECT  
  student_id,  
  SUM(seconds_watched) AS new_course_watch_time  
FROM  
  student_video_watched  
JOIN NewCourses ON student_video_watched.course_id = NewCourses.course_  
GROUP BY  
  student_id;
```

Use code [with caution](#).



Ask Gemini



Gemini can make mistakes, so double-check it