



**TRANSPORT AND
TELECOMMUNICATION
INSTITUTE**

Database processing Course Project

Business Requirements and Analysis (BRD)

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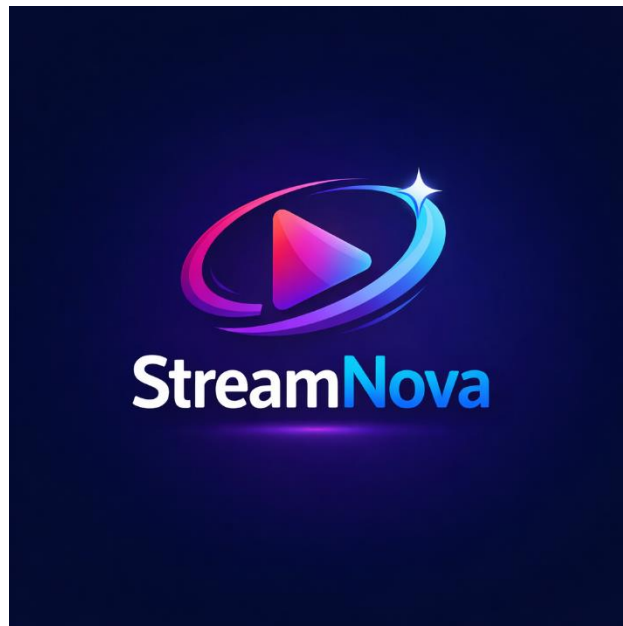
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1. Scenario Overview

Video streaming platform Name: StreamNova - a subscription-based video streaming platform.

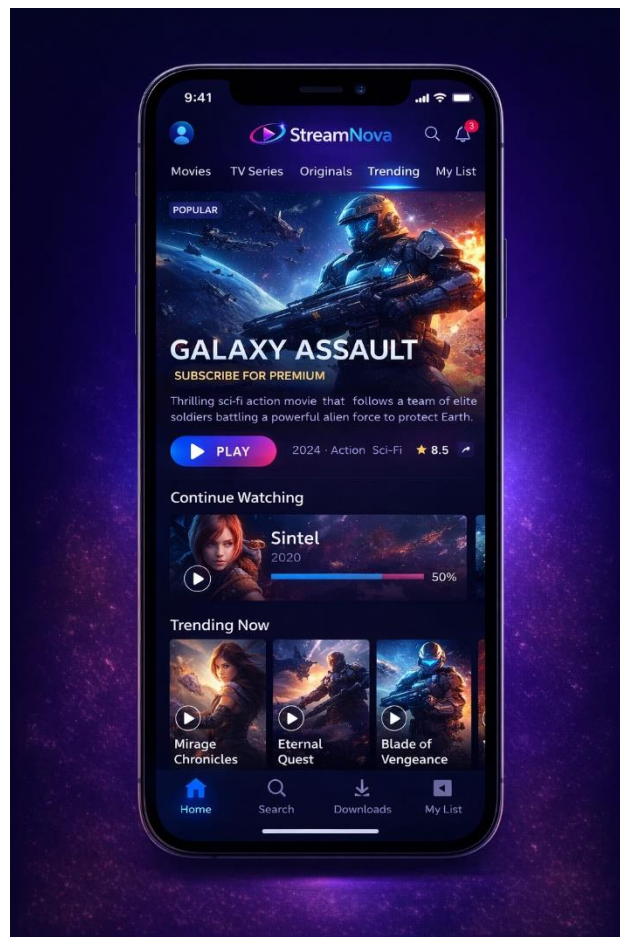


Pic 1.0 StreamNova platform logo

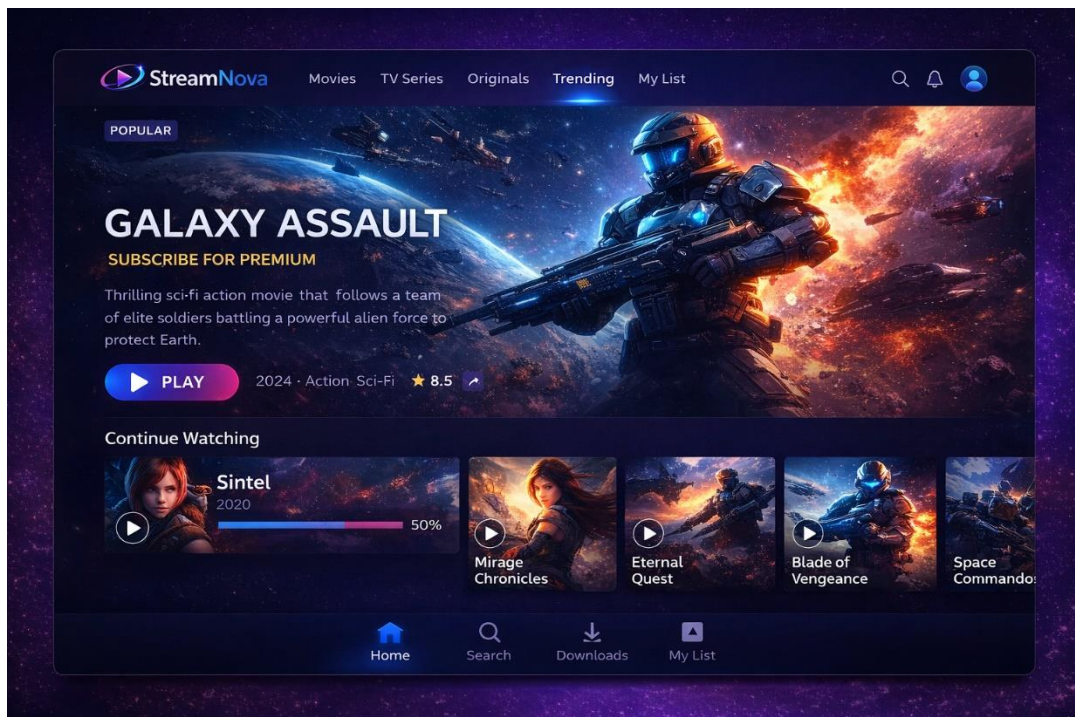
1.1 Service Description

Stream Nova is service which provides online access to movies, series and other exclusive original content created by various partners. Service revenue based on monthly subscription model using several plans such as Basic, Standard and premium. Each plan offering different video quality (resolution, bit rate etc), number of concurrent users, and access to paid content. Stream Nova is available on different types of devices such as web, mobile and smart TV.

The platform operates on global scale and mainly relies on subscription revenue. User engagement is a main indicator of customer satisfaction and product quality.



Pic 1.1 StreamNova mobile app mock-up



Pic 1.2 StreamNova desktop mock-up

1.2 Key Business Stakeholders

CFO / Finance Team - checks revenue, discounts, refunds, and in general financial performance of a company.

Head of Product - monitors content engagement parameter and develops roadmap guide for strategic decisions.

Marketing Manager - analyzes amount of trials, conversion parameter, online content promotions, and unsubscribe trends.

Customer Success / Retention Team - tracks unsubscribe metric, engagement downgrades, and platform inactive users.

Data / Analytics Team - ensures data quality, customer satisfaction and reliability for strategic decision-making.

1.3 Purpose of the Monthly Report

The Monthly Performance & Engagement Report helps management:

- Understand revenue trends and the health of the subscription base.
- Measure how actively subscribers are using the service.
- Detect unsubscribe risks, plan changes, and trial subscription conversions.
- Identify potential data quality / content issues that could distort KPIs.

The report is designed to be run directly in Oracle using PL/SQL and DBMS_OUTPUT.

2. Business Questions

2.1 Revenue & Subscription Base

Q1. What is the total net revenue for the selected revenue report month?

Description: Measures of how much total money was earned after applied discounts in the report month.

Stakeholders / Business users: CFO, Finance Team

Report priority: Must have

Q2. How does net revenue compare to the previous month?

Description: Demonstrates month-over-month revenue growth or decline.

Stakeholders / Business users: CFO, Management

Report priority: Must have

Q3. How many active subscribers do we have per subscription plan?

Description: Describes the amount of the active customer base divided by subscription plan type.

Stakeholders / Business users: Product, Marketing

Report priority: Must have

Q4. What share of total revenue does each plan generate?

Description: Shows which plans contribute most to overall revenue.

Stakeholders / Business users: CFO, Product

Report priority: Nice to have

2.2 Engagement / Usage

Q5. What is the average count of active sessions per active user in the selected month?

Description: Indicates how often active users use the platform.

Stakeholders: Product, Customer Success

Report priority: Must have

Q6. What is the total average watch time per platform user during the month?

Description: Indicates average depth of user engagement, not just frequency.

Stakeholders: Product

Report priority: Must have

Q7. Which video content categories are the most watched?

Description: Helps understand type of content preferences and guide strategic decisions related to new content licensing.

Stakeholders: Product, Content Team

Report priority: Nice to have

2.3 Churn and Customer Movement

Q8. How many subscribers decided to cancel subscription during selected month?

Description: Counts users whose subscriptions ended or were cancelled.

Stakeholders: Customer Success, Marketing

Priority: Must have

Q9. How many platform users upgraded or downgraded their plan?

Description: Tracks movement between subscription plans, needed to understand how to change pricing and rate content value.

Stakeholders: Product, Marketing

Priority: Nice to have

2.4 Data Quality / Reliability

Q10. Are there payments with missing or zero money amounts?

Description: Detects suspicious or incomplete transaction payment records.

Stakeholders: Finance, Data Team

Priority: Must have

Q11. Are there active users/subscribers without recorded usage in the selected month?

Description: Identifies possible data tracking issues or disengaged users.

Stakeholders: Product, Data Team

Priority: Must have

3. KPI and Metric Definitions

3.1 Revenue KPIs

KPI 1: Application Monthly Net Revenue

Meaning: Total revenue after all discounts for the report month.

Formula: $\text{SUM}(\text{payment_amount}) - \text{SUM}(\text{discount_amount})$ for payments in month

Grain: Per month

Dependencies: PAYMENT.amount, PAYMENT.discount_amount, PAYMENT.payment_date

KPI 2: Month over Month platform Revenue Change in percents

Meaning: Growth or decline compared to previous month.

Formula: $(\text{CurrentMonthRevenue} - \text{PreviousMonthRevenue}) / \text{PreviousMonthRevenue} * 100$

Grain: Per month

Dependencies: PAYMENT.amount, PAYMENT.discount_amount, PAYMENT.payment_date

KPI 3: Revenue by subscription plan

Meaning: Net revenue generated by data from each subscription plan.

Formula: Net revenue grouped by plan_id

Grain: Per month, per plan

Dependencies: PAYMENT, SUBSCRIPTION.plan_id

3.2 Engagement KPIs

KPI 4: Active Users

Meaning: Number of application users with an active subscription during the month.

Formula: $\text{COUNT}(\text{DISTINCT user_id})$ with active subscription

Grain: Per month

Dependencies: SUBSCRIPTION.start_date, SUBSCRIPTION.end_date

KPI 5: Average viewing sessions per user

Meaning: Average number of viewing sessions per active user in the application.

Formula: $\text{COUNT}(\text{session_id}) / \text{COUNT}(\text{DISTINCT user_id})$

Grain: Per month

Dependencies: USAGE_SESSION.session_id, user_id

KPI 6: Average Watch Time per User (minutes)

Meaning: Average total minutes watched per active user.

Formula: $\text{SUM}(\text{watch_minutes}) / \text{COUNT}(\text{DISTINCT user_id})$

Grain: Per month

Dependencies: USAGE_SESSION.watch_minutes

3.3 Churn and Retention KPIs

KPI 7: Churned Subscribers

Meaning: Number of subscriptions cancelled in the report month.

Formula: $\text{COUNT}(\text{subscriptions with status} = \text{'CANCELLED' and end_date in month})$

Grain: Per month

Dependencies: SUBSCRIPTION.status, SUBSCRIPTION.end_date

KPI 8: Churn Rate in percentage

Meaning: Percentage of active users who decided to unsubscribe during the month.

Formula: $\text{ChurnedSubscribers} / \text{ActiveSubscribers} * 100$

Grain: Per month

Dependencies: SUBSCRIPTION

3.4 Data Quality KPIs

KPI 9: Invalid Payments Count

Meaning: Number of payment records with missing or non-positive amounts.

Formula: COUNT(payments where amount <= 0 or amount IS NULL)

Grain: Per month

Dependencies: PAYMENT.amount

KPI 10: Active Users with No Usage

Meaning: Active subscribers without any recorded sessions in the month.

Formula: ActiveUsers minus UsersWithUsage

Grain: Per month

Dependencies: SUBSCRIPTION, USAGE_SESSION

4. Assumptions and Constraints

- One active service subscription per user at a time.
- Revenue is updated at payment date.
- User engagement is measured only via recorded active user viewing sessions.
- The report scope is single selected month.
- Data volume is small enough to be processed via PL/SQL with DBMS_OUTPUT for demonstrational purposes.