Business Analytics Practicum (MGT 4803)

Zhaohu (Jonathan) Fan

Information Technology Management

Scheller College of Business

Georgia Institute of Technology

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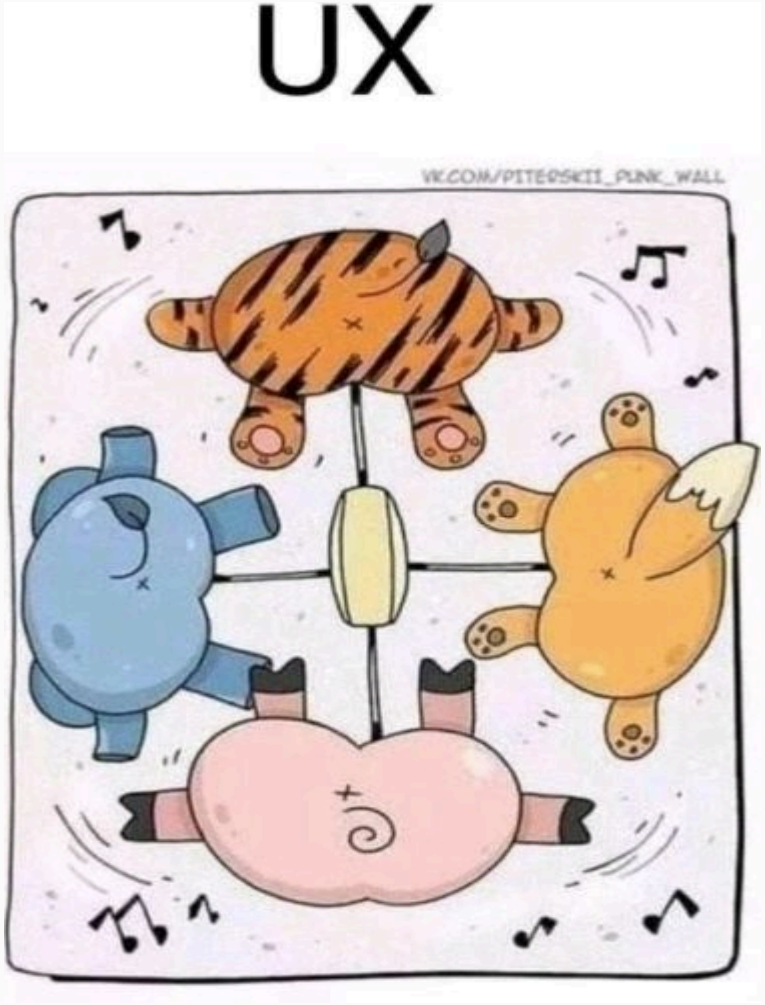
Second Presentation

- Second Presentation:
  - **Original Plan:** April 2, 5:00 PM – 6:15 PM
  - **Updated Plan :** Rescheduled to April 9, 5:00 PM – 6:15 PM

User Interface (UI) vs User Experience (UX)

User Interface (UI)

User Interface (UX)



High-level understanding of the architecture through dashboard

- Please click on the link provided below
  - Executive Overview (Demo)

How do we use data to navigate business performance over different periods ?

How do we use data to navigate business performance over different periods ? **Trend Analysis**

What is trend analysis?

- **Day-over-day Change**
- **Week-over-week Change**
- **Month-over-month Change**
- **Year-over-year Change**

3 Steps to calculate Day-over-Day

- **Step 1: Identify the Values**
  - Previous Day's Value (Monday): **150 visitors**
  - Current Day's Value (Tuesday): **175 visitors**

3 Steps to Calculate Day-over-Day

- **Step 1: Identify the Values**
  - Previous Day's Value (Monday): **150 visitors**
  - Current Day's Value (Tuesday): **175 visitors**
- **Step 2: Calculate the Change in Value**
  - Subtract the Previous Day's Value from the Current Day's Value.
  - Change in Value = Current Day's Value - Previous Day's Value
  - Change in Value = **175 visitors - 150 visitors =25 visitors**

3 Steps to Calculate Day-over-Day

- **Step 2: Calculate the Change in Value**
  - Subtract the Previous Day's Value from the Current Day's Value.
  - Change in Value = Current Day's Value - Previous Day's Value
  - Change in Value = **175 visitors - 150 visitors = 25 visitors**
- **Step 3: Calculate the Percentage Change**
  - To find out the percentage increase or decrease, you divide the Change in Value by the Previous Day's Value and then multiply by 100 to convert it to a percentage.
  - **Percentage Change = (Change in Value / Previous Day's Value) * 100**
  - **Percentage Change = (25 visitors / 150 visitors) * 100 = 16.67** %

What is trend analysis (cont'd)

- **Day-over-day Change:**
  - Identifies immediate trends and short-term performance impacts.
- **Week-over-week Change:**
  - Reveals weekly trends and is especially useful for spotting anomalies or effects of short-term marketing campaigns.
- **Month-over-month Change:**
  - Highlights longer-term trends and the effectiveness of monthly strategies or operational changes.
- **Year-over-year Change:**
  - Offers insights into long-term trends, seasonality, and annual performance comparison, crucial for strategic planning and forecasting.

Why is trend analysis important?

- Helps identify both short-term and long-term trends.
  - **Seasonality and Patterns:** Useful for spotting seasonal trends and cyclic patterns.
  - **Anomaly Detection:** Indicates anomalies through sudden changes, prompting further investigation.
  - **Performance Measurement:** Measures the impact of specific actions or events on performance.
  - **Forecasting**: Enhances forecasting models with insights on expected changes under similar future conditions.
  - **Strategic Planning:** Reveals long-term trends and shifts for better strategic planning.
  - **Customization and Precision:** Offers relevance to different businesses based on their operational cycle and decision-making needs.

Project goals (The Boxsters (Team #2))

- **How can we assess and report the production health of all Sparck machines broadly and individually?**
  - What KPIs and Metrics are the most important for machine performance?
  - What thresholds (Red /Yellow/Green) can Sparck use to assess the machines health?

Project goals (Scheller Sparck Squadron (Team #4))

- **How can we assess and report the machine events and errors of all Sparck machines broadly and individually?**
  - What makes a high vs. low performing machine?
    - What events are considerate high vs. low impact?
    - What events correlate to high vs. low performing machine?

Updates from Scheller Sparck Squadron (Team #4): Ruben

Open for discussion

Errors / Events

- For CGFixing V5.11, we have daily operational information available from October 4, 2023, to January 16, 2014.
    - Can we **identify any patterns or trends in the errors** that occurred over the last week?
    - **What were the most common types of errors, and how frequently did they occur?**
    - **Were there any specific days or times when the errors spiked?**
    - Have any of the errors been repeated from previous days, indicating a persistent issue?

Errors/Events(cont'd)

- What steps have been taken to address these errors so far?
    - How do these error rates compare to the previous week's?
    - Are there any correlations between the errors and recent changes or updates in our machines or processes?
    - What preventive measures can we implement to reduce the occurrence of these errors in the future?