Module 3

Formative Assessment-3

Field Work for Design Thinking Application

Objective

To apply design thinking principles in developing an AI-powered sentiment analysis solution that interprets nuanced emotions within social media content, enabling effective online reputation management and customer experience enhancement.

1. Pre-Fieldwork Preparation

- **Technology Used**:
    - **Natural Language Processing (NLP)** and **Machine Learning (ML)** for emotion and sentiment classification.
    - **Deep Neural Networks (DNN)** to classify sentiments as positive, negative, or neutral with a high degree of accuracy.
- **Background Insight**:
  Market research has evolved significantly, shifting from slow, costly offline surveys to leveraging social media as a source of real-time consumer opinions. Platforms like Twitter and Reddit offer abundant insights into customer perceptions. Sentiment analysis allows brands to monitor their reputation, identifying both opportunities and risks by analyzing customer feedback on social media.

2. Fieldwork for Empathy and Definition

Empathize

- **Methods**:
    - Interviews with marketing professionals and social media managers.
    - Surveys capturing user expectations from sentiment analysis tools.

    - Observations of live social media reactions during brand campaigns.
- **Key Insights**:
    - Brands prioritize tools that preemptively identify risks for high-profile campaigns.
    - Users demand analysis beyond basic sentiments to include context-specific feedback.
    - Customizable features for industry-specific applications are highly valued.

Define

- **User-Centered Insight**:
  "Create an efficient tool for real-time analysis of social media sentiments to empower brands in proactive reputation management."

3. Ideation Session

- **Techniques**: Brainstorming and mind mapping.
- **Generated Ideas**:
    1. Real-time sentiment tracking dashboard.
    2. Alert system for sentiment shifts.
    3. Emoji-based sentiment analysis for nuanced understanding.
- **Selected Solution**:
  A comprehensive dashboard featuring real-time sentiment analysis with emotion categorization and alerts for significant sentiment changes.

4. Prototyping

- **Low-Fidelity Prototypes**:
    - A dashboard mock-up categorizing sentiments into positive, negative, and neutral with additional emotional insights like joy or anger.

- Workflow diagrams illustrating sentiment data collection and analysis.

Real-Time Sentiment Dashboard Mock-Up

5. Testing and Reflection

- **Testing**:
  - Conducted with stakeholders from diverse sectors.
  - Aimed at evaluating accuracy, usability, and relevance.
- **Feedback Summary**:
  - The sentiment classification system (positive, negative, neutral) worked effectively but required enhanced visualization.
  - Suggestions included refining the alert system for better prioritization of critical feedback.
- **Refinements**:
  - Improved user interface for more intuitive data interpretation.
  - Enhanced integration capabilities with social media platforms and CRM tools.

Conclusion

The AI-driven sentiment analysis framework offers businesses a powerful tool to understand and respond to customer feedback in real time. By leveraging NLP, DNN, and scalable technologies, it provides actionable insights, helping organizations preempt potential risks and improve customer engagement.