BRACT's

Vishwakarma Institute of Information Technology, Pune

Department: IT	**Semester:** IV	**Academic Year:** 2024-25	**Assignment no:1**
Class/ Division/ Batch: SY(B)- B3			
Course Name: **User Centric Software Design**			

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Remark: **Sign:**

Developing an Intelligent Movie Recommendation and Review Aggregation Website with Chatbot Integration

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Objective

The objective of this assignment was to analyze and document the requirements for creating *Cinevea*—a web application that offers personalized movie recommendations and aggregates reviews from various platforms like IMDb and Rotten Tomatoes. This system is aimed at enhancing the user experience by providing a centralized platform for movie discovery and decision-making, with the integration of a chatbot to assist users in finding movies based on personalized preferences.

Steps Taken

1. Identifying Stakeholders

The first step was to identify the key stakeholders who would interact with or benefit from the website:

- **End-users**: Movie enthusiasts seeking personalized suggestions, aggregated reviews, and collaborative watchlists.
- **Business owners**: Companies hosting the website and aiming to increase user engagement.
- **Developers**: The technical team responsible for building the website.
- **Content providers**: Platforms like IMDb, Rotten Tomatoes, and streaming services supplying data.
- **Advertisers**: Sponsors aiming to connect with the website's target audience.

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2. Gathering Requirements

To ensure comprehensive and accurate requirements, the following elicitation techniques were considered:

- **Interviews**: Conducted to understand user preferences regarding movie recommendations and how they like reviews presented on a website.

- **Focus Groups**: Organized brainstorming sessions with small groups to identify desired website features and functionalities.
- **Surveys**: Distributed to collect data on user preferences for genres, review platforms, and modes of interaction.
- **Observation**: Analyzed user behavior to identify gaps in current methods of movie discovery.
- **Document Analysis**: Studied existing movie recommendation systems to learn from their strengths and weaknesses.
- **Prototyping**: Created rough models of the website's interface and chatbot integration to gather early feedback from stakeholders.

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3. Categorizing Requirements

The gathered requirements were classified into the following categories:

- **Functional Requirements:**
  - The website should recommend movies based on mood, genre, or past preferences.
  - It should aggregate reviews from trusted platforms like IMDb, Rotten Tomatoes, and Metacritic.
  - A search functionality should be included for users to find specific movie details.
  - Users should have the option to rate movies, contributing to improved recommendations.
  - Registered users should be able to create custom watchlists and collaborative lists with other users.
- **Non-Functional Requirements:**
  - The website should handle up to 1,000 concurrent users.
  - Response time must not exceed 2 seconds to ensure a smooth user experience.
  - User data should be securely stored and protected.
- **Business Requirements:**
  - Increase user engagement by at least 20% within the first six months.
  - Provide insights into popular genres and trends for business decision-making.
- **Technical Requirements:**
  - Integrate APIs from platforms like IMDb, Rotten Tomatoes, and Metacritic.
  - Ensure compatibility across web and mobile platforms.
  - Incorporate natural language understanding in the chatbot for seamless user interactions.

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4. Prioritizing and Validating Requirements

Requirements were prioritized using the MoSCoW method (Must have, Should have, Could have, Won't have). Validation involved:

- **Stakeholder Walkthroughs**: Collaborating with stakeholders to confirm the feasibility and relevance of the requirements.
- **Prototypes**: Demonstrating website features and chatbot interactions to test usability and gather feedback.
- **API Testing**: Ensuring smooth integration with external platforms like IMDb and Rotten Tomatoes.

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5. Analyzing and Modeling Requirements

The gathered requirements were analyzed to identify gaps and dependencies. Visual representations were created to illustrate workflows and relationships:

- **Use Case Diagrams**: Mapped out user interactions with the website, including the chatbot functionality.
- **Entity-Relationship Diagrams (ERDs)**: Highlighted relationships between movies, genres, reviews, and users.

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6. Planning for Change

A change management process was proposed to address evolving requirements. Tools like Jira were recommended for tracking changes and ensuring traceability throughout the development lifecycle.

Deliverables

The following deliverables were produced:

1. **Requirement Specification Document (RSD)**: Detailed documentation of all gathered requirements.
2. **Prototypes**: Visual representations of website features and chatbot interactions.
3. **Requirement Traceability Matrix (RTM)**: A map linking requirements to implementation and testing phases.

Best Practices Followed

- **User-Centered Design**: Ensured the website is intuitive and user-friendly.

- **Stakeholder Engagement**: Maintained regular communication with stakeholders to incorporate their feedback.
- **Iterative Refinement**: Continuously improved requirements and prototypes based on feedback.
- **Automation Tools**: Leveraged tools to manage requirements efficiently.

Conclusion

Through detailed requirement gathering and analysis, a solid foundation was established for developing *Cinevea*—an intelligent movie recommendation and review aggregation website with chatbot integration. This website is designed to provide users with an engaging, personalized experience while aligning with business and technical goals. By focusing on user needs and adopting best practices, the proposed system is well-positioned to achieve its objectives, ensuring both user satisfaction and business success.