1. Overview

The YouTube Video Logs feature will enable users (both creators and viewers) to access detailed logs of their video activities. This feature will provide video creators with insights into how their content is consumed and allow viewers to track their video-watching history, including interaction details such as likes, comments, and shares. The logs will offer detailed tracking, filtering, and exporting options to improve user experience and aid content creators in optimizing their channels.

2. Objectives

- Provide content creators with detailed insights into the performance of their videos.
- Offer viewers an easy way to review their video-watching history and interactions.
- Enable filtering and exporting of logs for analysis and reporting.
- Improve creators' ability to make data-driven decisions regarding content strategy.
- Ensure logs are presented in an easily understandable and actionable format.

3. Key Features

3.1. Video Viewing Logs for Viewers

- **Watch History**:
  - Display a detailed history of all videos the user has watched, including:
    - Video title
    - Channel name
    - Watch date and time
    - Watch duration (full/partial)
- **Interaction History**:
  - Track user interactions on videos, including:
    - Likes/dislikes
    - Comments (posted, edited, or deleted)
    - Shares (including shared platform and time)
    - Playlist additions
- **Search & Filter Options**:
  - Allow users to filter the logs by date, watch duration, interaction type, and channel.

3.2. Video Performance Logs for Creators

- **Watch Metrics**:
  - Detailed logs of video performance:
    - Total views (daily, weekly, monthly)
    - Average watch time per video
    - Drop-off points (when viewers stopped watching)
- **Engagement Logs**:
  - Interaction logs:
    - Likes/dislikes over time
    - Comment history (including replies, likes on comments)
    - Shares (by platform and country)
    - Subscriber gain or loss per video
- **Traffic Source Logs**:
  - Breakdown of traffic sources such as:
    - YouTube search
    - External (from other websites or social media)
    - Suggested videos

        - Channel pages
- **Geographic and Demographic Logs**:
    - Detailed geographic and demographic breakdowns:
        - Viewer location (country, region)
        - Viewer age group and gender

3.3. Log Export Options

- **Data Export**:
    - Users (both viewers and creators) can export logs in common formats such as CSV and JSON.
- **Scheduled Reports for Creators**:
    - Option for content creators to schedule daily, weekly, or monthly reports summarizing video performance.
- **Download Watch History**:
    - Viewers can download their complete watch and interaction history for personal use.

3.4. Real-Time Data Updates

- **Live View Metrics**:
    - For creators, provide real-time updates on current video views and interactions.
- **Live Watch History**:
    - For viewers, track and log ongoing watch activity in real-time.

3.5. Privacy and Data Control

- **Privacy Settings for Viewers**:
    - Viewers can choose to disable detailed logging for their watch history and interactions.
    - Option to clear logs permanently or selectively (e.g., clear logs for specific videos or channels).
- **Consent and Data Sharing**:
    - Ensure transparency and control over how logs are generated and stored.
    - Compliance with data privacy regulations like GDPR and CCPA.

4. User Stories

4.1. Viewer User Stories

- **As a viewer**, I want to see a log of all the videos I've watched so that I can easily revisit videos that interested me.
- **As a viewer**, I want to track my likes, comments, and shares on YouTube videos so that I can review my interaction history.
- **As a viewer**, I want to export my watch history in a CSV file so that I can analyze my YouTube activity.
- **As a viewer**, I want to filter my video logs by date so that I can find specific videos I watched during a particular time frame.

4.2. Creator User Stories

- **As a creator**, I want to see detailed logs of who is watching my videos and how long they watch them so that I can improve my content strategy.
- **As a creator**, I want to track how viewers interact with my videos (likes, comments, shares) so that I can gauge audience engagement.
- **As a creator**, I want to export my video logs into CSV format so that I can analyze and report on my video performance.

- **As a creator**, I want to filter my performance logs by time period, demographics, and traffic sources so that I can identify trends and opportunities.

5. Non-Functional Requirements

5.1. Security

- Secure user data using encryption during transmission and at rest.
- Ensure only authorized users have access to their respective logs (e.g., creators should not see detailed logs of viewer actions without explicit consent).

5.2. Performance

- Logs must be updated in near real-time, especially for creators monitoring live performance.
- The system must be able to handle large amounts of data, especially for popular creators with millions of views.

5.3. Scalability

- The system must support scaling for millions of users and creators without performance degradation.
- Ensure that logs are stored efficiently to avoid excessive storage costs and delays.

5.4. Usability

- User interfaces should be intuitive and easy to navigate, with clearly labeled filters and log options.
- Logs should be visually represented where applicable (e.g., graphs for view trends).

6. Dependencies

- Integration with YouTube's existing analytics and history APIs.
- Secure storage and retrieval systems for log data.
- Export functionality must support common formats such as CSV and JSON.

7. Risks and Assumptions

7.1. Risks

- **Privacy Concerns**: Users may be concerned about the logging and storage of their video interactions, especially if the data is shared with third parties.
- **Performance Overhead**: Real-time data updates and handling logs for popular videos may cause performance bottlenecks.
- **Storage Requirements**: Storing extensive logs for millions of videos and users could become costly and require careful optimization.

7.2. Assumptions

- Users will find value in viewing and exporting their video-watching and interaction logs.
- Creators will utilize the logs to make data-driven decisions to optimize their content.
- All data will be gathered in compliance with relevant data privacy laws.

8. Success Metrics

- **User Engagement**: Number of users accessing their video logs (both creators and viewers).
- **Export Frequency**: How often users export their logs, indicating active engagement with the feature.

- **Content Optimization**: Measure improvements in content performance based on creator use of logs (e.g., more tailored content creation, better engagement).
- **Performance**: The time taken to generate and retrieve logs should be less than 2 seconds, even for large datasets.
- **Privacy Controls**: Percentage of users who enable/disable log tracking to measure adoption of privacy features.

9. Timeline

- **Phase 1**: Research and design (2 weeks)
- **Phase 2**: Development of logging and data retrieval system (4 weeks)
- **Phase 3**: Integration with YouTube API and real-time updates (3 weeks)
- **Phase 4**: Export functionality development and testing (2 weeks)
- **Phase 5**: Testing, performance optimization, and security audit (2 weeks)
- **Phase 6**: Release and post-launch monitoring (1 week)

10. Stakeholders

- **End Users**: Both YouTube viewers and content creators who want access to their video activity logs.
- **Development Team**: Responsible for implementing the video logging feature and ensuring it works efficiently at scale.
- **YouTube Data and Privacy Team**: Ensures that the logs are compliant with privacy regulations and do not violate user trust.
- **Product Manager**: Oversees the feature development, ensures alignment with business objectives, and meets user needs.

11. Conclusion

The YouTube Video Logs feature will provide detailed, actionable data for both viewers and creators. By enabling users to access, filter, and export logs of their video activity, this feature will improve transparency, enhance content optimization efforts, and offer better user experience. Logs will be presented in a way that is easy to understand and use, allowing users to track video performance, engagement, and personal watch history effectively.