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| **ID: UC1** | **Use Case: userLogin** |
| **Brief Description:**  **Allows users to securely log in using their email and password credentials. Login enables access to the system dashboard, session tracking, and features.** | |
| **Primary actors: User** | |
| **Preconditions:**   1. **The user must already be registered in the system.** | |
| **Main Flow:**   1. **User navigates to the login page.** 2. **User enters email and password.** 3. **System validates the credentials via Supabase.** 4. **System initiates a session and redirects to the dashboard.** | |
| **Postconditions:**   1. **User is successfully logged in with an active session.** | |
| **Alternative Flow:**  **Invalid credentials Server error** | |

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| **ID: UC2** | **Use Case: registerAccount** |
| **Brief Description:**  **Allows new users to register by entering a unique email and password. The system stores the new user in the database and sends verification if needed.** | |
| **Primary actors: User** | |
| **Preconditions:**   1. **User is not currently logged in.** | |
| **Main Flow:**   1. **User navigates to registration page.** 2. **User enters required registration details.** 3. **System validates inputs and checks for duplicates.** 4. **Account is created, and confirmation is displayed.** | |
| **Postconditions:**   1. **User can now log in with newly created credentials.** | |
| **Alternative Flow:**  **Email already registered Weak or invalid input** | |

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| **ID: UC3** | **Use Case: analyzeSentiment** |
| **Brief Description:**  **Allows users to input social media content or a URL. System performs sentiment analysis using a pretrained RoBERTa model and displays the result.** | |
| **Primary actors: User** | |
| **Preconditions:**   1. **User must be logged in.** | |
| **Main Flow:**   1. **User inputs text or link.** 2. **System fetches and cleans the content.** 3. **Text is sent to NLP model for analysis.** 4. **Sentiment results are displayed as charts.** | |
| **Postconditions:**   1. **Sentiment result shown to the user.** | |
| **Alternative Flow:**  **Invalid URL Model error** | |

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| **ID: UC4** | **Use Case: viewSentimentHistory** |
| **Brief Description:**  **Displays previously analysed sentiment trends using visualizations. Allows users to track engagement and response changes over time.** | |
| **Primary actors: User** | |
| **Preconditions:**   1. **User must be logged in.** | |
| **Main Flow:**   1. **User selects a time period.** 2. **System queries past sentiment results.** 3. **Visualizations (radar, line, etc.) are shown.** | |
| **Postconditions:**   1. **User views past sentiment analysis data.** | |
| **Alternative Flow:**  **No records found Data fetch failure** | |

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| **ID: UC5** | **Use Case: exportSentimentData** |
| **Brief Description:**  **Allows users to export historical sentiment results in downloadable formats (CSV/PDF).** | |
| **Primary actors: User** | |
| **Preconditions:**   1. **Sentiment data must exist for the logged-in user.** | |
| **Main Flow:**   1. **User clicks export.** 2. **System compiles and formats the data.** 3. **User downloads the generated file.** | |
| **Postconditions:**   1. **Exported file available on local device.** | |
| **Alternative Flow:**  **No data available Export failure** | |

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| **ID: UC6** | **Use Case: searchSentimentRecords** |
| **Brief Description:**  **Enables users to filter their sentiment history based on keywords or date ranges.** | |
| **Primary actors: User** | |
| **Preconditions:**   1. **User must be logged in.** | |
| **Main Flow:**   1. **User enters search term.** 2. **System queries the database for matching records.** 3. **Results are shown on screen.** | |
| **Postconditions:**   1. **Filtered results shown to user.** | |
| **Alternative Flow:**  **No matches found Database error** | |

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| **ID: UC7** | **Use Case: generateEngagementScore** |
| **Brief Description:**  **Analyses user’s content metrics like likes and followers. Generates a score to rate post-performance.** | |
| **Primary actors: User** | |
| **Preconditions:**   1. **User has submitted a valid post URL or content.** | |
| **Main Flow:**   1. **System fetches post engagement metrics.** 2. **Score calculated using predefined formula.** 3. **Results are displayed visually.** | |
| **Postconditions:**   1. **User views their content performance rating.** | |
| **Alternative Flow:**  **Incomplete metric data Calculation fallback** | |

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| **ID: UC8** | **Use Case: toggleDarkLightMode** |
| **Brief Description:**  **Users can toggle between light and dark UI themes for personal preference.** | |
| **Primary actors: User** | |
| **Preconditions:**   1. **User must be logged in.** | |
| **Main Flow:**   1. **User toggles UI theme from settings.** 2. **System switches visual style.** 3. **Preference is saved in the profile.** | |
| **Postconditions:**   1. **Interface theme updated and persisted.** | |
| **Alternative Flow:**  **Failed to save preference** | |

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| **ID: UC9** | **Use Case: Contact Us Form** |
| **Brief Description:**  **allow users to send a message via the “Contact Us” form on the homepage.** | |
| **Primary actors: User (Anonymous or Logged-in User)** | |
| **Preconditions:**   1. **The user has accessed the homepage.** 2. **The “Contact Us” form is visible and interactive.** | |
| **Main Flow:**   1. **User navigates to homepage.** 2. **User locates and fills in the contact form:** 3. **User clicks “Send Message”.** 4. **System validates input (e.g., email format, message not empty).** 5. **Message is sent to support@takareview.com or stored in DB.** 6. **Confirmation shown: “Message Sent! We’ll get back to you soon.”** 7. **Admin can access messages via email or admin panel (optional future extension).** | |
| **Postconditions:**   1. **The message is sent to the support system (via email or stored in DB).** 2. **User sees a success message or feedback.** | |
| **Alternative Flow:**  **Invalid Email Format: Show validation error “Please enter a valid email address.”**  **Missing Fields: Highlight and prompt: “All fields are required.”**  **System Error: Show error: “Message could not be sent. Try again later.”** | |

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| **ID: UC10** | **Use Case: getContentAdvice** |
| **Brief Description:**  **Provides tailored recommendations to improve content quality. Uses previous sentiment data to generate improvement tips.** | |
| **Primary actors: User** | |
| **Preconditions:**   1. **User must have existing sentiment history.** | |
| **Main Flow:**   1. **System analyzes sentiment trends.** 2. **Generates improvement suggestions.** 3. **Results shown in dashboard.** | |
| **Postconditions:**   1. **Content advice delivered to user.** | |
| **Alternative Flow:**  **AI model fails Fallback suggestions shown** | |

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| **ID: UC11** | **Use Case: chatbotInteraction** |
| **Brief Description:**  **Enables the user to chat with an AI chatbot to ask for feedback or insight.** | |
| **Primary actors: User** | |
| **Preconditions:**   1. **User must be logged in.** | |
| **Main Flow:**   1. **User opens chatbot interface.** 2. **Asks content or analysis-related questions.** 3. **Chatbot provides intelligent responses.** | |
| **Postconditions:**   1. **Response shown to the user.** | |
| **Alternative Flow:**  **Chatbot API fails Empty or default message shown** | |

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| **ID: UC12** | **Use Case: userLogout** |
| **Brief Description:**  **Allows the user to safely log out of the platform and terminate their session.** | |
| **Primary actors: User** | |
| **Preconditions:**   1. **User must be logged in.** | |
| **Main Flow:**   1. **User clicks logout.** 2. **System destroys session and clears cookies.** 3. **User is redirected to login page.** | |
| **Postconditions:**   1. **User successfully logged out.** | |
| **Alternative Flow:**  **Session token error** | |