
Software Requirements Specification

for

SnapNews

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version
SnapNews	29-01-2024		1.0

1. Introduction

1.1 Purpose

Snap News is a mobile app designed to provide users with concise and comprehensive news summaries and most important headlines and stories of the day in just a few words.

1.2 Document Conventions

Snap News is a mobile app designed to provide users with concise and comprehensive news summaries and most important headlines and stories of the day in just a few words.

1.3 Intended Audience and Reading Suggestions

Intended Audience:

- Busy professionals and students: SnapNews targets individuals with limited time who still want to stay informed about current events. Its concise summaries and short read time cater to those on the go or with packed schedules.
- Young adults and millennials: The app's design and content (often focusing on trending topics and pop culture) resonates with younger demographics.
- News consumers who prefer a quick overview: SnapNews is ideal for those who want the gist of a story without delving into in-depth details.
- Individuals seeking diverse perspectives: The app aggregates news from various sources, offering a range of viewpoints.
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Reading Suggestions:

- Commuting to work or school: Catch up on the latest headlines while traveling.
- Waiting in line or during short breaks: Quickly scan through news summaries to stay updated.
- Before bedtime: Briefly skim through the day's news for a quick overview.

When you want a general understanding of a trending topic: Snapnews provides a good starting point for further exploration.

1.4 Product Scope

Core Functionality:

- Provide concise summaries of news articles across various categories.
- Personalize the news feed based on user preferences and reading history.
- Offer multiple languages and regional news options.
- Enable offline reading of downloaded articles.
- Integrate social media sharing features.

Additional Features:

- "Quiz ,Poll and Survey of the Day" based on the top headline
- Fact-checking and bias detection tools.
- In-depth analysis and expert commentary on major stories (limited)
- Subscription model for ad-free experience and premium features (not currently implemented).

1.5 References

None

2. Overall Description

2.1 Product Perspective

User:

- Pros: Fast, diverse news, personalized feed, offline access, multiple languages.
- Cons: Limited depth, potential bias, information overload, lacks interactivity, ads might disrupt.

Business:

- Pros: Large user base, low content costs, monetization options, scalability, brand partnerships
- Challenges: Maintaining trust, content freshness, user engagement, monetization balance, competition.

2.2 Product Functions

1. Curated news summaries for quick updates.
2. Personalized news feed based on user preferences.
3. Covers diverse topics including politics, sports, and technology.
4. Multimedia content for enhanced engagement.
5. Offline reading option for access without internet.
6. Instant breaking news alerts.
7. Easy sharing of news summaries on social media.
8. Intuitive user interface for seamless navigation.
9. Search functionality for finding specific topics.

10. Commentary and analysis for deeper understanding.
11. Emphasis on brevity and clarity in news delivery.
12. Feedback mechanism for continuous improvement.

2.3 User Classes and Characteristics

- Content creators (people who write news article and create quiz and poll)
- News Readers(people who love to read and share the news article)
- Admin (looks over all the functions of the application)
- Brands/ Advertisers (for ads and paid content)

2.4 Operating Environment

The software will operate in a web-based environment, compatible with commonly used browsers. It requires stable internet connectivity for both users and content creator to access and utilize the platform effectively.

2.5 Design and Implementation Constraints

Design Constraints:

- **Content Acquisition:** Balancing the need for diverse and timely news sources with the challenges of copyright agreements, content licensing, and content moderation.
- **Personalization:** Designing algorithms that effectively personalize news feeds for individual users while avoiding filter bubbles and echo chambers.
- **User Interface:** Creating an intuitive and user-friendly interface that caters to different user preferences and screen sizes.
- **Performance:** Ensuring fast loading times and smooth navigation, especially on low-bandwidth connections

Implementation Constraints:

- **Data Storage and Scalability:** Efficiently storing and managing large amounts of news data while ensuring scalability for a growing user base.
- **Machine Learning Models:** Training and maintaining machine learning models for tasks like content recommendation and personalization, requiring significant computational resources.
- **Offline Functionality:** Enabling users to access news even when offline, requiring careful caching and data management strategies.
- **Battery Optimization:** Minimizing battery consumption for a good user experience, especially on mobile devices.

2.6 User Documentation

User documentation, including manuals, reading news etc will be delivered with the software. The format and standards for documentation will adhere to industry best practices

2.7 Assumptions and Dependencies

SnapNews assumes a stable internet connection, user engagement, and reliable news sources. It depends on third-party APIs, machine learning, cloud infrastructure, and mobile OSes.

3. External Interface Requirements

3.1 User Interfaces

- **News Feed:** Displays short news summaries in a card-based layout, allowing users to scroll through and select articles.
- **Category Selection:** Allows users to filter news stories by categories like Top Stories, Sports, Entertainment, etc.
- **Search Bar:** Enables users to search for specific news topics or keywords within the app.
- **Navigation Drawer or Menu:** Provides access to additional features such as settings, saved articles, and user profile.
- **Settings:** Allows users to customize preferences such as notifications, language, and app theme.
- **Notifications:** Delivers push notifications to alert users about breaking news or important updates.

- **Share Options:** Enables users to share news articles via social media, email, or messaging apps.
- **Bookmarking:** Allows users to save or bookmark articles for later reading.
- **Feedback/Contact:** Provides a way for users to provide feedback, report issues, or contact support.

3.2 Hardware Interfaces

- **Devices:** Phone or Computer.
- **Processor:** Pentium or higher.
- **RAM:** 512 MB or higher.
- A proper internet connection of more than 10kbps.

3.3 Software Interfaces

- **Operating System:** SnapNews app interfaces with the mobile device's operating system (e.g., Android, iOS) to ensure compatibility and access system resources.
- **APIs:** Interfaces with external APIs to fetch news content from various sources and services.
- **Database:** Interfaces with a database to store user preferences, saved articles, and other data.

3.4 Communications Interfaces

- **Internet:** Relies on internet connectivity to fetch news content, deliver push notifications, and enable social media sharing.
- **Push Notification Service:** Interfaces with push notification services to deliver timely news alerts to users' devices.
- **Social Media APIs:** Interfaces with social media platforms' APIs to facilitate sharing news articles on social media platforms like Facebook, Twitter, etc.
- **Backend Servers:** Communicates with backend servers to fetch, update, and synchronize news content and user data.

4. System Features

4.1 Select Languages

4.1.1 Description and Priority

The language selection feature allows users to choose their preferred language for accessing SnapNews, ensuring a more personalized and accessible user experience.

4.1.2 Stimulus/Response Sequences

S1: Upon launching the SnapNews app for the first time,

R1: A page displays a variety of regional languages to choose from.

S2: After selecting their preferred language,

R2: The app redirects the user to the login/sign-up page.

4.1.3 Functional Requirements

REQ-1: Language Preferences – SnapNews shall provide users with the option to use the application in their preferred regional language.

REQ-2: Dynamic Language Display – SnapNews shall dynamically showcase available languages based on the user's detected location.

4.2 Login/Signup

4.1.1 Description and Priority

The login and signup functionality enables users to create accounts or authenticate themselves to access personalized features and content within SnapNews.

4.1.2 Stimulus/Response Sequences

S1: Upon launching SnapNews or accessing restricted content,

R1: Users are prompted to either log in to their existing account or sign up for a new one.

S2: After selecting the login option,

R2: The app presents fields for users to enter their credentials (e.g., username/email and password).

S3: Upon submitting valid login credentials,

R3: SnapNews grants access to the user's account, displaying personalized content and features.

S4: If users choose the signup option,

R4: The app navigates to a registration page where users can input required information to create a new account.

S5: After successful signup,

R5: SnapNews acknowledges the new account creation and may redirect users to the login page for immediate access.

4.1.3 Functional Requirements

REQ-3: Account Creation – SnapNews shall allow users to create new accounts by providing necessary information during the signup process.

REQ-4: User Authentication – SnapNews shall verify user credentials during the login process to grant access to authenticated users only.

REQ-5: Password Encryption – SnapNews shall encrypt user passwords to ensure the security of user accounts and sensitive information.

REQ-6: Forgot Password – SnapNews shall provide a mechanism for users to reset their passwords in case they forget them, following a secure authentication process.

REQ-7: Account Management – SnapNews shall allow users to update their account information, including profile details and preferences, through a dedicated settings section.

4.3 Bookmarks and History

4.3.1 Description and Priority

The bookmarks and history functionality allows users to save articles for later reading and access their browsing history within SnapNews, facilitating a seamless and personalized user experience.

4.3.2 Stimulus/Response Sequences

S1: While browsing news articles within SnapNews,

R1: Users have the option to bookmark articles for future reference.

S2: Upon selecting the bookmark option for an article,

R2: The app acknowledges the action and saves the article to the user's bookmarks.

S3: When accessing the bookmarks section within SnapNews,

R3: The app displays a list of saved articles for the user to browse and manage.

S4: If users navigate to a previously viewed article,

R4: SnapNews presents the article from the browsing history, allowing users to revisit previously accessed content.

4.3.3 Functional Requirements

REQ-1: Bookmarking Functionality – SnapNews shall allow users to bookmark news articles for later access, providing a convenient way to save and organize content.

REQ-2: Bookmark Management – SnapNews shall enable users to view, edit, and remove bookmarked articles from their saved list.

REQ-3: Browsing History – SnapNews shall maintain a history of articles accessed by users, allowing them to revisit previously viewed content.

REQ-4: Clear History Option – SnapNews shall provide users with the option to clear their browsing history, ensuring privacy and decluttering the interface.

REQ-5: Synchronization – SnapNews shall synchronize bookmarks and browsing history across devices for users with accounts, ensuring continuity of user experience across platforms.

4.4 News Quiz

4.4.1 Description and Priority

The news quiz feature offers users an interactive way to test their knowledge of current events

and news topics covered within SnapNews, promoting engagement and enhancing user retention.

4.4.2 Stimulus/Response Sequences

S1: Upon accessing the news quiz section within SnapNews,

R1: Users are presented with a series of multiple-choice or true/false questions related to recent news articles and topics.

S2: After selecting an answer for each question,

R2: SnapNews provides immediate feedback on the correctness of the user's response.

S3: Following completion of the quiz,

R3: The app displays the user's score and may offer additional options such as sharing the results on social media.

4.4.3 Functional Requirements

REQ-1: Quiz Generation – SnapNews shall generate quizzes consisting of questions based on recent news articles and topics covered within the application.

REQ-2: Question Types – SnapNews shall support multiple-choice and true/false question formats for the quiz.

REQ-3: Randomization – SnapNews shall randomize the order of questions and answer options to ensure variability and prevent predictability in quiz sessions.

REQ-4: Scoring Mechanism – SnapNews shall calculate and display the user's score based on the number of correct responses in the quiz.

REQ-5: Feedback – SnapNews shall provide immediate feedback to users after answering each quiz question, indicating whether their response was correct or incorrect.

REQ-6: Sharing Options – SnapNews shall offer users the option to share their quiz results on social media platforms, encouraging engagement and interaction among users.

4.5 Source Swapping Option

4.5.1 Description and Priority

The source swapping option allows users to easily switch between different news sources for a particular article within SnapNews, providing users with varied perspectives and ensuring comprehensive news coverage.

4.5.2 Stimulus/Response Sequences

S1: While reading a news article within SnapNews,

R1: Users are presented with an option to view the same news content from alternative sources.

S2: Upon selecting the source swapping option,

R2: SnapNews displays a list of available news sources covering the same story.

S3: After choosing a different source from the list,

R3: The app seamlessly transitions to the selected source's version of the article.

4.5.3 Functional Requirements

REQ-1: Source Selection – SnapNews shall provide users with the option to swap between different news sources for a particular article.

REQ-2: Source Diversity – SnapNews shall curate a diverse selection of news sources covering the same story to offer users varied perspectives and insights.

REQ-3: User Preference – SnapNews shall remember users' source preferences for future articles,

providing a more personalized news reading experience over time.

REQ-4: Compatibility Check – SnapNews shall ensure compatibility and consistency in article content across different sources to maintain the integrity and reliability of news coverage.

4.6 Post News (For Writers)

4.6.1 Description and Priority

The post news functionality enables writers and contributors to create and publish news articles within SnapNews, allowing for the dissemination of timely and relevant information to users.

4.6.2 Stimulus/Response Sequences

S1: Upon accessing the writer's dashboard within SnapNews,

R1: Writers are presented with options to create and post news articles.

S2: After selecting the "Post News" option,

R2: SnapNews provides a form or editor interface for writers to input article content, including headline, body text, images, and relevant metadata.

S3: Upon completing the article draft,

R3: Writers have the option to preview the article before publishing it.

S4: After confirming the article details,

R4: SnapNews publishes the news article to the platform, making it accessible to users.

4.6.3 Functional Requirements

REQ-1: Article Creation Interface – SnapNews shall provide a user-friendly interface for writers to create and edit news articles, including options for formatting and adding multimedia content.

REQ-2: Draft Saving – SnapNews shall allow writers to save article drafts as they work on them, enabling them to resume editing at a later time if necessary.

REQ-3: Article Preview – SnapNews shall offer writers the ability to preview their articles before finalizing and publishing them to ensure content accuracy and presentation.

REQ-4: Publishing Control – SnapNews shall provide writers with the option to schedule article publication or publish articles immediately upon completion.

REQ-5: Content Moderation – SnapNews shall implement moderation mechanisms to review and approve news articles before they are published to maintain content quality and integrity.

REQ-6: Author Attribution – SnapNews shall attribute published articles to their respective writers, providing recognition and accountability for contributed content..

4.7 Admin Icon

4.7.1 Description and Priority

The admin icon provides administrators with access to administrative functionalities and controls within SnapNews, allowing them to manage users, monitor content, and perform other

4.7.2 Stimulus/Response Sequences

S1: Upon logging in as an administrator within SnapNews,

R1: The admin icon is prominently displayed in the application interface, typically in a top-level navigation bar or sidebar.

S2: After selecting the admin icon,

R2: SnapNews presents the administrator with a range of administrative options and tools, such as user management, content moderation, analytics, and settings.

S3: Upon performing administrative actions or configurations,

R3: SnapNews provides immediate feedback or confirmation messages to the administrator to indicate the success or status of the operation.

4.7.3 Functional Requirements

REQ-1: Administrative Access Control – SnapNews shall restrict access to the admin icon and associated functionalities to users with administrator privileges only.

REQ-2: User Management – SnapNews shall provide administrators with tools to manage user accounts, including user registration, authentication, role assignment, and account suspension or deletion.

REQ-3: Content Moderation – SnapNews shall offer administrators the ability to review, edit, delete, or flag user-generated content to enforce community guidelines and maintain content quality.

REQ-4: Analytics Dashboard – SnapNews shall include an analytics dashboard accessible via the admin icon, providing administrators with insights into user engagement, content performance, and other key metrics.

REQ-5: System Settings – SnapNews shall allow administrators to configure application settings and parameters through the admin interface, such as app themes, notification preferences, and language settings.

4.8 Search News

4.8.1 Description and Priority

The search news functionality allows users to search for specific news articles or topics within SnapNews, enabling quick access to relevant information and enhancing user experience.

4.8.2 Stimulus/Response Sequences

S1: Upon accessing the search bar within SnapNews,

R1: Users are presented with a text input field to enter search queries.

S2: After entering a search query and submitting it,

R2: SnapNews displays a list of relevant news articles matching the search criteria.

S3: If no matching articles are found,

R3: SnapNews notifies the user and may offer suggestions or prompts to refine the search query.

4.8.3 Functional Requirements

REQ-1: Search Query Processing – SnapNews shall process user search queries to identify relevant news articles based on keywords, topics, or metadata.

REQ-2: Search Results Display – SnapNews shall present search results in a visually appealing and easily navigable format, including article headlines, summaries, and publication dates.

REQ-3: Search Filters – SnapNews shall offer users the option to filter search results by criteria such as publication date, news category, or source to refine search results.

REQ-4: Search Suggestions – SnapNews shall provide autocomplete suggestions or predictive search features to assist users in formulating search queries and finding relevant content quickly.

4.9 Payment Gateway

4.9.1 Description and Priority

The payment gateway integration enables users to make secure and convenient payments within SnapNews for premium features, subscriptions, or purchases, enhancing monetization opportunities and user experience.

4.9.2 Stimulus/Response Sequences

S1: Upon accessing premium features or content requiring payment within SnapNews,

R1: Users are presented with options to proceed with the payment process.

S2: After selecting a payment option (e.g., credit/debit card, mobile wallet, or other supported payment methods),

R2: SnapNews redirects the user to a secure payment gateway interface for transaction processing.

S3: Upon completion of the payment transaction,

R3: SnapNews provides confirmation of the successful payment and grants access to the premium features or content.

4.9.3 Functional Requirements

REQ-1: Payment Gateway Integration – SnapNews shall integrate with one or more payment gateway services to facilitate secure and seamless payment transactions within the application.

REQ-2: Payment Method Support – SnapNews shall support multiple payment methods, including credit/debit cards, mobile wallets, and other popular payment options, to accommodate user preferences and regional requirements.

REQ-3: Secure Transaction Handling – SnapNews shall ensure the confidentiality and integrity of user payment data by employing encryption and compliance with industry-standard security protocols.

REQ-4: Payment Confirmation – SnapNews shall provide users with immediate confirmation of successful payment transactions, along with receipts or transaction summaries for their records.

REQ-5: Subscription Management – SnapNews shall offer users the ability to manage their subscriptions, including upgrading, downgrading, or canceling subscription plans, through the

4.10 Share News

4.10.1 Description and Priority

The share news functionality allows users to easily share interesting articles or news content with others through various communication channels, enhancing user engagement and promoting content dissemination.

4.10.2 Stimulus/Response Sequences

S1: While reading a news article within SnapNews,

R1: Users are presented with options to share the article via various social media platforms, messaging apps, or other communication channels.

S2: After selecting the share option for an article,

R2: SnapNews displays a list of available sharing options or prompts the user to choose a preferred sharing method.

S3: Upon selecting a sharing method and confirming the action,

R3: SnapNews initiates the sharing process and notifies the user of the successful sharing of the article.

4.10.3 Functional Requirements

REQ-1: Sharing Options – SnapNews shall provide users with a range of sharing options, including social media platforms (e.g., Facebook, Twitter), messaging apps (e.g., WhatsApp, Messenger), email, and other communication channels.

REQ-2: Share Button Integration – SnapNews shall integrate share buttons or icons within the application interface, making it easy for users to initiate the sharing process with a single tap or click.

REQ-3: Customized Sharing Messages – SnapNews shall allow users to customize the shared content or add personal messages before sharing articles, enhancing user engagement and personalization.

REQ-4: Analytics Tracking – SnapNews shall track and analyze sharing activities to gather insights into user engagement and the popularity of shared content, facilitating content optimization and marketing strategies.

4.11 Notifications

4.11.1 Description and Priority

The notifications functionality enables SnapNews to notify users about important updates, such as new articles, breaking news alerts, personalized recommendations, or account-related notifications, enhancing user engagement and retention.

4.11.2 Stimulus/Response Sequences

S1: When new articles are published or relevant updates occur within SnapNews,

R1: SnapNews sends push notifications to users' devices, alerting them to the new content or updates.

S2: After receiving a notification,

R2: Users can tap on the notification to open SnapNews directly to the relevant content or take appropriate actions based on the notification type.

S3: If users are not actively using SnapNews when notifications are sent,

R3: SnapNews may display notifications in the device's notification center or status bar for users to review later.

4.11.3 Functional Requirements

REQ-1: Push Notification Integration – SnapNews shall integrate with push notification services to deliver timely and relevant notifications to users' devices across platforms (e.g., iOS, Android).

REQ-2: Notification Customization – SnapNews shall allow users to customize notification preferences, including opt-in/opt-out settings, notification frequency, and notification types (e.g., breaking news alerts, recommended articles).

REQ-3: Personalized Notifications – SnapNews shall leverage user preferences, browsing history, and engagement data to deliver personalized notifications tailored to individual user interests and behaviors.

REQ-4: Notification History – SnapNews shall maintain a history of notifications within the application interface, allowing users to review past notifications and revisit relevant content.

REQ-5: Notification Analytics – SnapNews shall track and analyze notification engagement metrics, such as open rates and click-through rates, to evaluate the effectiveness of notifications and optimize notification strategies.

4.12 Logout

4.12.1 Description and Priority

The logout functionality allows users to securely log out of their accounts within SnapNews, ensuring the protection of their personal information and enhancing privacy.

4.12.2 Stimulus/Response Sequences

S1: When users decide to log out of their account within SnapNews,

R1: SnapNews prompts users to confirm their intention to log out.

S2: After confirming the logout action,

R2: SnapNews terminates the user's current session and navigates them to the login screen or a landing page.

S3: Upon successful logout,

R3: SnapNews may display a confirmation message or notification to acknowledge the logout and provide reassurance to the user.

4.12.3 Functional Requirements

REQ-1: Logout Button – SnapNews shall include a visible and easily accessible logout button or option within the application interface, allowing users to initiate the logout process at any time.

REQ-2: Session Termination – SnapNews shall terminate the user's current session upon logout,

invalidating any active authentication tokens or session cookies to prevent unauthorized access.

REQ-3: Clearing User Data – SnapNews shall clear any locally stored user data or session information from the device upon logout, ensuring the protection of user privacy and sensitive information.

REQ-4: Redirect to Login Screen – SnapNews shall redirect users to the login screen or a landing page upon successful logout, providing a clear pathway for users to reauthenticate or navigate to other sections of the application.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

The SnapNews mobile application should prioritize speed and responsiveness. When the internet connection is stable, users should be able to access and browse news articles without delays or interruptions.

5.2 Safety Requirements

Safety concerns in SnapNews are minimal, as the application primarily deals with news content. However, the system must ensure data security and user privacy. Standard security measures should be implemented to protect user information from unauthorized access or breaches.

5.3 Security Requirements

User Authentication: SnapNews must implement secure user authentication mechanisms to verify user identities and prevent unauthorized access.

Data Encryption: Encryption protocols should be employed to protect sensitive user data, such as login credentials and personal information, during transmission and storage.

Administrator Privileges: Only administrators should have privileges to access and modify user data and cookie information. Access controls must be enforced to restrict unauthorized access to administrative functionalities.

5.4 Software Quality Attributes

User-Friendly UI: SnapNews should feature a user-friendly interface for both users and cookies, prioritizing ease of navigation and readability.

Usability: The software should be intuitive and easy to use, catering to users of varying technical proficiency.

Reliability: SnapNews should maintain high reliability in delivering news content and connecting users with relevant articles.

Flexibility: The application should be adaptable to user preferences and offer customizable features such as language preferences and news feed customization.

Regular Updates and Maintenance: Regular updates and maintenance activities should ensure the robustness, stability, and reusability of the SnapNews system.

5.5 Business Rules

Accurate Information: Users must provide accurate preferences and settings to receive relevant news content effectively.

Credibility of Content: Ratings and reviews of news articles contribute to the credibility and trustworthiness of the content provided by SnapNews.

Editorial Guidelines: SnapNews should adhere to editorial guidelines and standards to ensure the quality and accuracy of news content delivered to users.

