

1. User Registration and Authentication:

- Milestone 1: Create endpoints for user registration and implement password hashing using bcrypt.
- Milestone 2: Implement login and logout endpoints with JWT-based authentication or session-based authentication.

2. User Profiles and Relationships:

- Milestone 1: Set up endpoints for retrieving and updating user information.
- Milestone 2: Implement follow/unfollow functionality between users.
- Milestone 3: Handle friend requests and mutual connections between users.

3. Posts and Feeds:

- Milestone 1: Create endpoints for creating, retrieving, updating, and deleting posts.
- Milestone 2: Implement a feed algorithm to display posts from followed users.
- Milestone 3: Allow users to like, comment on, and share posts.

4. Media Handling:

- Milestone 1: Enable users to upload and store images, videos, and other media files.
- Milestone 2: Implement image and video processing functionalities like resizing, cropping, and thumbnail generation.

5. Notifications:

- Milestone 1: Develop a system to send real-time notifications to users.
- Milestone 2: Utilize technologies like WebSockets or push notifications for real-time updates.

6. Search and Discovery:

- Milestone 1: Implement search functionality to allow users to find other users, posts, or hashtags.
- Milestone 2: Develop algorithms to recommend content or suggest users to follow based on user interests or connections.

7. Messaging and Chat:

- Milestone 1: Set up endpoints for sending and receiving private messages between users.
- Milestone 2: Implement real-time chat functionality using WebSockets or a dedicated messaging service.

8. Privacy and Security:

- Milestone 1: Implement privacy controls to allow users to manage their account visibility and post visibility.
- Milestone 2: Enforce authorization checks to ensure users can only access and modify their own data.

9. Analytics and Insights:

- Milestone 1: Track and analyze user activities, engagement metrics, and trends.
- Milestone 2: Provide insights to users, such as post reach, profile views, or follower growth.

10. Reporting and Moderation:

- Milestone 1: Implement mechanisms for users to report inappropriate content or users.
- Milestone 2: Develop moderation tools to review reported content and take necessary actions.

11. Scalability and Performance:

- Milestone 1: Design the backend architecture to handle high traffic and scalability requirements.
- Milestone 2: Optimize database queries, cache frequently accessed data, and use techniques like load balancing and horizontal scaling.

12. Data Storage and Database Management:

- Milestone 1: Choose a suitable database system and set up the necessary schemas for user data, posts, relationships, etc.
- Milestone 2: Optimize database indexes and query performance for optimal efficiency.