**Outline of the components and functionalities for a gym web app:**

1. User Authentication and Registration:

- User registration and login with email/password or social media accounts.

- Forgot password and password reset functionality.

- User profile management with personal details and profile picture.

2. Gym Membership and Bookings:

- Membership plans and packages selection.

- Booking system for classes, personal training sessions, and facilities.

- Payment integration for membership fees and booking charges.

- Notifications for upcoming classes and bookings.

3. Store for Gym Equipment:

- Online store for purchasing gym equipment and apparel.

- Product catalog with categories, images, and descriptions.

- Shopping cart and checkout process.

- Order history and tracking.

4. Workout Routines and Tracking:

- Collection of pre-designed workout routines.

- Custom workout routine creation with exercise selection and scheduling.

- Progress tracking with stats, measurements, and before-after photos.

- Integration with wearables and fitness tracking devices.

5. Fitness Blog and Resources:

- Blog section with fitness tips, nutrition advice, and success stories.

- Video library of exercise demonstrations and tutorials.

- Nutrition guides and meal plans.

6. Community and Social Interaction:

- Forums or discussion boards for members to connect and share experiences.

- Social media integration for sharing achievements and workout updates.

- Virtual classes and challenges to engage members.

7. Admin Panel:

- Dashboard for managing gym memberships, bookings, and equipment sales.

- Inventory management for gym equipment and merchandise.

- User management and moderation tools.

- Analytics and reporting for member engagement and business performance.

8. Trainer and Coach Interaction:

- Profiles for gym trainers and coaches with their specialties.

- Online booking for personal training sessions.

- Communication tools for trainers to share workout plans and track progress.

9. Mobile App Integration:

- Companion mobile app for easy access to booking, workout tracking, and notifications.

- Integration with fitness tracking sensors and devices.

10. Feedback and Ratings:

- Member reviews and ratings for classes, trainers, and equipment.

- Feedback mechanisms for classes and gym facilities.

11. Privacy and Security:

- Data encryption for sensitive user information.

- Privacy settings to control profile visibility.

- Compliance with data protection regulations.

12. Search and Filtering:

- Advanced search and filtering options for finding classes, trainers, and equipment.

- Location-based search for nearby gyms and facilities.

13. Notifications and Reminders:

- Automated reminders for upcoming classes, sessions, and bookings.

- Push notifications for app updates and new content.

14. Feedback and Support:

- Customer support chat or ticketing system.

- Feedback forms for improving the app and services.

15. Integration with Health Services:

- Integration with health assessment tools and medical professionals.

- Access to nutritionists and dietitians for personalized guidance.

**User stories for the gym web app, representing different types of users and their interactions with the app:**

1. As a New Member, I Want to Register for a Gym Membership:

- As a new user, I want to create an account using my email and password.

- I want to choose a suitable membership plan from available options.

- I want to provide personal details and make a payment to complete the registration.

2. As a Regular Member, I Want to Book Fitness Classes:

- As a logged-in member, I want to browse the class schedule and descriptions.

- I want to select a class, choose a convenient time, and make a booking.

- I want to receive email or app notifications to remind me of upcoming classes.

3. As a Fitness Enthusiast, I Want to Create a Custom Workout Routine:

- As a registered user, I want to access the workout routine builder.

- I want to select exercises from a library, set repetitions, and specify days.

- I want to save and track my progress with the created routine.

4. As a Shopper, I Want to Purchase Gym Equipment:

- As a visitor or member, I want to explore the online store's product catalog.

- I want to add items to my shopping cart and review my cart contents.

- I want to proceed to checkout, provide shipping details, and make a payment.

5. As a Community Member, I Want to Join Fitness Challenges:

- As a member, I want to view ongoing fitness challenges in the app.

- I want to join a challenge, track my progress, and submit updates.

- I want to interact with other participants and share my achievements.

6. As a Personal Trainer, I Want to Schedule Personal Training Sessions:

- As a certified trainer, I want to log in to the trainer portal.

- I want to set my availability and allow clients to book sessions.

- I want to communicate with clients, share workout plans, and track their progress.

7. As an Admin, I Want to Manage Gym Memberships:

- As an admin user, I want to access the admin panel.

- I want to view membership details, approve registrations, and process payments.

- I want to send membership renewal reminders to members.

8. As a Blog Reader, I Want to Learn Fitness Tips:

- As a visitor or member, I want to browse the fitness blog.

- I want to read articles, watch tutorial videos, and access nutrition guides.

- I want to share useful articles with friends through social media.

9. As a Mobile User, I Want to Track My Workouts on the Go:

- As a member with the mobile app, I want to sync my workouts.

- I want to use my phone's camera to capture progress photos.

- I want to receive real-time notifications and reminders.

10. As a Support-Seeker, I Want to Contact Customer Support:

- As a user facing issues, I want to access the help center or contact support.

- I want to submit a support ticket, describe my issue, and attach screenshots.

- I want to receive timely responses and solutions to my problems.

**Common pages that could be included in the gym web app based on the functionalities and user stories**

1. Homepage:

- Overview of the gym's services, classes, and equipment.

- Highlighted features, testimonials, and success stories.

2. User Authentication:

- Login and registration pages for new and existing users.

- Password reset and account recovery options.

3. Membership Plans:

- Display of different membership plans and pricing.

- Comparison of features and benefits for each plan.

4. Class Schedule:

- Listing of fitness classes with details, timings, and instructors.

- Ability to filter by class type, day, and location.

5. Booking System:

- Calendar view for booking fitness classes and facilities.

- Confirmation and reminders for upcoming bookings.

6. Workout Routines:

- Library of pre-designed workout routines and challenges.

- Custom workout routine builder with exercise selection.

7. Gym Store:

- Product catalog with categories and images.

- Shopping cart, checkout, and order tracking.

8. User Profile:

- Personal information, profile picture, and membership details.

- Workout history, progress tracking, and achievements.

9. Trainer Profiles:

- Profiles of gym trainers and coaches with expertise.

- Booking system for personal training sessions.

10. Blog and Resources:

- Collection of fitness articles, nutrition guides, and tips.

- Video library with exercise demonstrations and tutorials.

11. Community and Challenges:

- Fitness challenges, leaderboards, and participant profiles.

- Forums or discussion boards for member interaction.

12. Admin Dashboard:

- Overview of membership registrations, bookings, and sales.

- Management of user accounts, classes, and equipment.

13. Support and Help Center:

- FAQ, troubleshooting guides, and contact options for support.

- Ticket submission for specific issues and inquiries.

14. Privacy and Terms:

- Privacy policy, terms of use, and data protection information.

**Breakdown of the app development into milestones for achieving the MVP specifications:**

Milestone 1: User Authentication and Membership

- User registration and login functionality.

- Basic user profile with personal information.

- Membership plan display with details and pricing.

Milestone 2: Gym Store and Shopping

- Online store with product catalog and categories.

- Shopping cart functionality for adding products.

- Basic checkout process for purchasing gym equipment.

Milestone 3: Class Schedule and Bookings

- Display of fitness classes with descriptions and timings.

- Booking system for members to reserve class slots.

- Email or app notifications for upcoming classes.

Milestone 4: User Profiles and Workouts

- Enhanced user profiles with workout history.

- Basic workout routine builder for creating routines.

- Progress tracking for workouts and measurements.

Milestone 5: Admin Panel and Trainers

- Admin dashboard for managing users and memberships.

- Trainer profiles with areas of expertise.

- Basic booking system for personal training sessions.

Milestone 6: Mobile App Integration

- Integration with a companion mobile app.

- Mobile-friendly user interface and responsive design.

- Syncing of workout routines and progress tracking.

Milestone 7: Blog and Resources

- Display of fitness articles and nutrition guides.

- Video library with exercise demonstrations.

- Basic social interaction features, such as sharing articles.

Milestone 8: Support and Feedback

- Help center with FAQs and contact options.

- Basic ticket submission system for user support.

- User feedback collection and improvement based on input.

Milestone 9: Privacy and Terms

- Display of privacy policy and terms of use.

- Basic data protection and user privacy measures.

Milestone 10: Deployment and Testing

- Deployment to a live server for testing.

- Thorough testing of MVP features and user flows.

- Bug fixes and improvements based on testing feedback.

**Sub apps for the project**

1. Authentication and User Management:

- Includes registration, login, user profiles, and password reset functionality.

2. Membership and Plans:

- Manages different membership plans, pricing, and benefits.

3. Class Schedule and Bookings:

- Deals with displaying fitness classes, class details, and booking functionality.

4. Workout Routines:

- Contains components for creating, saving, and tracking workout routines.

5. Gym Store:

- Handles the online store's product catalog, shopping cart, and checkout.

6. Trainer Portal:

- Manages trainer profiles, availability, and booking of personal training sessions.

7. Community and Challenges:

- Provides features like fitness challenges, forums, and social interactions.

8. Admin Dashboard:

- Allows administrators to manage users, memberships, classes, and more.

9. Blog and Resources:

- Contains articles, videos, and guides related to fitness and nutrition.

10. Support and Help Center:

- Includes FAQs, support ticket submission, and customer service features.

11. Frontend Core:

- Houses shared components, layouts, and styles used across the app.

12. API Integration:

- Manages communication with external APIs, such as payment gateways.

**Technologies**

Frontend – Next.js

Backend – Flask

Database – MySQL

Version control – Github

Frontend deployment – Netlify

Backend deployment – TBD

1. **AUTHENTICATION**

For the sub-app focused on authentication and user management, you'll need several pages to handle different aspects of user interactions. Here are the pages that you might want to include:

1. User Registration:

- A page where users can create a new account by providing their email and password.

- May include fields for name, username, or other profile information.

- After successful registration, users might be directed to a confirmation or verification page.

2. User Login:

- A page where users can log in using their registered email and password.

- May also include options for social media authentication (if supported).

- Users should be able to navigate to the password reset page from here.

3. Password Reset:

- A page where users can initiate the process of resetting their password.

- Users receive a password reset link via email to set a new password.

4. User Profile:

- A page where users can view and update their profile information.

- Users should be able to change their password and update other account details.

5. Membership Plans:

- A page where users can see available membership plans and their details.

- Users can choose a plan and proceed to the registration process.

6. Membership Registration:

- A page where users can register for a selected membership plan.

- Users provide payment information and any required details.

7. Email Verification:

- A page where users can verify their email address after registering.

- Users can click on a verification link received via email.

8. Confirmation Page:

- A page to confirm successful registration or other actions.

- Includes relevant details and next steps for the user.

9. Error Pages:

- Pages that handle various error scenarios, such as invalid URLs or server errors.

10. Social Media Authentication Callbacks:

- Pages that handle callbacks from social media authentication providers (e.g., Google or Facebook) after successful login or registration.

11. Logout Page:

- A simple page indicating that the user has been successfully logged out.

Remember that each page should be designed with user experience and usability in mind. Ensure smooth navigation between pages, clear instructions, and helpful error messages to guide users through the authentication and user management process.