**CineHub Development Phases**

**Phase 1: Foundation (Types, Utils, Constants, Database)**

**Core Types & Interfaces**

* src/types/common.ts - Common type definitions
* src/types/api.ts - API response types
* src/types/database.ts - Database model types
* src/types/user.ts - User-related types
* src/types/movie.ts - Movie data types
* src/types/tv.ts - TV show data types
* src/types/comment.ts - Comment type definitions
* src/types/review.ts - Review type definitions
* src/types/tmdb.ts - TMDB API response types

**Utils & Constants**

* src/lib/utils.ts - Utility functions và CN helper
* src/lib/cn.ts - Class name utility
* src/lib/constants.ts - App constants
* src/lib/validations.ts - Zod validation schemas
* src/services/utils/constants.ts - Service constants
* src/services/utils/validation.ts - Validation utilities
* src/services/utils/errorHandler.ts - Error handling
* src/services/utils/dateUtils.ts - Date utilities
* src/data/genres.ts - Genre data
* src/data/countries.ts - Country data

**Database Setup**

* database/schema.sql - Database schema
* src/lib/database.ts - MySQL connection với mysql2
* src/lib/db.ts - Database connection wrapper
* src/services/database/connection.ts - Database connection service
* src/services/database/models/User.ts - User model
* src/services/database/models/Watchlist.ts - Watchlist model
* src/services/database/models/Rating.ts - Rating model
* src/services/database/models/Comment.ts - Comment model
* src/services/database/models/History.ts - History model

**Basic Config Files**

* next.config.js
* tailwind.config.js
* postcss.config.js
* tsconfig.json
* components.json (shadcn/ui config)
* .env.example

**Phase 2: Auth System (Service, Store, Components)**

**Auth Configuration**

* src/lib/auth.ts - NextAuth configuration
* src/lib/password.ts - Bcrypt helpers
* src/lib/firebase.ts - Firebase config
* src/lib/facebook.ts - Facebook SDK config
* src/types/auth.ts - Auth type definitions

**Auth Services**

* src/services/auth/authService.ts - Main auth service
* src/services/auth/emailAuth.ts - Email/password auth
* src/services/auth/googleAuth.ts - Firebase Google auth
* src/services/auth/facebookAuth.ts - Facebook auth
* src/services/auth/firebaseConfig.ts - Firebase configuration
* src/services/auth/nextAuthConfig.ts - NextAuth config
* src/services/api/auth.ts - Auth API client

**Auth Store & Hooks**

* src/store/authStore.ts - Zustand auth store
* src/hooks/useAuth.ts - Auth hooks

**Auth Components**

* src/components/auth/LoginForm.tsx
* src/components/auth/RegisterForm.tsx
* src/components/auth/GoogleAuthButton.tsx
* src/components/auth/FacebookAuthButton.tsx
* src/components/auth/SocialLogin.tsx
* src/components/auth/ForgotPasswordForm.tsx
* src/components/auth/ProfileForm.tsx
* src/components/auth/AuthGuard.tsx
* src/components/auth/LoginPrompt.tsx

**Auth API Routes**

* src/app/api/auth/[...nextauth]/route.ts
* src/app/api/auth/register/route.ts
* src/app/api/auth/forgot-password/route.ts
* src/app/api/auth/profile/route.ts

**Auth Pages**

* src/app/(auth)/login/page.tsx
* src/app/(auth)/register/page.tsx
* src/app/(auth)/forgot-password/page.tsx
* src/app/(auth)/profile/page.tsx

**Database Queries**

* src/services/database/queries/userQueries.ts

**Phase 3: TMDB Integration (API Client, Services)**

**TMDB Configuration**

* src/lib/tmdb.ts - TMDB API client

**TMDB Services**

* src/services/tmdb/movieService.ts - Movies API calls
* src/services/tmdb/tvService.ts - TV Shows API calls
* src/services/tmdb/searchService.ts - Search functionality
* src/services/tmdb/discoverService.ts - Filtering/discovery
* src/services/api/tmdb.ts - TMDB API wrapper
* src/services/api/movies.ts - Movies API client

**TMDB API Routes**

* src/app/api/tmdb/movies/route.ts
* src/app/api/tmdb/search/route.ts
* src/app/api/movies/route.ts
* src/app/api/tv/route.ts

**Mock Data (for development)**

* src/data/mockData.ts

**Phase 4: Basic Components (Layout, Movie Cards, Grids)**

**shadcn/ui Components**

* src/components/ui/button.tsx
* src/components/ui/input.tsx
* src/components/ui/card.tsx
* src/components/ui/dialog.tsx
* src/components/ui/form.tsx
* src/components/ui/label.tsx
* src/components/ui/tabs.tsx
* src/components/ui/avatar.tsx
* src/components/ui/badge.tsx
* src/components/ui/skeleton.tsx
* src/components/ui/toast.tsx
* src/components/ui/toaster.tsx

**Common Components**

* src/components/common/Loading.tsx
* src/components/common/LoadingSkeleton.tsx
* src/components/common/SkeletonLoader.tsx
* src/components/common/LazyImage.tsx
* src/components/common/Toast.tsx
* src/components/common/Modal.tsx
* src/components/common/ErrorBoundary.tsx

**Layout Components**

* src/components/layout/Header.tsx
* src/components/layout/Footer.tsx
* src/components/layout/Navigation.tsx
* src/components/layout/MobileNav.tsx
* src/components/common/Header.tsx
* src/components/common/Sidebar.tsx
* src/components/common/UserMenu.tsx

**Movie/TV Components**

* src/components/movies/MovieCard.tsx
* src/components/movies/MovieGrid.tsx
* src/components/tv/TVShowCard.tsx
* src/components/tv/TVCard.tsx
* src/components/tv/TVShowGrid.tsx

**Stores**

* src/store/uiStore.ts - UI state (sidebar, modals)
* src/store/moviesStore.ts - Movies state
* src/store/movieStore.ts - Movie state

**Hooks**

* src/hooks/useMovies.ts
* src/hooks/useTVShows.ts

**Base Layout & Global Styles**

* src/app/layout.tsx
* src/app/globals.css
* src/styles/globals.css
* src/styles/components.css
* src/styles/animations.css

**Phase 5: Core Pages (Home, Movie Detail, Auth Pages)**

**Core App Pages**

* src/app/page.tsx - Home page với movie grid
* src/app/loading.tsx
* src/app/error.tsx
* src/app/not-found.tsx
* middleware.ts - Route protection

**Movie Detail System**

* src/app/(main)/movies/page.tsx - Browse movies
* src/app/(main)/movies/[id]/page.tsx - Movie detail
* src/app/(main)/tv/page.tsx - Browse TV shows
* src/app/(main)/tv/[id]/page.tsx - TV show detail

**Movie Detail Components**

* src/components/movies/MovieDetail.tsx
* src/components/movies/MovieHero.tsx
* src/components/movies/MovieTabs.tsx
* src/components/movies/MovieTrailer.tsx
* src/components/movies/CastSection.tsx
* src/components/movies/MediaSection.tsx
* src/components/movies/SimilarMovies.tsx
* src/components/movies/CategorySection.tsx
* src/components/movies/CategorySlider.tsx

**TV Detail Components**

* src/components/tv/TVShowDetail.tsx
* src/components/tv/TVDetail.tsx
* src/components/tv/TVHero.tsx
* src/components/tv/TVShowTabs.tsx
* src/components/tv/SeasonsList.tsx
* src/components/tv/SeasonsSection.tsx
* src/components/tv/SimilarTVShows.tsx

**Landing Pages**

* src/app/mobile-landing/page.tsx
* src/app/coming-soon/page.tsx
* src/components/landing/HeroSection.tsx
* src/components/landing/FeatureSection.tsx
* src/components/landing/MobileLandingHero.tsx
* src/components/landing/ComingSoonPage.tsx

**Phase 6: User Features (Watchlist, Ratings, Comments)**

**User Services & APIs**

* src/services/user/userService.ts
* src/services/user/profileService.ts
* src/services/api/users.ts
* src/app/api/users/route.ts
* src/app/api/users/[id]/route.ts
* src/app/api/user/profile/route.ts

**Watchlist System**

* src/services/watchlist/watchlistService.ts
* src/services/api/watchlist.ts
* src/store/watchlistStore.ts
* src/hooks/useWatchlist.ts
* src/components/watchlist/WatchlistButton.tsx
* src/components/watchlist/WatchlistGrid.tsx
* src/components/watchlist/WatchlistItem.tsx
* src/app/(main)/watchlist/page.tsx
* src/app/api/watchlist/route.ts
* src/app/api/watchlist/[id]/route.ts
* src/app/api/user/watchlist/route.ts
* src/services/database/queries/watchlistQueries.ts

**Rating System**

* src/services/rating/ratingService.ts
* src/hooks/useRatings.ts
* src/components/rating/StarRating.tsx
* src/components/rating/RatingButton.tsx
* src/components/rating/RatingForm.tsx
* src/components/rating/UserRating.tsx
* src/components/rating/RatingDisplay.tsx
* src/app/api/ratings/route.ts
* src/app/api/ratings/[id]/route.ts
* src/app/api/user/ratings/route.ts
* src/app/api/movies/[id]/ratings/route.ts
* src/app/api/tv/[id]/ratings/route.ts
* src/services/database/queries/ratingQueries.ts

**Comment System**

* src/services/comments/commentService.ts
* src/services/comments/movieCommentService.ts
* src/services/comments/tvCommentService.ts
* src/store/commentsStore.ts
* src/hooks/useComments.ts
* src/components/comments/CommentSection.tsx
* src/components/comments/CommentList.tsx
* src/components/comments/CommentItem.tsx
* src/components/comments/CommentForm.tsx
* src/components/comments/CommentActions.tsx
* src/components/comments/UserCommentCard.tsx
* src/components/comments/CommentStats.tsx
* src/app/api/comments/route.ts
* src/app/api/comments/[movieId]/route.ts
* src/app/api/user/comments/route.ts
* src/app/api/user/comments/[id]/route.ts
* src/app/api/movies/[id]/comments/route.ts
* src/app/api/tv/[id]/comments/route.ts
* src/services/database/queries/commentQueries.ts

**History System**

* src/services/history/historyService.ts
* src/store/historyStore.ts
* src/hooks/useHistory.ts
* src/components/history/HistoryGrid.tsx
* src/components/history/HistoryItem.tsx
* src/components/history/RecentlyWatched.tsx
* src/app/(main)/history/page.tsx
* src/app/api/history/route.ts
* src/app/api/history/[id]/route.ts
* src/app/api/user/history/route.ts
* src/services/database/queries/historyQueries.ts

**Profile System**

* src/components/profile/ProfileForm.tsx
* src/components/profile/AvatarSelector.tsx
* src/components/profile/WatchlistGrid.tsx
* src/components/profile/HistoryList.tsx
* src/components/profile/SettingsPanel.tsx
* src/app/profile/page.tsx
* src/app/profile/watchlist/page.tsx
* src/app/profile/history/page.tsx
* src/app/profile/settings/page.tsx

**Reviews Management**

* src/components/reviews/ReviewsList.tsx
* src/components/reviews/ReviewCard.tsx
* src/components/reviews/ReviewForm.tsx
* src/components/reviews/ReviewStats.tsx
* src/components/reviews/ReviewFilter.tsx
* src/app/(main)/reviews/page.tsx
* src/app/(main)/reviews/[id]/page.tsx

**Additional UI Components**

* src/components/ui/dropdown-menu.tsx
* src/components/ui/select.tsx
* src/components/ui/sheet.tsx
* src/components/ui/slider.tsx
* src/components/ui/progress.tsx
* src/components/ui/textarea.tsx
* src/components/ui/separator.tsx
* src/components/common/ConfirmDialog.tsx

**Phase 7: Advanced Features (Search, Recommendations, Admin)**

**Search System**

* src/components/search/SearchBar.tsx
* src/components/search/SearchResults.tsx
* src/components/search/SearchFilters.tsx
* src/components/search/SearchHistory.tsx
* src/components/common/SearchBar.tsx
* src/hooks/useSearch.ts
* src/hooks/useDebounce.ts
* src/app/(main)/movies/search/page.tsx

**Filtering & Discovery**

* src/components/movies/MovieFilters.tsx
* src/components/movies/FilterPanel.tsx
* src/store/filterStore.ts
* src/app/(main)/discover/page.tsx

**Recommendations System**

* src/services/recommendations/recommendationService.ts
* src/services/recommendations/algorithmUtils.ts
* src/components/recommendations/RecommendationGrid.tsx
* src/components/recommendations/RecommendationCard.tsx
* src/components/recommendations/RecommendationSection.tsx
* src/hooks/useRecommendations.ts
* src/app/(main)/recommendations/page.tsx

**Admin System**

* src/components/admin/AdminLayout.tsx
* src/components/admin/AdminGuard.tsx
* src/components/admin/UserManagement.tsx
* src/components/admin/UserTable.tsx
* src/components/admin/RoleManager.tsx
* src/components/admin/AvatarUpload.tsx
* src/components/admin/AnalyticsDashboard.tsx
* src/services/api/admin.ts
* src/hooks/useAdmin.ts
* src/app/admin/layout.tsx
* src/app/admin/page.tsx
* src/app/admin/users/page.tsx
* src/app/admin/avatars/page.tsx
* src/app/admin/dashboard/page.tsx
* src/app/api/admin/users/route.ts
* src/app/api/admin/avatars/route.ts
* src/app/api/admin/analytics/route.ts
* src/services/database/queries/adminQueries.ts

**Advanced Features**

* src/hooks/useLocalStorage.ts
* src/hooks/useInfiniteScroll.ts
* src/components/common/InfiniteScroll.tsx
* src/components/common/CopyrightNotice.tsx
* src/services/utils/imageUtils.ts
* src/services/utils/encryption.ts

**File Upload System**

* src/app/api/upload/route.ts
* uploads/avatars/ directory setup

**Additional Services**

* src/services/api/client.ts - Main API client
* src/store/userStore.ts - User state management

**Documentation & Config**

* docs/api.md
* docs/setup.md
* docs/deployment.md
* next-sitemap.config.js
* .eslintrc.json
* .gitignore
* README.md
* package.json

**Ghi chú quan trọng:**

1. **Phase 1** là nền tảng - phải hoàn thành trước khi làm các phase khác
2. **Phase 2** (Auth) cần hoàn thành trước Phase 6 (User features)
3. **Phase 3** (TMDB) cần hoàn thành trước Phase 5 (Core pages)
4. **Phase 4** (Components) có thể làm song song với Phase 3
5. **Phase 5** cần Phase 2, 3, 4 hoàn thành
6. **Phase 6** cần Phase 2, 5 hoàn thành
7. **Phase 7** là cuối cùng, cần tất cả phases trước hoàn thành

Mỗi phase nên test kỹ trước khi chuyển sang phase tiếp theo.