Final Project Documentation

Safe-Kids Movies App

A Safe & Fun Kids Cartoon Application
Under the supervision of Digital Egyptian Pioneers Initiative

Team Members:

Basmala Nasser Mohamed

Basant Mohamed Shaban

Dareen Hasan Ali

Roaa Abdelghany

Salsabil Ahmed Hussien

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1.Project Overview

1.1 Project Name
Safe-Kids – Kids Movies Application

1.2 Overview

The Safe-Kids App is an Android application designed to provide children with a safe, controlled, and enjoyable environment to watch kids' animated movies.
The app uses the TMDB API to fetch a curated list of family-friendly animated content, ensuring high-quality images, updated descriptions, and secure access to movie data.

The app features a colorful, simple, and child-friendly UI, designed especially for young users. Development was completed using Android Studio

1.3 Objectives

The main objectives of the Safe-Kids App are:

- **Providing a trusted collection of children-friendly movies and cartoons.**
- **Designing an interface that is fun, colorful, and easy to use for young children.**
- **Fetch movie data dynamically using TMDB API in a secure way**
- **Ensuring safety by preventing irrelevant or inappropriate content.**
- **Delivering a smooth and secure viewing experience.**

1.4 Project Scope

The project covers:

- **Mobile Development: Native Android app (Kotlin / Jetpack Compose).**
- **API Integration: Connecting to TMDB API to fetch animated movies.**
- **UI/UX Design: Creating easy, colorful screens for kids.**
- **Content Filtering: Displaying only kids-appropriate animation content.**
- **Testing: Ensuring quality, performance, and child safety**

1.5 Technologies Used

- **Frontend: Android Studio (Kotlin)**

- **API: TMDB API (The Movie Database)**

- **State Management: ViewModel**

- **Design: Figma**

- **Version Control: Git & GitHub**

- **Testing: Unit Testing, Manual Testing**

2. TMDB API Integration

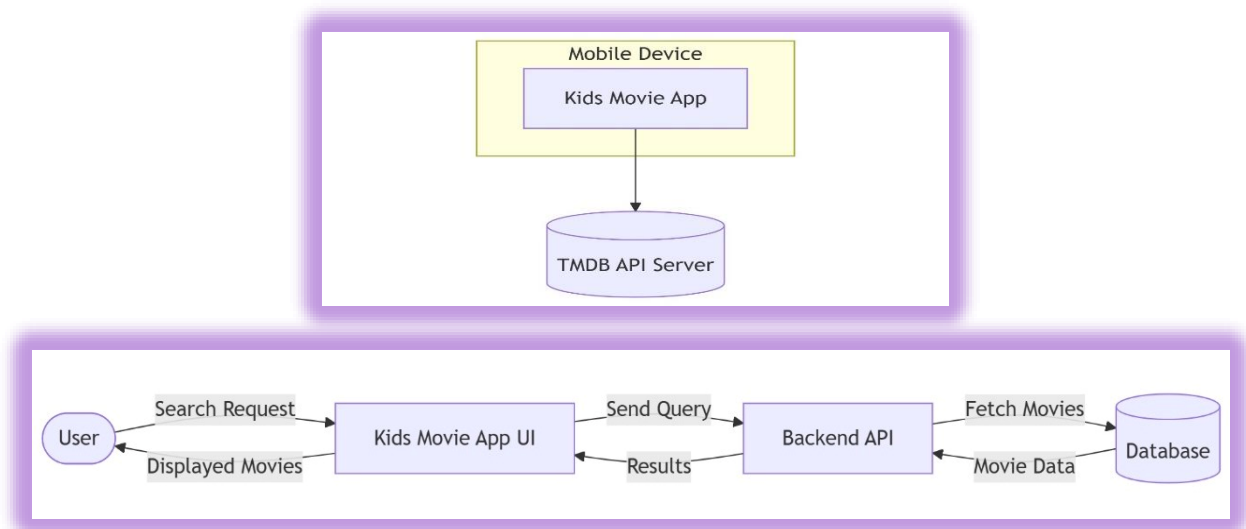**The Safe-Kids App integrates the TMDB API as the main data source for animated movies.**

Why TMDB?

- **Provides high-quality posters and images**
- **Offers accurate and updated movie descriptions**
- **Supports filtering by Animation / Family genres**
- **Reliable, scalable, and secure movie database**

What do we fetch?

- **Movie title**
- **Description (overview)**
- **Poster image**
- **ID for details**
- **Trailer key**

Implementations

- **Used TMDB's `/discover/movie` endpoint**
- **Filtered movies by Animation genre (genre_id = 16)**
- **Displayed results dynamically on the Home Screen**
- **Passed movie details to the Movie Details screen**
- **Ensured only kids-appropriate movies appear in the app**

3. Stakeholder Analysis & Team Structure

3.1 Project Team Roles and Responsibilities

Team Member	Role	Responsibilities
Basmala Nasser	Team Leader	Managing the team workflow, distributing tasks, ensuring deadlines are met, and maintaining communication between members and supervisors.
Dareen Hasan Ali Roaa Abdelghany Salsabil Ahmed Hussien Basant Mohamed	UI Developers	Translating Figma designs into functional application screens and implementing front-end business logic.
Basmala Nasser Basant Mohamed	API Integration Developer	Responsible for integrating external API services, handling data requests and responses, ensuring secure communication with the server, and managing dynamic data operations within the application
Salsabil Ahmed Hussien	UI/UX Designer	Designing the mobile interface on Figma and ensuring user friendly experience.
Basmala Nasser	Tester	Testing app functionality, finding bugs.

3.2 External Stakeholders

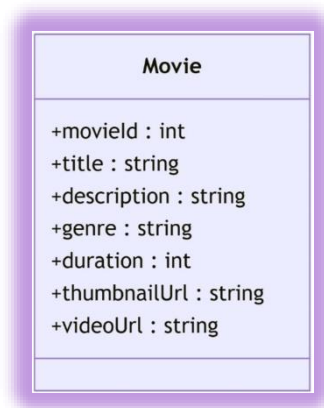| Name / Type	Role in the Project
Digital Egypt Pioneers Initiative	**Project supervision and evaluation**
Academic Supervisor	**Responsible for providing technical guidance and continuous feedback throughout the project.**
End Users	**Using the Safe-Kids Movies App and providing feedback about its features and performance.**

4.Database / API Structure

Since movie data is fetched from TMDB, the app does not use a custom database.
Instead, the app interacts with TMDB API and uses the following model:

Movie Data Model:

Description	Type	Field
Movie ID from TMDB	Int	id
Movie title	String	title
Description	String	overview
Poster URL	String	poster_path
Rating	Float	vote_average
Release date	String	release_date
Ensures it's animation	List<Int>	genre_ids

Content Safety

- **Only movies under Animation genre are displayed.**

- **No user-generated content.**

- **No unsafe categories fetched from TMDB.**
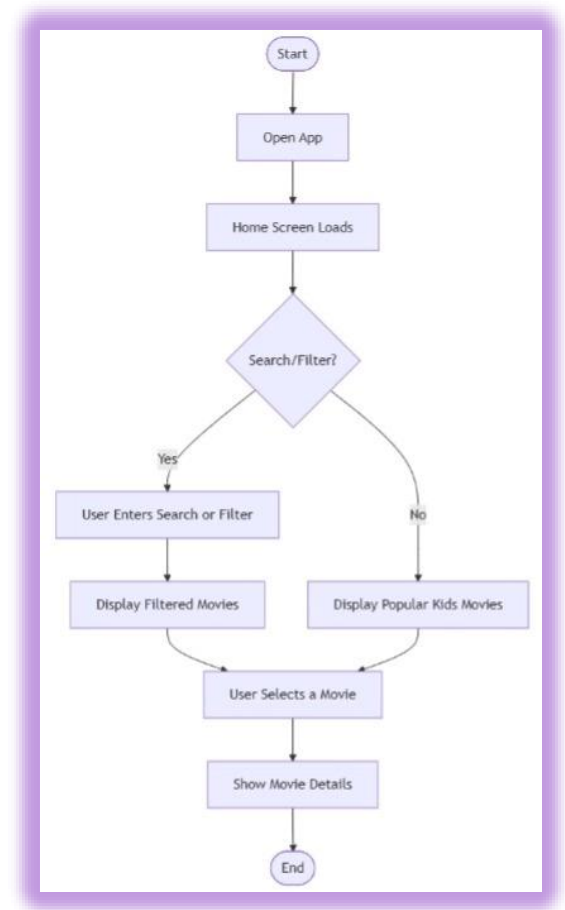
5.System Architecture

5.1 Presentation Layer

- **Splash Screen**
- **Home Screen (dynamic movies list)**
- **Search Screen**
- **Movie Details Screen**

5.2 Business Logic Layer

- **ViewModel for managing UI state**
- **API handling (Retrofit)**
- **Search logic**
- **Data filtering (animation only)**

5.3 Data Layer

- **TMDB API endpoints**
- **JSON parsing**
- **Network handling**

6.UI/UX Design (Figma)

Design Goals:

- **Bright, child-friendly visuals**
- **Large clickable areas**
- **Clear and simple navigation**
- **Cartoon-inspired theme**

Figma was used to design:

- **Splash screen**
- **Home movie list**
- **Search UI**
- **Movie details page**
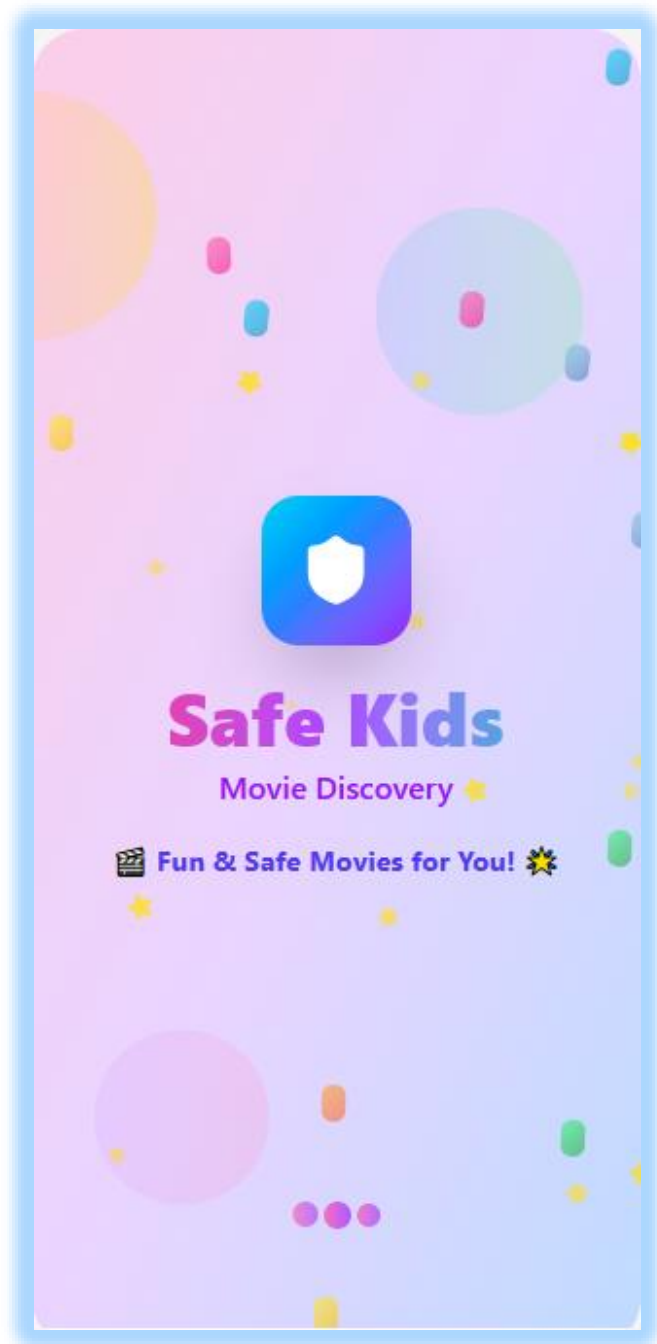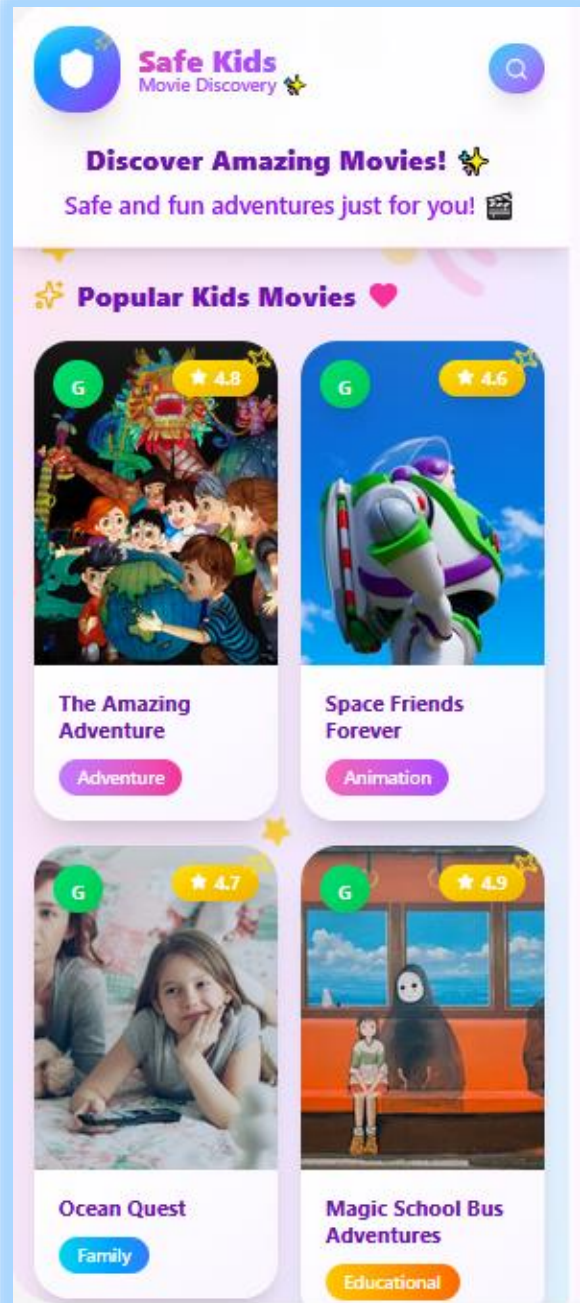
Figma design screens
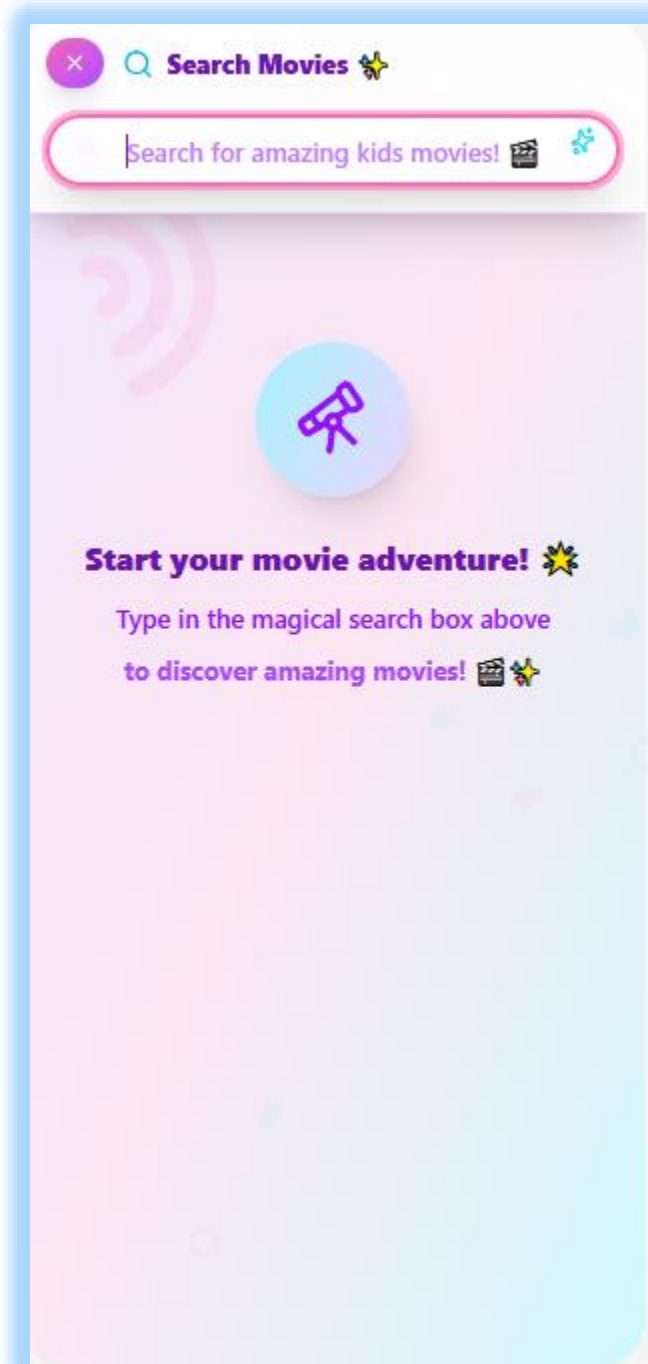

Figure 1: Splash screen

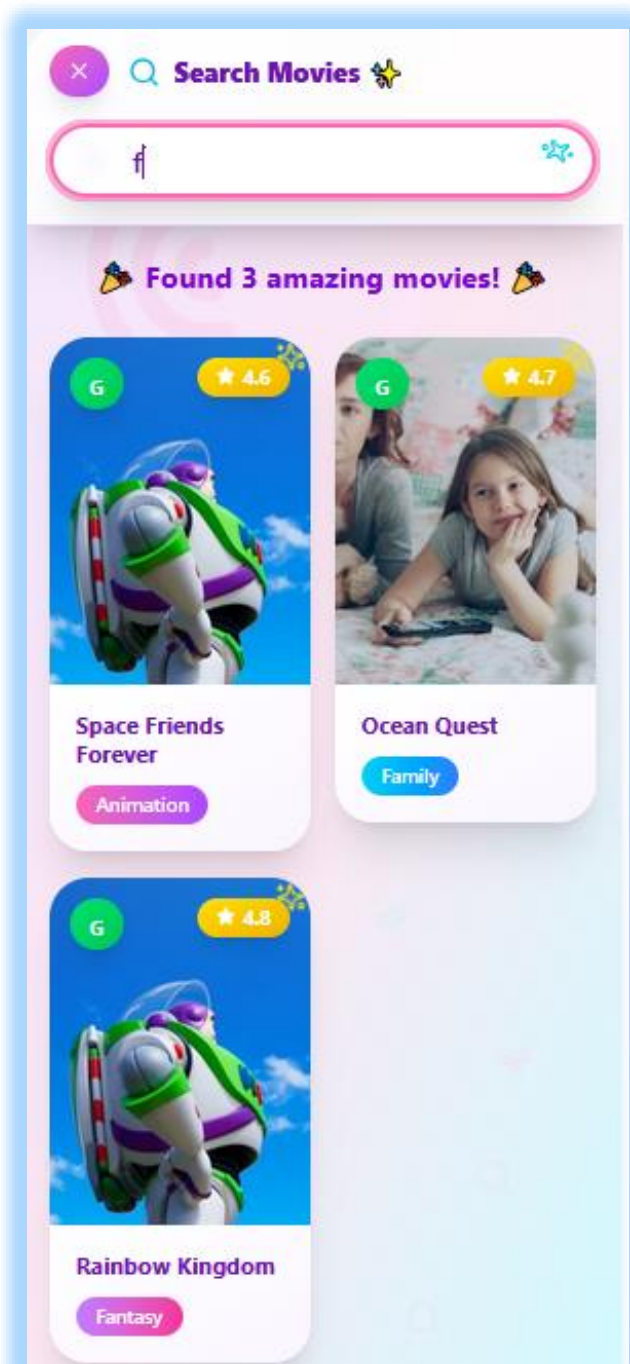Figure 1: Home Screen

Figure 3: Empty Search Screen

Figure 4: Search Screen after search

Figure 5: Detail Screen
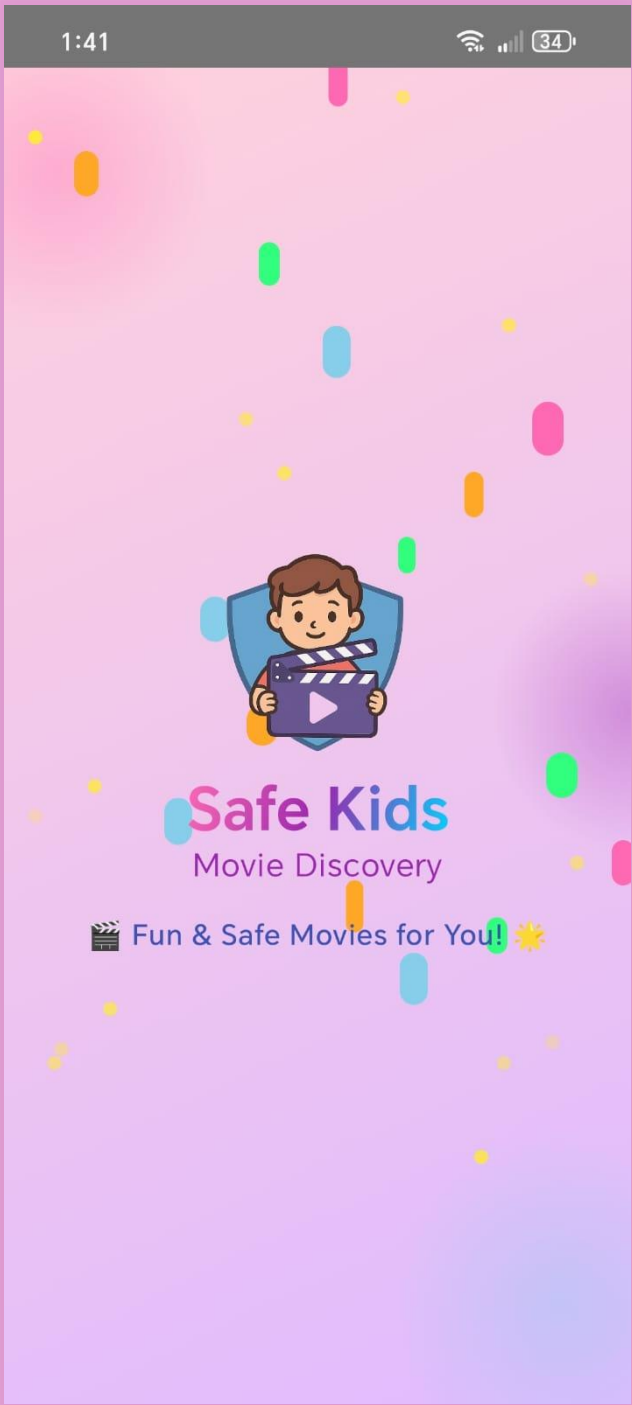
Our App Screens
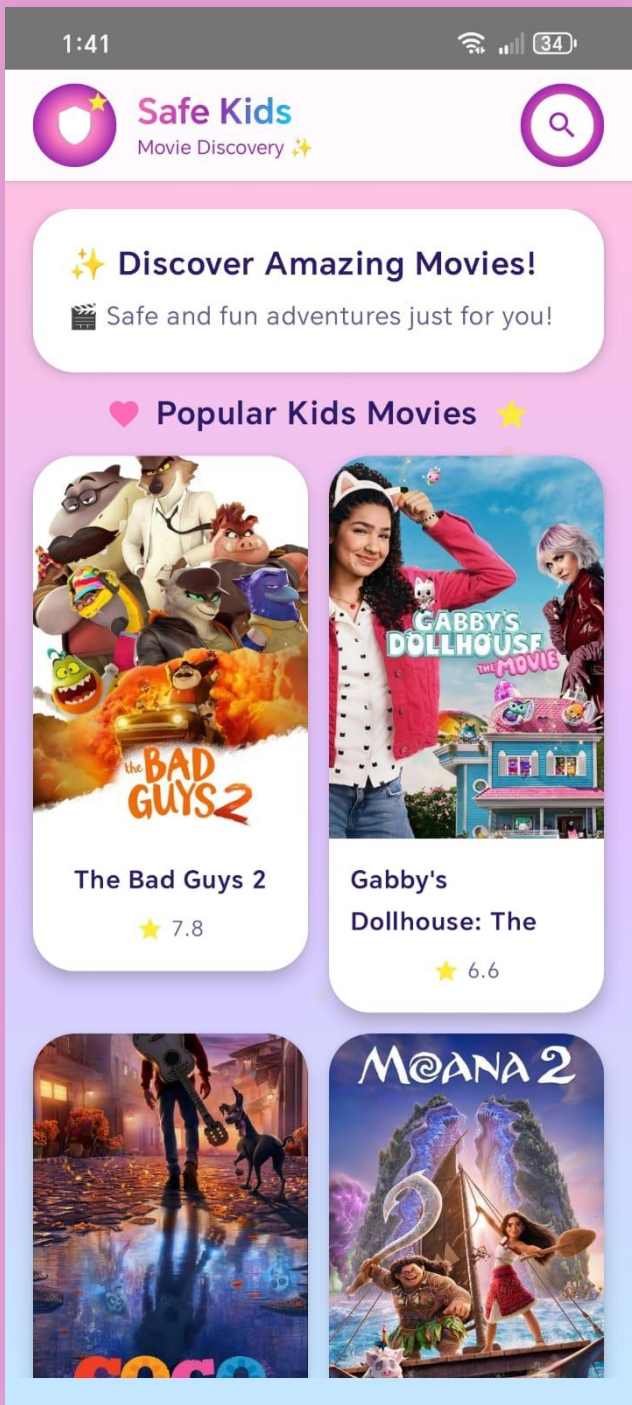

Figure 1: Splash Screen
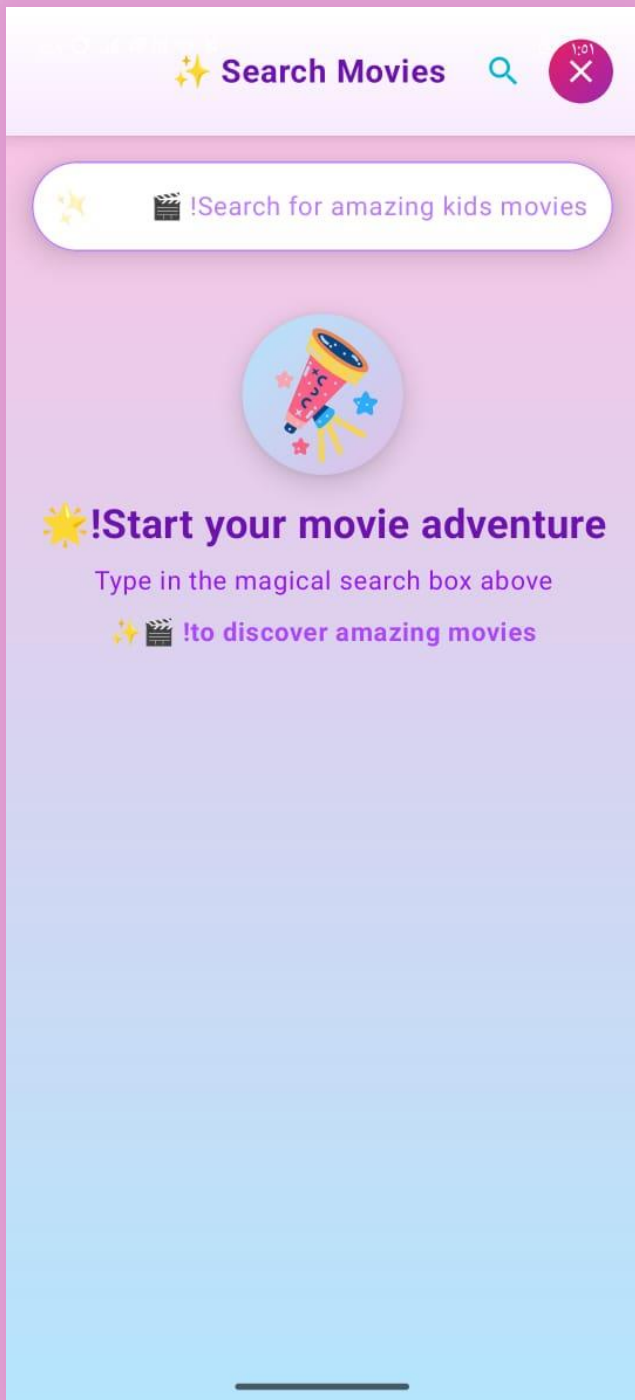

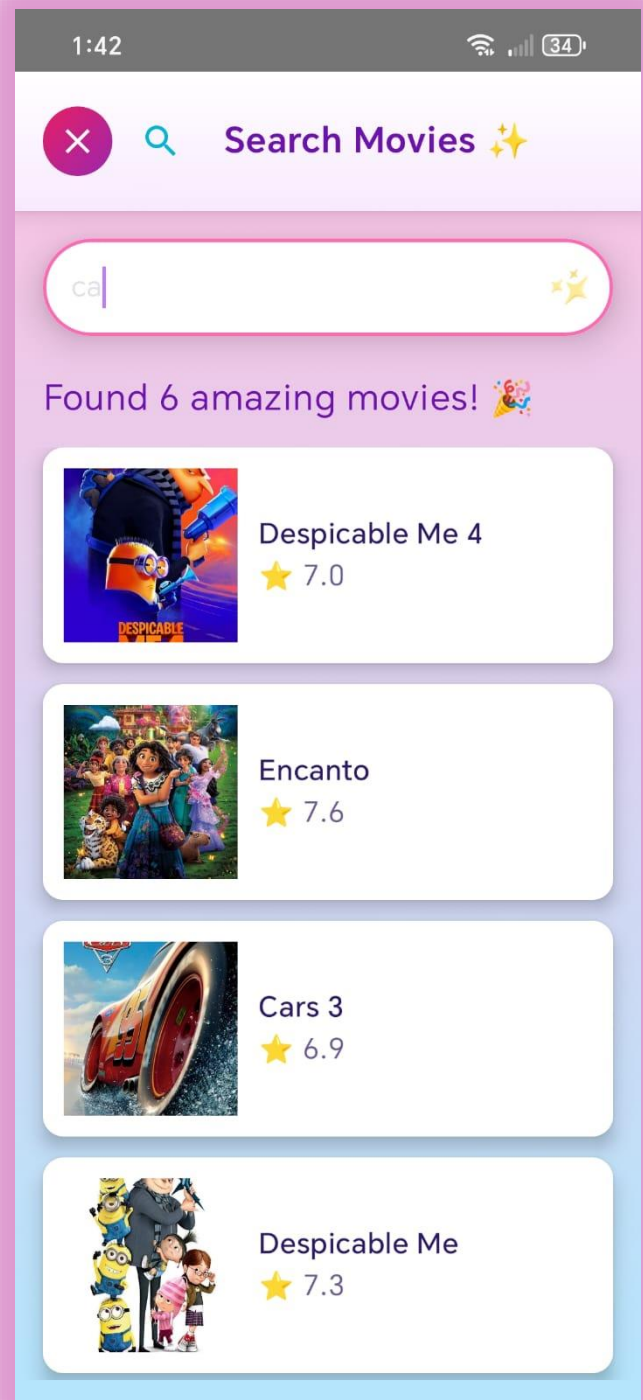
Figure 2: Home Screen

Figure 3: Empty Search Screen

Figure 4: Search Screen after search

Figure 5: Detail Screen

7. Project Timeline (Summary)

1. ## Week 1 – Setup & UI
   - **Initialize Android project**
   - **Create GitHub repo**
   - **Build wireframes**
   - **Implement static screens**
2. ## Week 2 – API Integration
   - **Connect TMDB API**
   - **Fetch animated movies**
   - **Display movies dynamically**
3. ## Week 3 – Navigation & Features
   - **Implement navigation**
   - **Build movie detail screen**
   - **Link search → detail**
   - **Add trailer button**
4. ## Week 4 – Final Polish
   - **Add search improvements**
   - **UI/UX refinements**
   - **Loading & error states**
   - **Documentation**

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8. Testing

Testing Types:

- **UI testing(manual)**
- **View model testing(automated)**
- **Navigation testing(automated)**
- **Search functionality testing(manual)**

9. Conclusion

The Safe-Kids App successfully delivers a safe and enjoyable animated movie experience for young children.

By integrating TMDB API, the app provides dynamic, up-to-date, and family-friendly movies through a fun and visually engaging interface.

10. Future Enhancements

- **Offline saving for movies**
- **Favorites list**
- **Parental control dashboard**
- **Screen-time management**
- **Multi-language support**
- **Better trailer integration**

11.Links

https://www.figma.com/community/file/1554038440572666820

https://github.com/slsbyl/SafeKids/blob/main/README.md