

AI-ENHANCED APP TO PROMOTE HEALTHY MOBILE USAGE FOR CHILDREN

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INTRODUCTION

In today's digital age, children are spending more time on mobile devices, which can impact their focus, academic performance, and social skills. Excessive screen use reduces valuable face-to-face interactions, essential for developing communication and empathy. This project proposes an AI-driven app to promote balanced mobile usage in children by monitoring screen time, suggesting offline activities, and encouraging real-world interactions.

PROBLEM STATEMENT

- Children are increasingly spending significant time on mobile devices, primarily on activities like games and social media.
- Effects: Reduced concentration, poor academic performance, decreased face-to-face interactions, limited social skills.
- Need: A tool to guide healthy mobile usage habits and encourage offline social interactions.

PROPOSED SOLUTION

- Develop an AI-powered application that promotes healthy mobile usage.
that includes:
 1. Screen time monitoring and analysis.
 2. Gamified social skills training
 3. Parent-child collaboration tools
 4. Reward system for offline activities
- Objective: Help children self-regulate, improve social skills, and encourage balanced screen usage.

SOLUTION COMPONENTS

- Screen Time Monitoring: Tracks usage duration, breaks down by app type.
- Gamified Social Skills Training: Encourages face-to-face interaction through challenges and rewards.
- Parental Collaboration Tools: Allows parents to set goals and view usage insights.
- Rewards for Offline Engagement: Provides incentives for engaging in offline activities.

TECHNOLOGY STACK

Frontend

React native (cross platform compatibility), Javascript.

Backend

Node.js(handling requests and processing data), CORS, MongoDB(Database).

Frameworks/Libraries

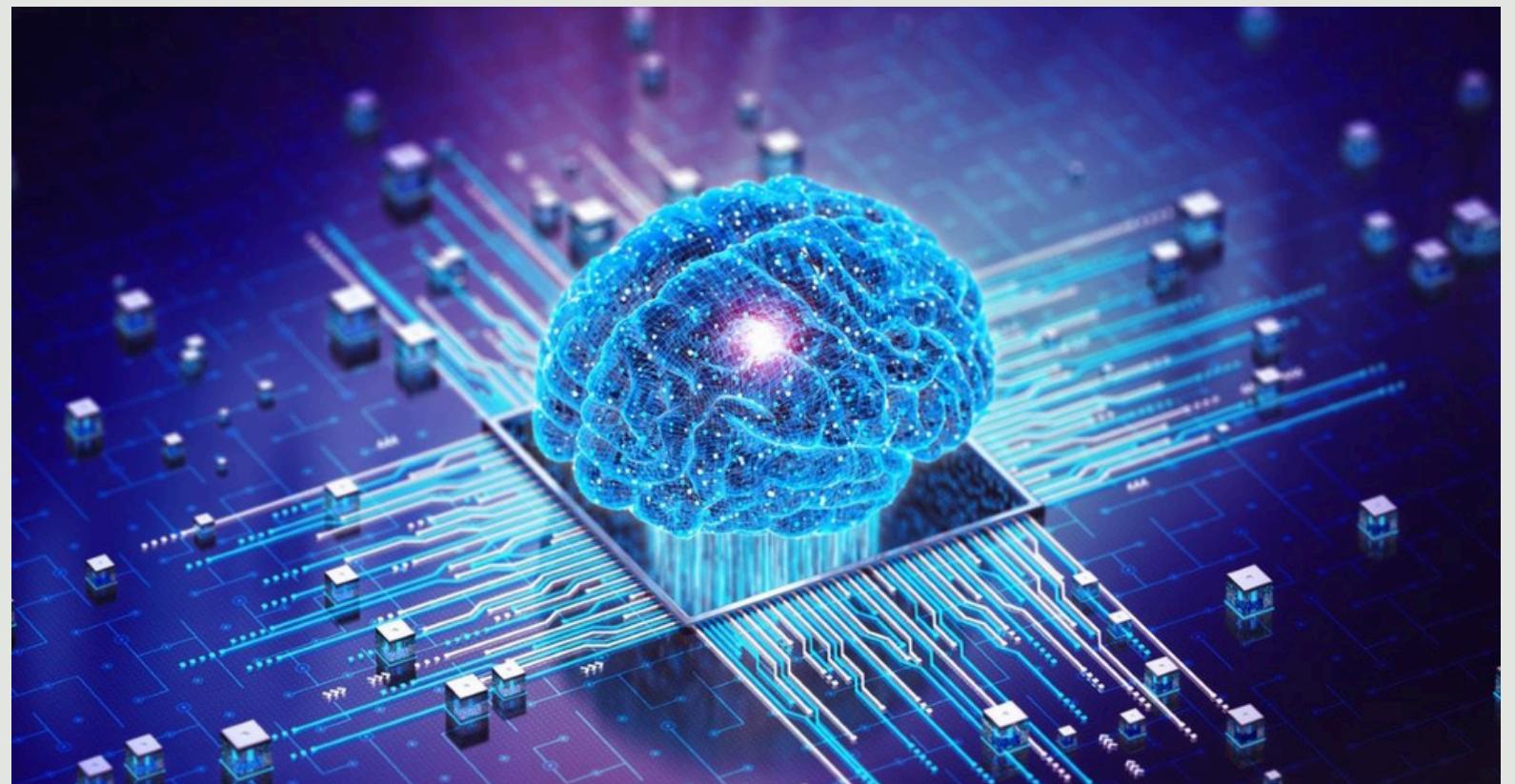
AI/ML models for screen time predictions and personalized activity recommendations.

Expo Camera, Face Detection (using Expo), TensorFlow.js (for on-device AI), etc.

AI INTEGRATION

AI Role in the App:

- Screen Time Prediction: Estimates ideal screen time based on age, study habits, and past usage patterns.
- Personalized Recommendations: Suggests suitable offline activities.
- Face Detection: Detects if the child is actively engaging with the device.



IMPLEMENTATION STEPS

- Screen Time Monitoring: Use React Native APIs to track screen usage.
- Face Detection for Engagement: Integrate Expo Camera and Face Detection for real-time tracking.
- Backend Development: Set up a Node.js server and MongoDB for data management.
- AI Model Integration: Train and integrate models for screen time predictions and personalized activity suggestions.

USER EXPERIENCE FLOW

- Onboarding: Initial setup where parents set screen time and offline goals.
- Real-Time Monitoring: App continuously monitors screen usage and face detection.
- Feedback and Rewards: Provides real-time feedback on screen time and rewards for offline engagement.
- Parental Insights: Parents receive weekly reports on progress and recommendations.

GAMIFICATION FEATURES

Face-to-Face Challenges

Children receive points for engaging in social interactions.

Goal-Based Rewards

Offline activities (reading, sports) give points redeemable for rewards.

Leaderboards

Tracks progress and adds a competitive element.

PARENTAL INVOLVEMENT

- Goal Setting: Parents and children can set screen time limits together.
- Weekly Progress Reports: Parents can view weekly insights and receive AI-based recommendations.
- Suggestions for Family Activities: Encourages balanced screen time through shared family tasks.



DATA SECURITY AND PRIVACY

- Data Encryption: All user data is encrypted for privacy.
- Minimal Data Collection: Only necessary data is collected (screen time, face detection results).
- Parental Consent: Ensures parental consent for data collection from children.

CHALLENGES AND CONSIDERATIONS

- Privacy Concerns: Ensuring compliance with COPPA and GDPR.
- Real-Time Face Detection: Ensuring accuracy without compromising device performance.
- Balancing AI Recommendations: Avoiding excessive or restrictive recommendations.

CONCLUSION

This AI-powered app helps children develop healthy screen habits by promoting balanced mobile usage, encouraging offline activities, and supporting face-to-face interactions. With features like screen time tracking, parental insights, and rewards for real-world engagement, the app empowers families to build a balanced digital lifestyle. Ultimately, it aims to foster lifelong healthy habits, improved focus, and better social skills in children.

Thank You

For your attention