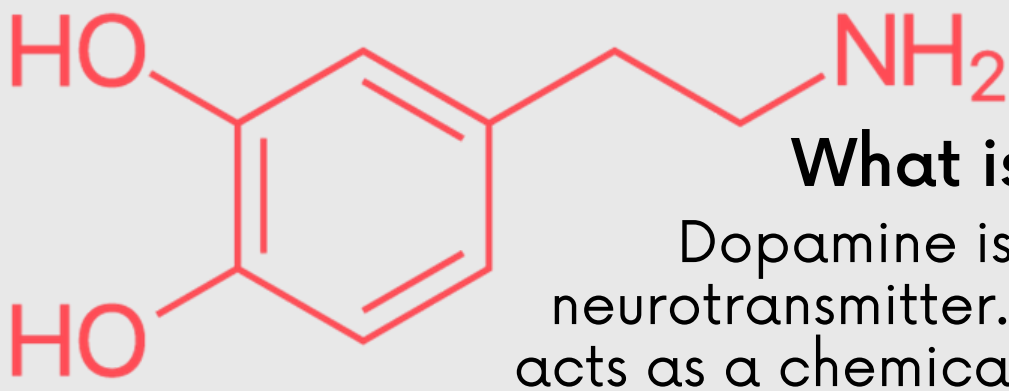


Dopamine Booster Game

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What is Dopamine?

Dopamine is a type of monoamine neurotransmitter. Produced in our brain and acts as a chemical messenger, communicating messages between nerve cells in our brain and between the brain and the rest of our body.

What is ADHD?

Attention-Deficit/Hyperactivity Disorder (ADHD) is a widespread neurodevelopmental disorder that significantly impairs daily functioning and performance in various settings.



1 The Problem

Many **ADHD** patients are challenged daily with symptoms like inattention and hyperactivity, especially in **children**, which are significantly affected in their learning outcomes. "Traditional treatments" such as medications or behavioral therapy, often face limitations in accessibility or perseverance, cost and effectiveness. Everyone is treated by the same ideology, which includes a fast approach to the use of medications.

3 System Requirements

- User authentication: Sign up, log in, log out.
- Teacher/Student separate interfaces.
- Educational: Interactive quizzes and a system for teachers to manage assessments, track progress, and evaluate learning outcomes.
- 3D Game: Sport-based challenges and mindfulness practices to boost focus, motivation, and dopamine, balancing activity and gameplay limits.
- Multi-language support in Hebrew and English.

2 The Solution

"Dopamine Booster Game" presents the development of a cross-platform mobile application, an innovative gamified approach based on an existing **FDA-approved** and research-backed solution (**EndeavorRx**) to support ADHD symptom management. Providing an educational platform that promotes daily learning and collaboration, featuring a 3D interactive game that combines physical activity and meditation to boost **dopamine**, focus, and academic performance.



4 Software Technologies Stack



Unity

Game Development



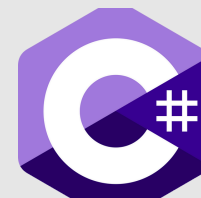
Flutter

Mobile App



Firebase

Backend Services



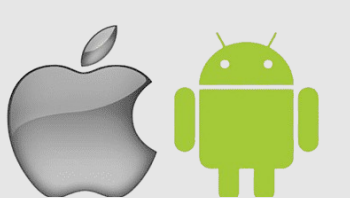
C#

Game Logic



Dart

Programming Language



iOS & Android

Operating System

5 Project Metrics

Experiment Design:

- Children of relatives, colleagues, and our advisor's family played the game for 4–5 minutes before taking subject-based academic quizzes.

Feedback Collection:

- Teachers and supervisors evaluated focus, engagement, and performance using in-app quiz results.

Results:

- Our app significantly boosts engagement and quiz scores compared to sessions without the game.

6 Challenges and Insights

- Developing a balance between engaging yet restricted time gameplay for educational benefits.
- Ensuring the app's quizzes accurately match lesson content across different subjects and grades.
- Technical integrating Unity into Flutter.
- Testing the app on diverse user groups to evaluate gameplay and learning outcomes.

"Dopamine Booster Game" offers solution for redefining the globally accepted treatment of ADHD in children.



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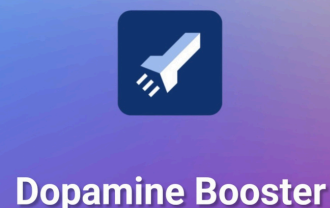
Sport exercise:
Now jump in place

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Students Stats

Alice	
Math	
Played Grades	Not Played Grades
28	25
Science	
Played Grades	Not Played Grades
92	105
History	
Played Grades	Not Played Grades
98	65
Bob	
Math	
Played Grades	Not Played Grades
32	28



Dopamine Booster

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