

## **Flash! Enhanced Memorization Aid for ADHD**

Julia Hannah Binti Zulkifli1  
Kolej Tingkatan Enam Haji Zainul Abidin

Dr Rafidah Abd Karim  
UiTM Tapah Campus, Perak

Prof Dr Ramlee Mustapha  
Universiti Pendidikan Sultan Idris

Email: juliahannahzul@gmail.com

### **Abstract**

Flash! is an application that uses a gamified approach to learning for ADHD students who struggle to focus and retain their memory. It capitalizes on the Leitner System of spaced repetition where a student learns and reviews materials in spaced intervals which increases over time. These intervals also consider the Ebbinghaus Forgetting Curve, which hypothesizes the decline of memory retention over time. The curve shows how information is lost over time when there is no attempt to retain it. Flash! includes an automatic function to set up spaced intervals for each flashcard. Thus, ADHD students merely need to open the app and flip through the cards for a few minutes (or even a few seconds!) at any time, place or position. This ensures the student can get their daily memorization sessions at an optimum focus level. In short, with a quick tap of a button, ADHD students are able to ace exams in a Flash!

In short, with quick taps of a button, ADHD students are able to ace exams in a Flash!

**Keywords:** ADHD, flashcard, memorization, spaced repetition, gamification

# Flash! Enhanced Memorization Aid for ADHD

## ABSTRACT

Flash! is an application that uses a gamified approach to learning for ADHD students who struggle to focus and retain memory. It capitalizes on the Leitner System of spaced repetition where a student learns and reviews materials in spaced intervals which increases over time. These intervals also consider the Ebbinghaus Forgetting Curve; which hypothesizes the decline of memory retention over time, the curve shows how information is lost over time when there is no attempt to retain it. Flash!, includes an automatic function to set up spaced intervals for each flashcard.

Thus, ADHD students merely need to open the app and flip through the cards for a few minutes (or even seconds!) at any time, place or position. This ensures the student gets their daily memorization sessions with their focus levels at an optimum.

In short, with quick taps of a button, ADHD students are able to ace exams in a Flash!

### Objectives

- To ease ADHD students' self-learning struggles
- To encourage fun, interactive learning for ADHD students
- To help ADHD students enhance their memorization skills and keep their focus

### Advantages

- Flash! is easy to download and use anywhere at any time with any sitting, standing, and/or squatting position which aids ADHD students who can't stay still for long periods
- With a statistics tab, ADHD students can review their study progress and monitor their daily study length

### Usefulness

- Flash! organizes created flashcards automatically according to the Leitner System to ease ADHD students from having to create and maintain their flashcard decks
- The flashcard decks can be sped through in a flash!, making the study sessions quick and less tedious for ADHD students

### Novelty

- Flash! digitalizes and gamifies the conventional flashcard system to turn memorizing into a lively and adrenaline-rushing event
- Flash! can be used for a few minutes at a time per day to allow ADHD students to maintain their attention-span at optimal levels

### Commercialization Potential

- Market: Ministry of Education, schools, ADHD students and private consultants
- Free to download on App Stores with in-app purchases (eg. VIP account, premium features, no ads)

### Inventors

1. Julia Hannah Zulkifli
2. Dr Rafidah Abd Karim, UiTM Tapah Campus, Perak
3. Prof Dr Ramlee Mustapha, Sultan Idris Education University

Surat kami : 700-KPK (PRP.UP.1/20/1)

Tarikh : 20 Januari 2023

Prof. Madya Dr. Nur Hisham Ibrahim  
Rektor  
Universiti Teknologi MARA  
Cawangan Perak



Tuan,

**PERMOHONAN KELULUSAN MEMUAT NAIK PENERBITAN UiTM CAWANGAN PERAK MELALUI REPOSITORI INSTITUSI UiTM (IR)**

Perkara di atas adalah dirujuk.

2. Adalah dimaklumkan bahawa pihak kami ingin memohon kelulusan tuan untuk mengimbas (*digitize*) dan memuat naik semua jenis penerbitan di bawah UiTM Cawangan Perak melalui Repositori Institusi UiTM, PTAR.

3. Tujuan permohonan ini adalah bagi membolehkan akses yang lebih meluas oleh pengguna perpustakaan terhadap semua maklumat yang terkandung di dalam penerbitan melalui laman Web PTAR UiTM Cawangan Perak.

Kelulusan daripada pihak tuan dalam perkara ini amat dihargai.

Sekian, terima kasih.

“BERKHIDMAT UNTUK NEGARA”

Saya yang menjalankan amanah,

**SITI BASRIYAH SHAIK BAHARUDIN**  
Timbalan Ketua Pustakawan

*nar*

*Setuju.*

*27.1.2023*

PROF. MADYA DR. NUR HISHAM IBRAHIM  
REKTOR  
UNIVERSITI TEKNOLOGI MARA  
CAWANGAN PERAK  
KAMPUS SERI ISKANDAR