



# MathArena

Learning. Maths. Playfully.



# ABOUT US



**Gerald Infanger**

Studies: Mathematics & Theology, Psychology

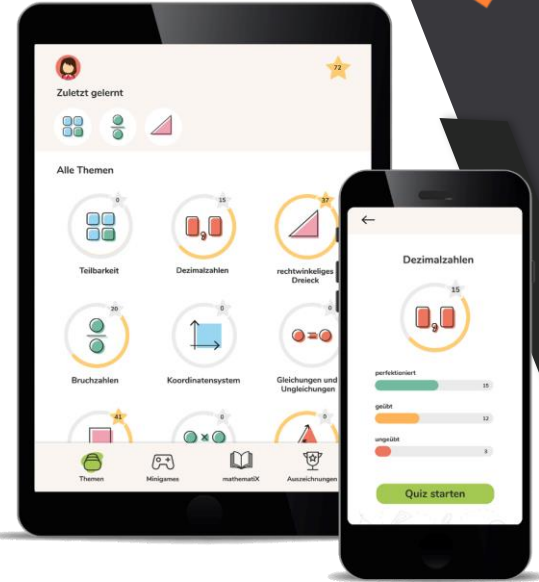
CEO  
Creator, gamification, Content Design



**Eva-Maria Infanger**

Study: Mathematics & Theology

CCO  
Maths didactics at the JKU Linz, adaptive item difficulties



# Communication – Cooperation – Collaboration



Funded by the  
European Union



[www.edtechtalents.eu](http://www.edtechtalents.eu)

# CHALLENGES & SOLUTION



**Students are frustrated**



**Playful approach**

**Instant reward**

**Private tutoring is expensive**



**Easy access**

**Low-cost**

**Lack of competent technicians**



**Wider understanding of basic math skills**

**Interest in logic & technology**



# MATHARENA JUNIOR

Basic Mathematics

For Junior High, and Apprenticeships



# MATHARENA CLASSIC

Advanced Mathematics

For High School, University Transition





# INDONESIAN TRANSLATION



Pasttita Ayu Laksmiwati



Yanti Purnamasari



# INNOVATION



## Trends for Learning:

- ➔ Microlearning
- ➔ AI-based (smart adaptive, math bot)
- ➔ Mobile & remote

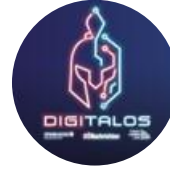


## Psychological Approach

- ➔ Learner-oriented focus
- ➔ Minigames about maths
- ➔ Adaptive learning difficulty



Gütesiegel BMBWF



Digitalia 2023



1st place 2021



Gold 2021



**We are making learning more effective and enjoyable!**







14:00 LTE 100%

← Rumus untuk figur

Rumus apa yang diberikan?

43

1

$a^2$

Keliling Area

Luas permukaan Volume

Persegi Persegi panjang

Kubus Balok

14:00 LTE 100%

← Profil

Edit profil

Gerald Infanger  
gerald@mathearena.com

1242 dari 2146 benar

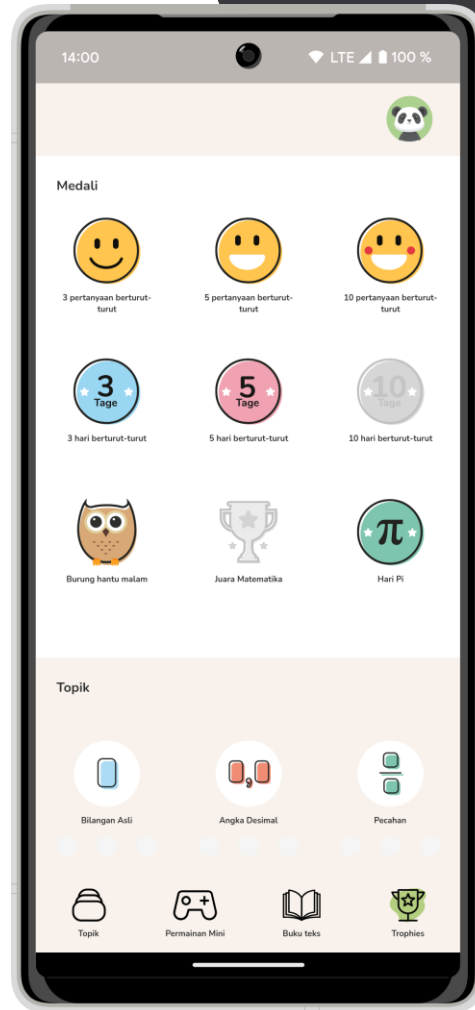
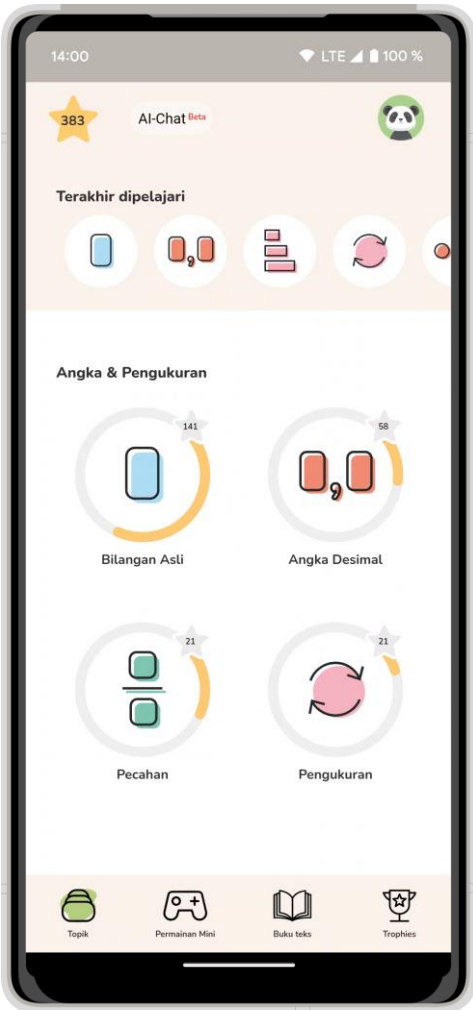
Total poin

Sejarah

Diagram  
11 Januari 2024 16.31  
0 dari 2 benar

Bilangan Asli  
5 Januari 2024 11.36  
0 dari 1 benar

Bilangan Asli  
5 Januari 2024 11.30  
3 dari 10 benar



# MATHARENA AS A LEARNING TOOL

## TRAINING

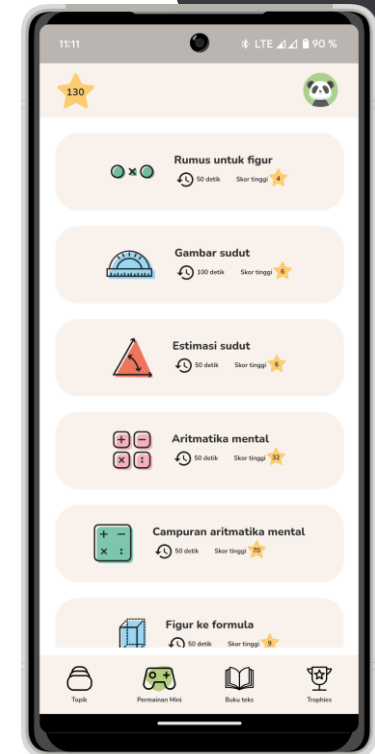
(Process of **Learning**)

- Exploring, experiencing,...
- Trial-and-Error
- Mistakes are desirable – ground we learn on
- Main goal: Motivation  
(hopefully intrinsic)

## TESTING

(Diagnosis **after** Learning)

- Delivering
- Correct Results
- Errors must be avoided
- Extrinsic motivation



# STUDY AT AUSTRIAN SCHOOL

Survey

App Usage

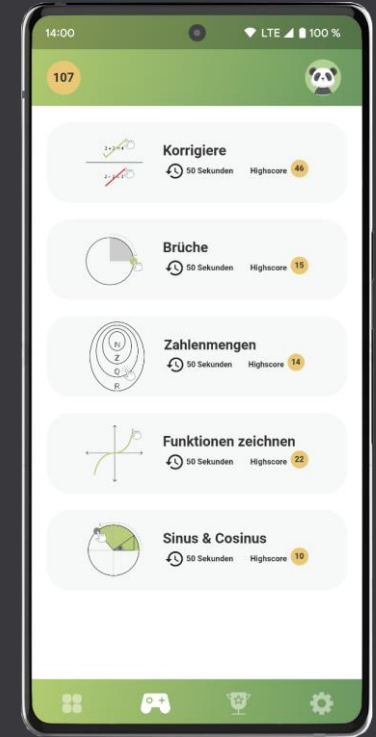
Increased  
Motivation

More Study  
Time

Improved  
Performance

4 classes with a total of 83 students,  
Result: Learning performance increases because of more time  
investment.

**It's not the medium, that does the trick – it's the user  
journey that gives more motivation.**



# DATA PROTECTION

- importance of data privacy and security
- minimal personal information from users
- completely anonymized data analytics
- educational purposes



# ROADMAP



Hobby development of the prototype

Lots of positive feedback and increasing downloads

More than **50 000** installations



2021 tech2b Pre-Scale-Up

Institutional inquiries about license packages



Edison

i2b



2022

Research funding by FFG

Release of the new cross-platform version

Companies digitize schools



2023

AI for question classification and adaptive difficulties

2023 market launch in junior high with Veritas

**VERITAS**

Gemeinsam besser lernen

Global Scale-Up  
Translations  
Dueling version  
Community features  
New subjects



Starting in September 2023, we will provide 25% of Austrian lower secondary students.

# TEAM



## Development & Research



Doris Kayser



Christoph Willinger



Corinna Hörmann



Florian Sobieczky

## Content



Thomas Benesch



Annika Scheithe

## Marketing



Irene Heindl



### Main Goal



### Directly addressed



### Indirectly addressed goals



# GOALS

- creating an environment
- making
- promoting for math

*Mathematics is ...*

$$y = \frac{1}{x}$$



$$x = \cos(t)$$
$$y = \sin(t) + |\cos(t)|^0$$

$$x^2 + y^2 = 9$$



$$y = |-2x|$$



$$x = -3|\sin y|$$





Want to see more?

JOIN THE  
MATHEARENA!

[www.mathearena.com](http://www.mathearena.com)

[info@mathearena.com](mailto:info@mathearena.com)






Not like that



more like this

A photograph of three children sitting on the grass outdoors. On the left, a boy with curly blonde hair in a blue shirt looks intently at a laptop. In the center, a girl with brown hair in a yellow shirt has her hands pressed against her cheeks in a look of surprise or excitement. On the right, a boy in a red shirt also looks at the laptop with a focused expression. The background is a soft-focus green field under a bright sky.

and that would be the  
**DREAM** 😊