AI For the Better

Extra Power after releasing GPT & LLM technology

2024 // Warsaw IT-Days (Virtual) // Dennie Declercq
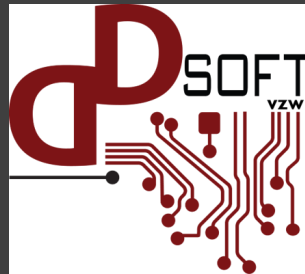
Content

About Me

- Dennie Declercq

- President/ Developer DDSoft

- Microsoft MVP

- @DennieDeclercq

- #DreamingIsBelieving

- https://ware.ddsoft.be

Accessibility & Disabilities

The Disability Spectrum

- Touch
  - One arm
  - Arm injury (T)
  - New parent (S)
- See
  - Blind
  - Low vision
  - Being distracted (T)
- Hear
  - Deaf
  - Hard of hearing
  - Ear infection (T)

- Speak
  - Non-verbal
  - Heavy accent
  - Mouth infection (T)
- Cognition
  - Learning disability
  - Down syndrome
  - Memory difficulties (S & T)
- Mental Health
  - Neurodiversity
  - Anxiety & Stress (S &T, or permanent)
  - Depression & Burnout (S or T)

T = Temporally
S = Situational

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Learning Disability

Intellectual Functioning

Also called intelligence

Mental capacity

IQ age between 2 -8yo

Adaptive Behavior

Conceptual Skills
- Language/literacy
- Money
- Time/numbers

Social Skills
- Social responsibility
- Self-esteem

Practical skills
- Activities daily living
- Personal care / healthcare

Mental Health*

*= This list is not complete; Only meant as introduction in this topic.

- Stress, Anxiety, Depression, Burn-out
- Need for confirmations
- Need for motivation
- Exhaustion

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Neurodiversity*

*= This list is not complete; Only meant as introduction in this topic.

- Autism
  - Structure
  - Confirmation
  - Slower stimuli-brain-response time
- Dyslexia
  - Difficulties writing, grammar & spelling
  - != less intellectual Capacity
- Dyscalculia
  - Difficulties with numbers
- AD(H)D
  - Motivation, concentration, structure and impulse-control

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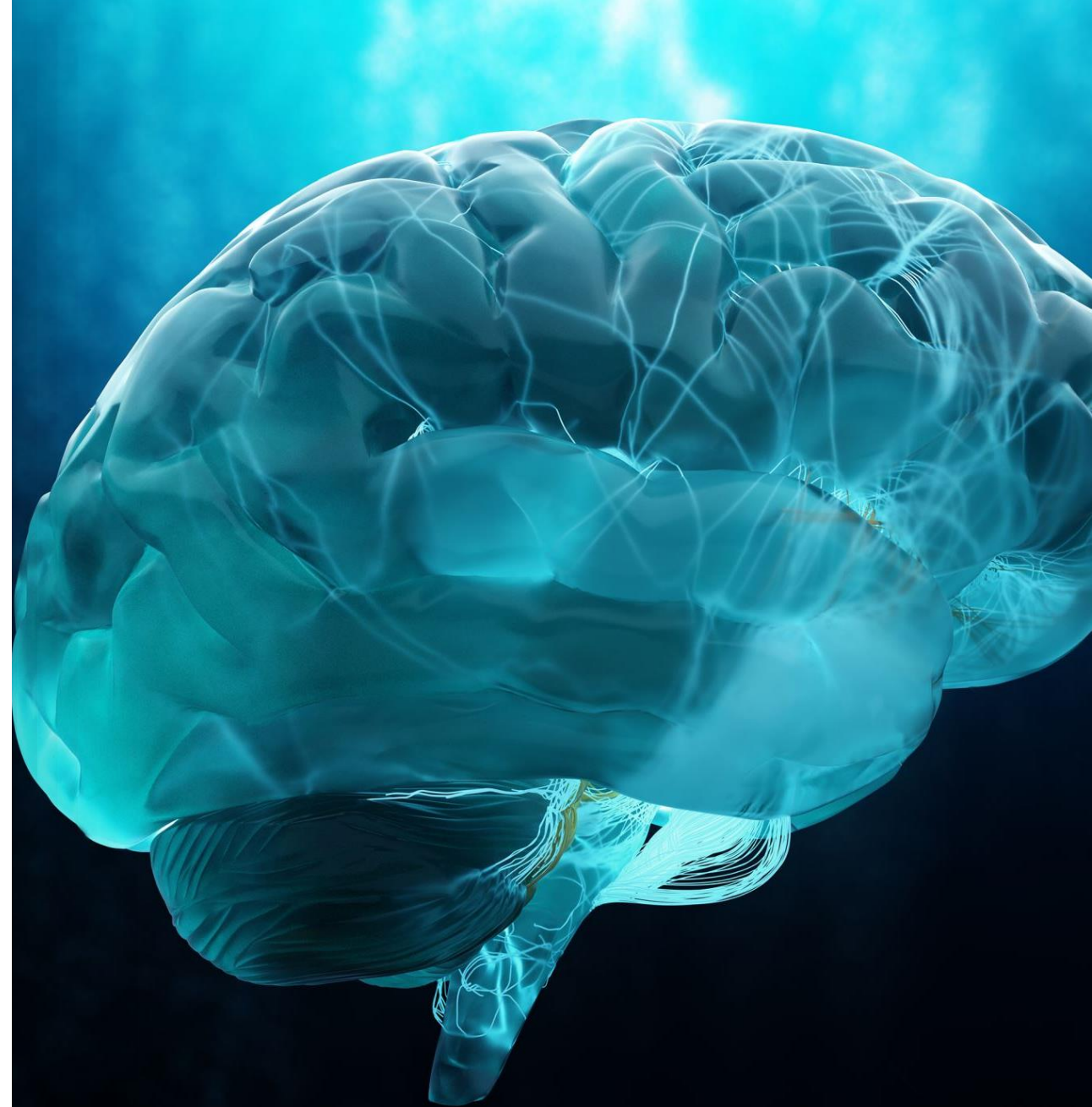
General Purpose AI
&
"A Better Life*"

*= For People With Disabilities

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OpenAI: Chat GPT

- Asking questions to a bot

- Give answers in 'human sentences'

- Uses context (few shot prompting)

! Cut-off the internet September 2021 !

Use cases FOR THE BETTER:
- ✓ Limit executive workload (Autism, ADHD,..)
- ✓ Write with good spelling (Dyslexia)
- ✓ Give Ideas

12:03

CHATGPT

Belgium has 10 provinces. These provinces are administrative regions within the country and play a role in local governance. Here are the names of the 10 provinces of Belgium:

1. Antwerp (Antwerpen / Anvers)
2. East Flanders (Oost-Vlaanderen / Flandre-Orientale)
3. West Flanders (West-Vlaanderen / Flandre-Occidentale)
4. Flemish Brabant (Vlaams-Brabant / Brabant flamand)
5. Walloon Brabant (Brabant wallon / Waals-Brabant)
6. Hainaut (Hainaut / Henegouwen)
7. Liège (Liège / Luik)
8. Limburg (Limburg / Limbourg)
9. Luxembourg (Luxembourg / Luxemburg)
10. Namur (Namur / Namen)

Each of these provinces has its own local government and is further divided into municipalities for administrative purposes.

DENNIE

What's the capital?

Message

Bing COPILOT

- GPT style of working

- Recent data

- Ask questions and get reasoning

- Shows resources

Use cases FOR THE BETTER:
- ✓ Limit executive workload (Autism, ADHD,..)
- ✓ Write with good spelling (Dyslexia)
- ✓ Give Ideas

GitHub CoPilot

- Code assistant

- Translate programming languages

- Write boiler code

Use cases FOR THE BETTER:
- ✓ Concepts with structure (Autism/ADHD)
- ✓ Reducing boring parts (Autism/ADHD)
- ✓ Help with new concepts (Autism/ADHD)

```
C#  program.cs        JS  QuickSort.js  ●

JS > JS QuickSort.js > ⬡ quickSort
1    // write a quicksort algorithm
2    // 1. pick a pivot
3    // 2. partition the array into two halves, one with
4    // 3. recursively call quicksort on the two halves
5    // 4. return the sorted array
6
7    // Write in JS  (use recursion)
8
9    function quickSort(arr) {
10       if (arr.length <= 1) {
11          return arr;
12       }
13       let pivot = arr.shift();
14       let left = arr.filter(el => el < pivot);
15       let right = arr.filter(el => el >= pivot);
16       let leftSorted = quickSort(left);
17       let rightSorted = quickSort(right);
18       return [...leftSorted, pivot, ...rightSorted];
19    }
```

Microsoft Designer

- Make flyers and designs
- Make cards, leaflets,...

Use cases FOR THE BETTER:
- ✓ People with fantasy but without designer skills
- ✓ Entrepreneurs
- ✓ Solo developers
- ✓ (ex: on the Neuro Diversity Spectrum)

JOIN US FOR AN ACCESSIBLE
.NET COMMUNITY EVENT
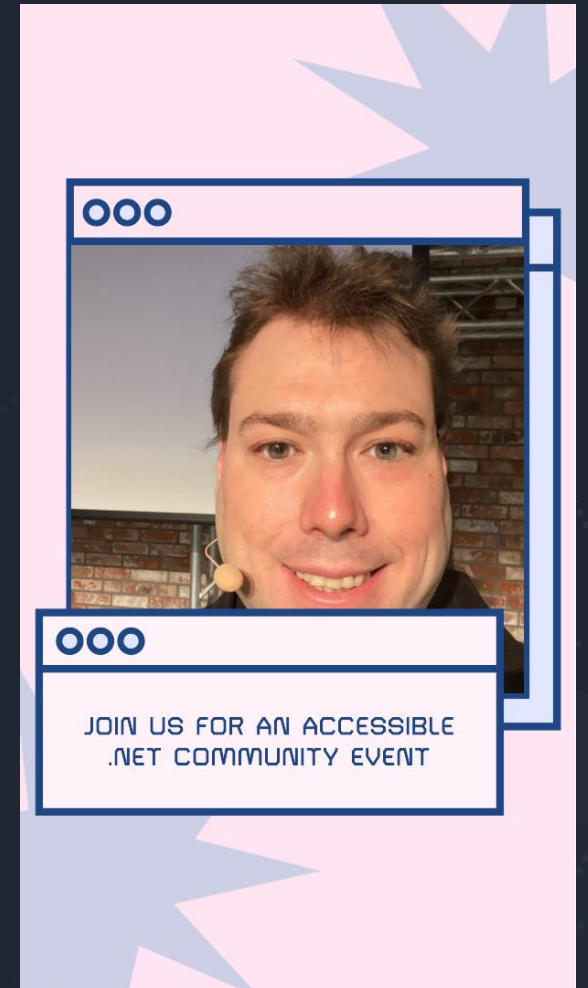
PROMPT: Make a flyer for a .NET community event about accessibility on September the 20th. The main speaker will be Dennie Declercq

Let's HACK for The Better

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Deepfakes*
For The Better

- Deepfakes have a negative reputation

- Although the Deepfake technology can be used for THE BETTER

- Let's talk about Deepfakes in combination with
  - Rehabilitation
  - Motivation
  - Therapy

- *With or without VR

Deepfakes & Rehabilitation

- Seeing yourself moving around (F)
- Seeing yourself in a car (P)
- Seeing yourself performing a job (P / F)

F = Physical

P = Psychological

WALKED 700 MILES IN JULI!

Deepfakes & Motivation

- Images of you in the house you want to live

- Images of you as a public speaker

- Newsflash of you reaching a goal

Deepfakes & Therapy

- Trauma Exposure Therapy
- Personal Growth
- Behavior training

CoPilots for The Better

- CoPilots are a productivity tool
- But the concept of Co-Pilots can also be used for personal and work life of:
  - People on the autism spectrum
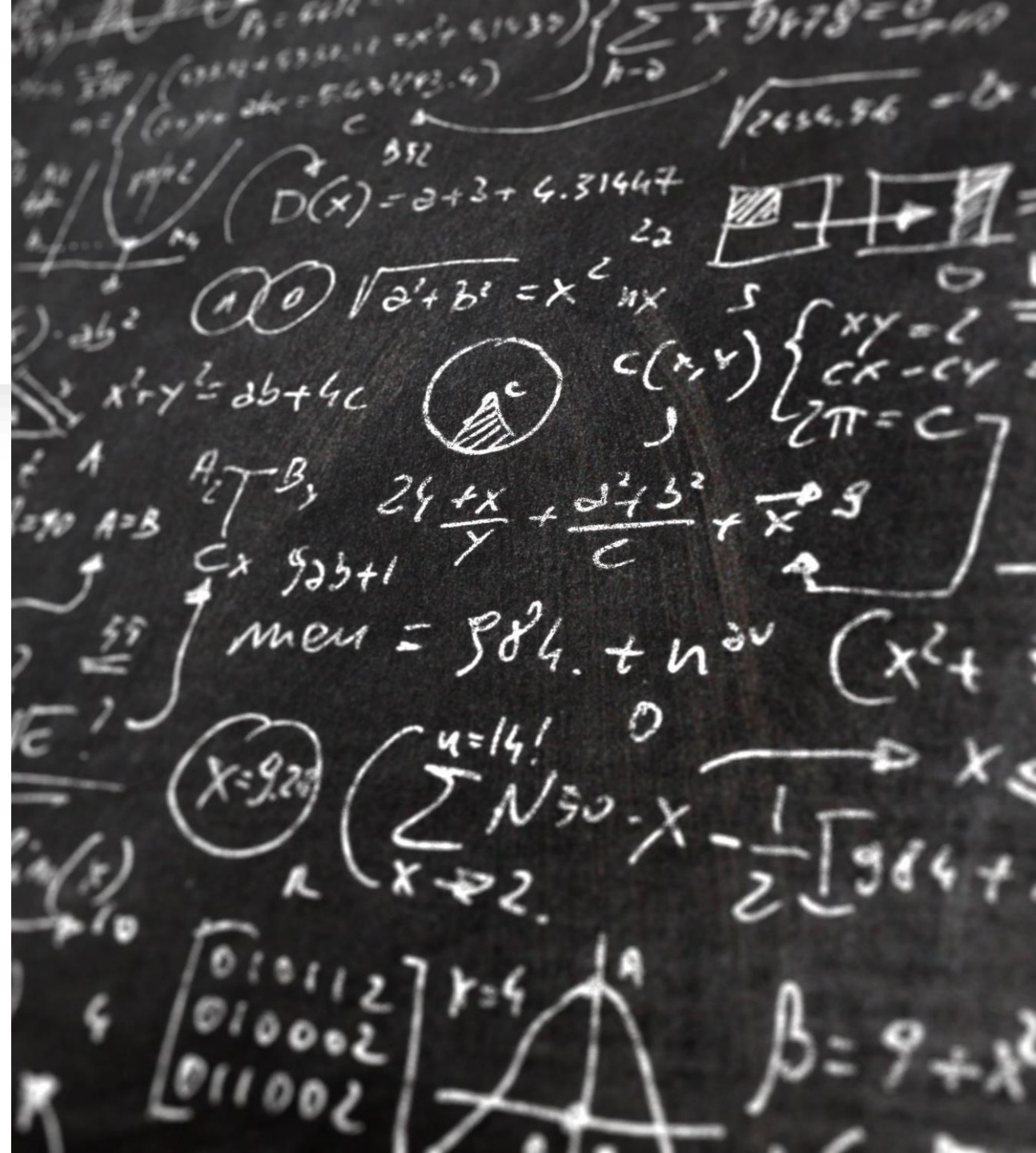 - People with Dyslexia
  - People with Learning Disabilities

CoPilots & Autism

- Repetitive tasks
- Assistance with Planning & Administration
- Assistance with groceries shopping
- Assistance planning public transport

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CoPilots & Dyslexia

- Helping with writing
- Assisting with summarizing
- Assisting with planning

CoPilots & Learning Disabilities

- Exercising money concept

- Assisting household- jobs

- Assist in transport

- Safeguard

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Chat Assistants for The Better

- Remember 2021 – 2022
  - I was ranting about Chatbots
- Look what a magic we have in our hands
- Let's use it FOR THE BETTER
- We are not there yet
- But we can start configure and finetune!

Chat Assistants & Autism

- Explaining scenario's multiple times

- Further reasoning than most folks do

- Confirming concepts multiple times
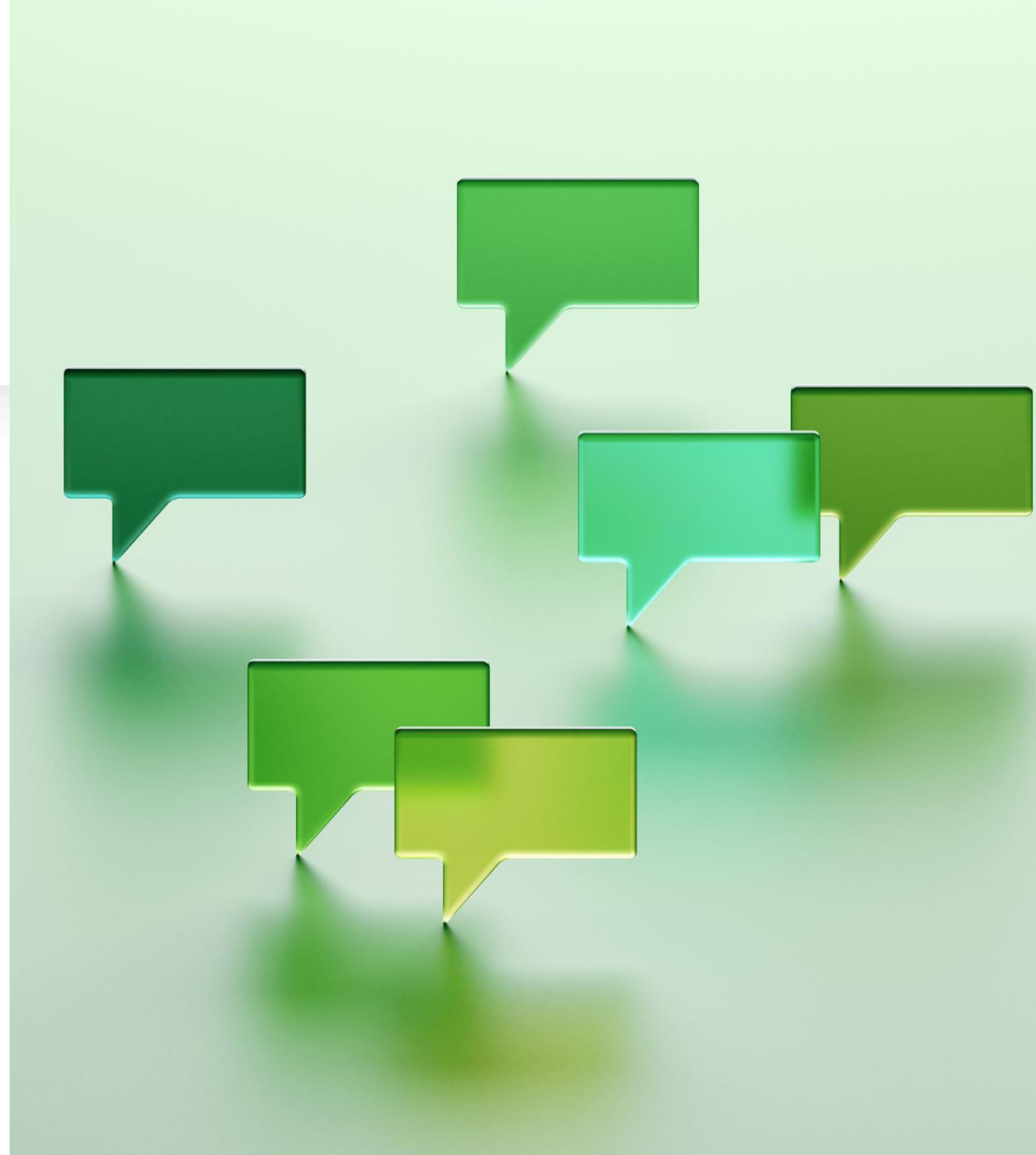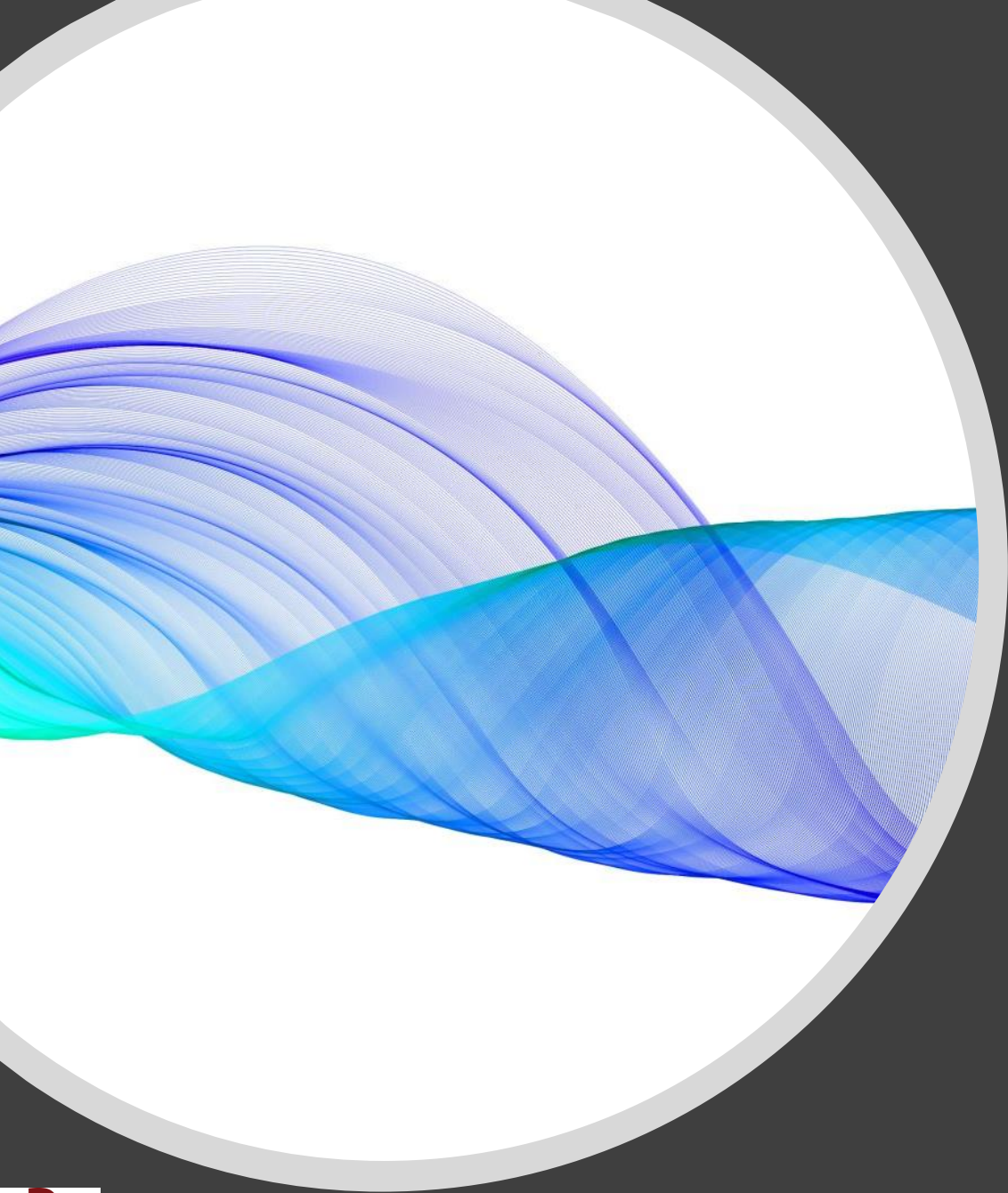
Chat Assistants & Mental Health

- Giving confirmations

- Someone with interest

- Therapy for those who cannot go to a psychotherapist*

*= Yes.. I know this is taboo!

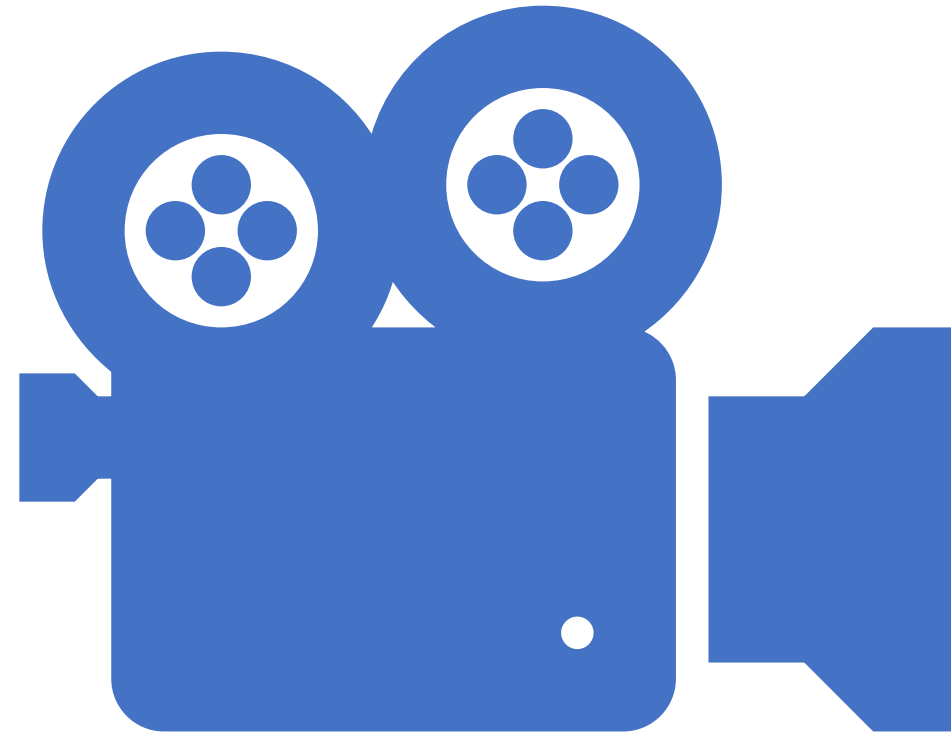# Chat Assistants & Learning Disabilities

- Explaining societal concepts in other jargon
  - "Explain to a kid"
- Rehearse words & Jargon
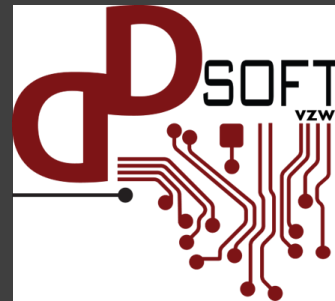- Train historic information

Recap

Resources

- Recording AI for The Better (original): https://go.ddsoft.be/ai4thebetter
- Slides AI for the Better (Original):
- https://go.ddsoft.be/AI4TheBetterSlides
- Slides AI for the Better: Extra Power after releasing GPT & LLM Technologies
- https://go.ddsoft.be/ai4thebetterGPT
- https://ware.ddsoft.be

Thanks || Q&A

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FEEDBACK

AI For The Better: Extra Power after releasing GPT

Dennie Declercq

https://warszawskiedniiinformatyki.pl/user.html#!/lecture/WDI24-a132/rate