

AI IN EDUCATION

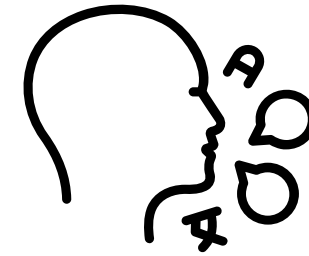
CONSIDERATIONS FOR GENERATIVE AI IN SCHOOLS

ARTIFICIAL INTELLIGENCE: **ALWAYS CERTAIN - OFTEN WRONG**

Intention

Why this presentation?

While modern AI has been around from at least the 1950's in the last few years there has been increased marketing hype and releases of various software implementations to the market with little thought as to how they may be used or even if they are appropriate at all.



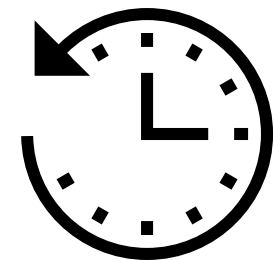
Common Language

We want to provide a common language so we and our members know what we are talking about.



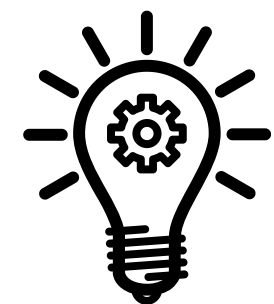
Manage effective marketing tactics

To help CEnet and members dig through the **hyperbolic** rhetoric being used in marketing AI products.



Provide a historical perspective on the current AI hype

A good understanding of the current situation requires a good knowledge of what has gone before.



Assist schools in deploying AI and show what CEnet is doing in the AI area

In order to become a thought leaders in AI and help manage its impact, individual schools and CEnet need to add AI as an integral component to our strategies.

Notes on this presentation

This presentation has been presented in a manner to make AI and AI concepts accessible to a number of audiences. It is important that the vocabulary developed at this early stage be understood by as many parties as possible. To this end the presentation adopts an informal style with citations to technical information provided where necessary.

The slides are to read over later the voice over to listen to now.



1. The presentation style is **informal**

This presentation has been designed to gather a great deal of technical information and present it in a manner that is memorable. To do this an informal style of presentation has been adopted deliberately.

2. The presentation is **hyperlinked**

This presentation can be read in sequence or out of order. The next slide is the master navigation hub. In presentation mode click on the links to navigate.

3. The presentation is **non technical**

This presentation is designed not to be technical or provide technical depth. That is the role of other documents to be based on this work.

4. The presentation is **not a business plan**

This presentation aims to provide the language and context required to put a business plan together should one be required.

5. The **CEnet context**

In order to become a thought leader in AI and help manage its impact, AI is seen as an integral component to CEnet's strategy. The presentation addresses some of the strategic issues we face.

Layout of this presentation

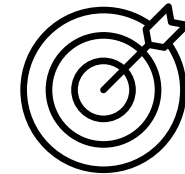
This presentation serves a number of purposes and can be read out of order although it is recommended that we start with Section 1: Primer, so the language used in the rest of the document will make sense. View the presentation and click on the icons to jump directly to each section.

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1. AI Primer - what are we talking about

In this section we begin by defining terms that are used when describing AI. These are defined here so the language is consistent. This is a good place to start.



2. Goals CEnet and schools reach for successful AI adoption

This section outlines what goals are important to reach for the successful, safe adoption of AI in education



3. The Organisational Context

Certain aspects of AI adoption remain the same no matter the industry or organisation. This section pulls these common elements out.



4. The Educational Context

A good understanding of the current situation requires a good knowledge of what has gone before.

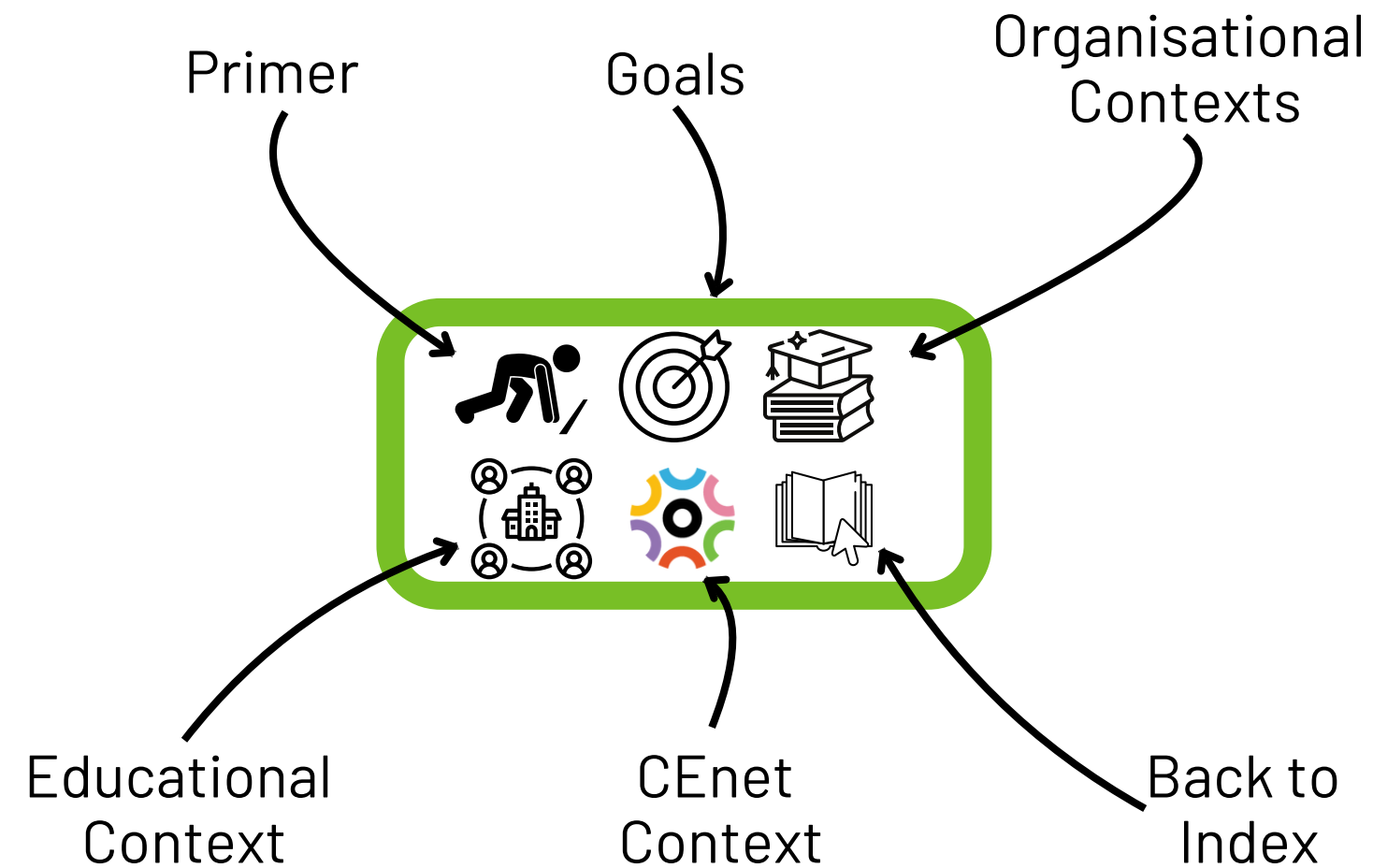


5. The CEnet Context

In order to become a thought leader in AI and help manage its impact we need to add AI as an integral component to our strategy.

How do I get straight to the good stuff ?

When you see this navigation box just click on the icon



Section 1

AI ORIGIN STORY

AI has been around since ancient times but was not always known as AI.

Ancient Times

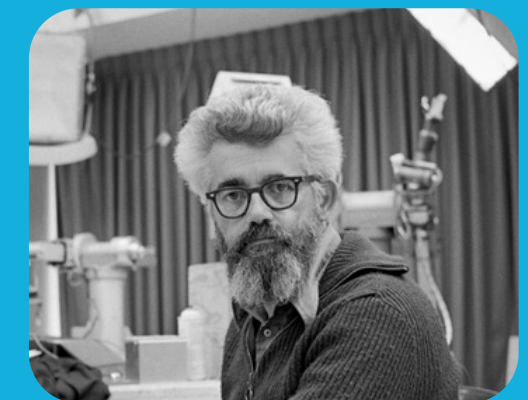
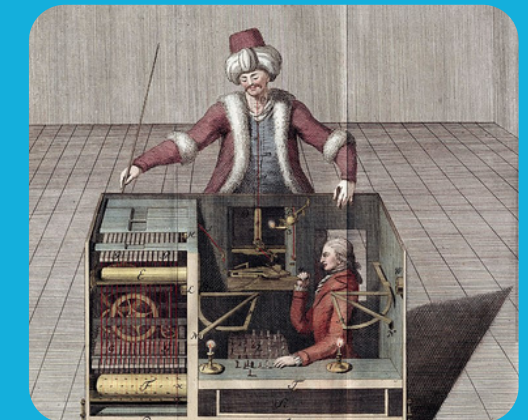
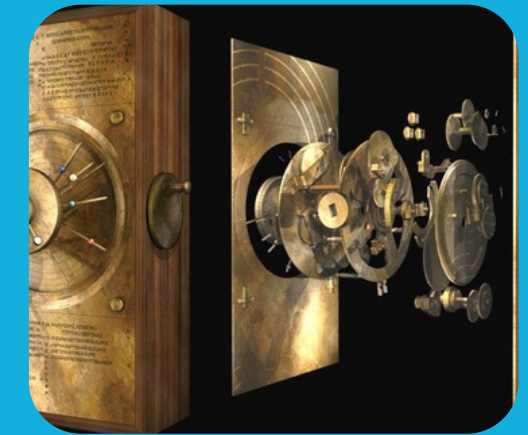
Arguably, one of the first tools designed to think like a human was the Antikythera mechanism used to predict eclipses and other events. Much later the mechanical Turk chess playing mechanism was developed - it was an old time scam.

Begining of Modern Era

From 1900 or so AI was known as Automata Theory. However Prof. John McCarthy needed a better sounding name to attract people to his 1956 Dartmouth Summer Research Program and so the term Artificial Intelligence was created - marketing hype at its finest.

Today

Today AI research is the hottest topic in academia and industrial research. Already generative AI has been used to solve previously insoluble problems such as AlphaFold used to determine the 3d folding patterns of proteins.





AI CLASSIFICATIONS

AI is traditionally classified by how, and how well the AI system imitates human reasoning and thought - one classification matrix has AI divided into 4 groupings...

Reactive

Reactive models have no memory and are task specific. The same inputs will give the same outputs. Typically this is what a machine learning model of AI delivers.

Limited Memory

Limited memory AI not only takes the current inputs to create an output it also can "remember" previous situations and outcomes to modify its response.

Theory of Mind

Would be based on the theory of human thinking and would understand that other things have thoughts that can impact it.
DOES NOT EXIST YET.

Self Aware

A self aware AI is one that not only knows about the thoughts of others but can form representations of itself.
DOES NOT EXIST YET.



You can see that the different classifications tend to overlap

OTHER CLASSIFICATIONS

AI is traditionally classified by how, and how well the AI system imitates human reasoning and thought - one classification matrix has AI divided into 3 groupings...

AI Narrow Intelligence

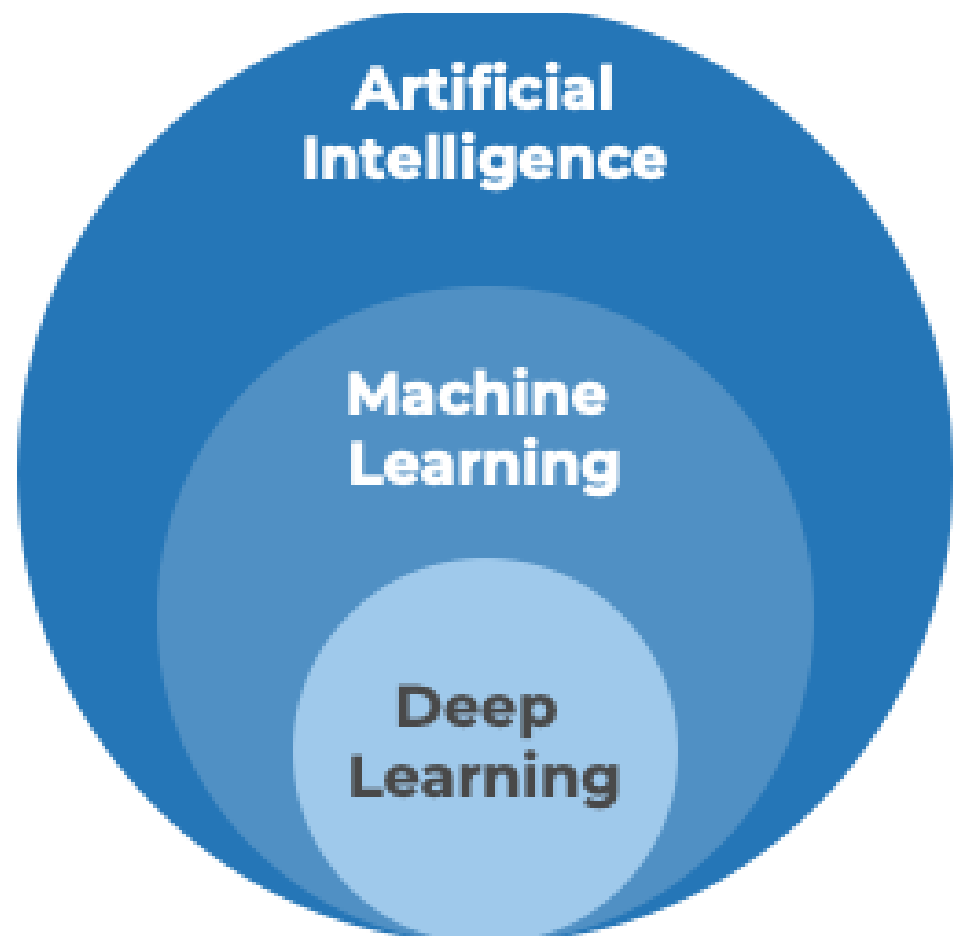
Seem intelligent but operate under strict set of constraints and limitations. ALL current AI implementations are in this category.

AI General Intelligence

Would be based on the theory of human thinking and would understand that other things have thoughts that can impact it. **DOES NOT EXIST YET.**

AI Superintelligence

A self aware AI. DOES NOT EXIST YET - also very dangerous. (see Nick Bostrom of the Oxford Future of Humanity Institute) **DOES NOT EXIST YET.**



OTHER TERMS

AI is full of obscure often contradictory terms this graphic shows the relationship between three of the most often used AI terms ...



Artificial Intelligence

This refers to the entire body of work pertaining to having a machine mimic human intelligence. It is abbreviated AI and covers a wide range of topics.



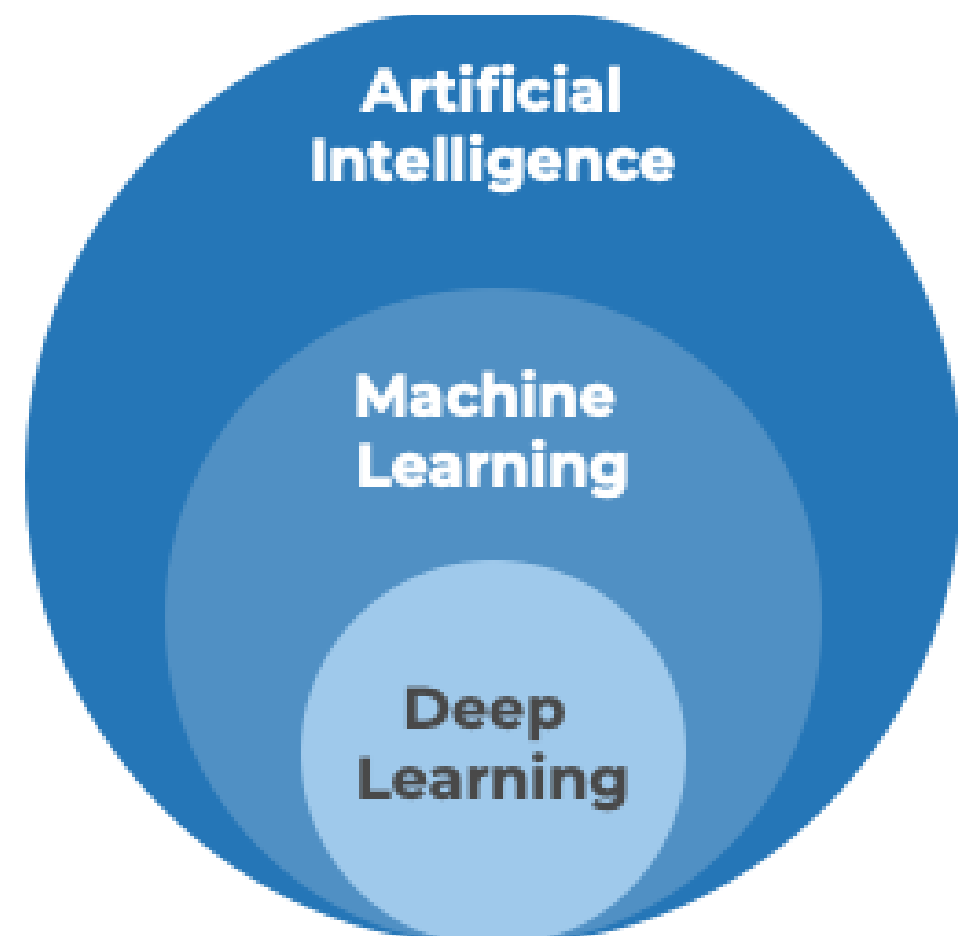
Machine Learning

This is a sub set of AI research where the computer is programmed to parse through a data set and make predictions based on previously learned actions. For example Spam and virus detection are based on machine learning



Deep Learning

This is an extension of machine learning that extends the learning process by applying the data to artificial neural networks to develop relationships between data. For example Racial recognition, generative AI, image detection and classification. Deep learning uses multiple layers to solve problems through extraction of knowledge from data and transforming it at each layer.



OTHER TERMS

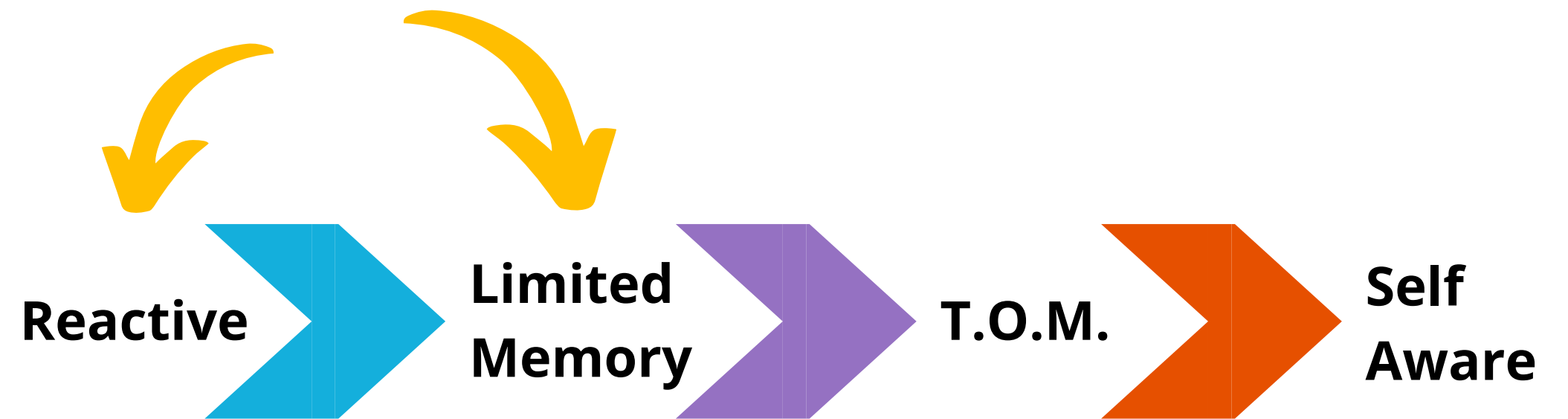
Just AI is full of obscure often contradictory terms AI technologies have cool names for example ...

- Kohonen Networks (1980)
- The Neocognitron (1980s)
- Restricted Boltzmann Machine (mid 2000's)
- Recurrent Neural Networks (1986)
- Jordan Networks (1986)
- Convolutional Neural Networks (1998)
- Bidirectional Recurrent Neural Networks (1997)
- Long Short-Term Memory (1997)
- Deep Belief Networks (2006)



WHAT IS ALL THE HYPE ABOUT?

AI is moving from a reactive model to a more limited memory model ...

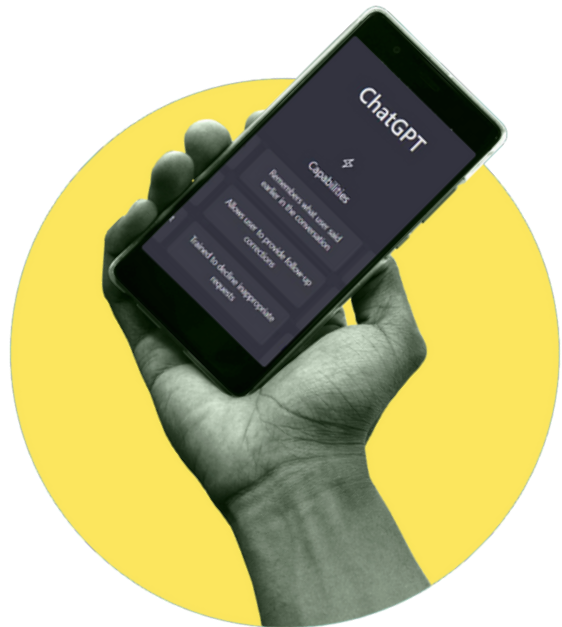
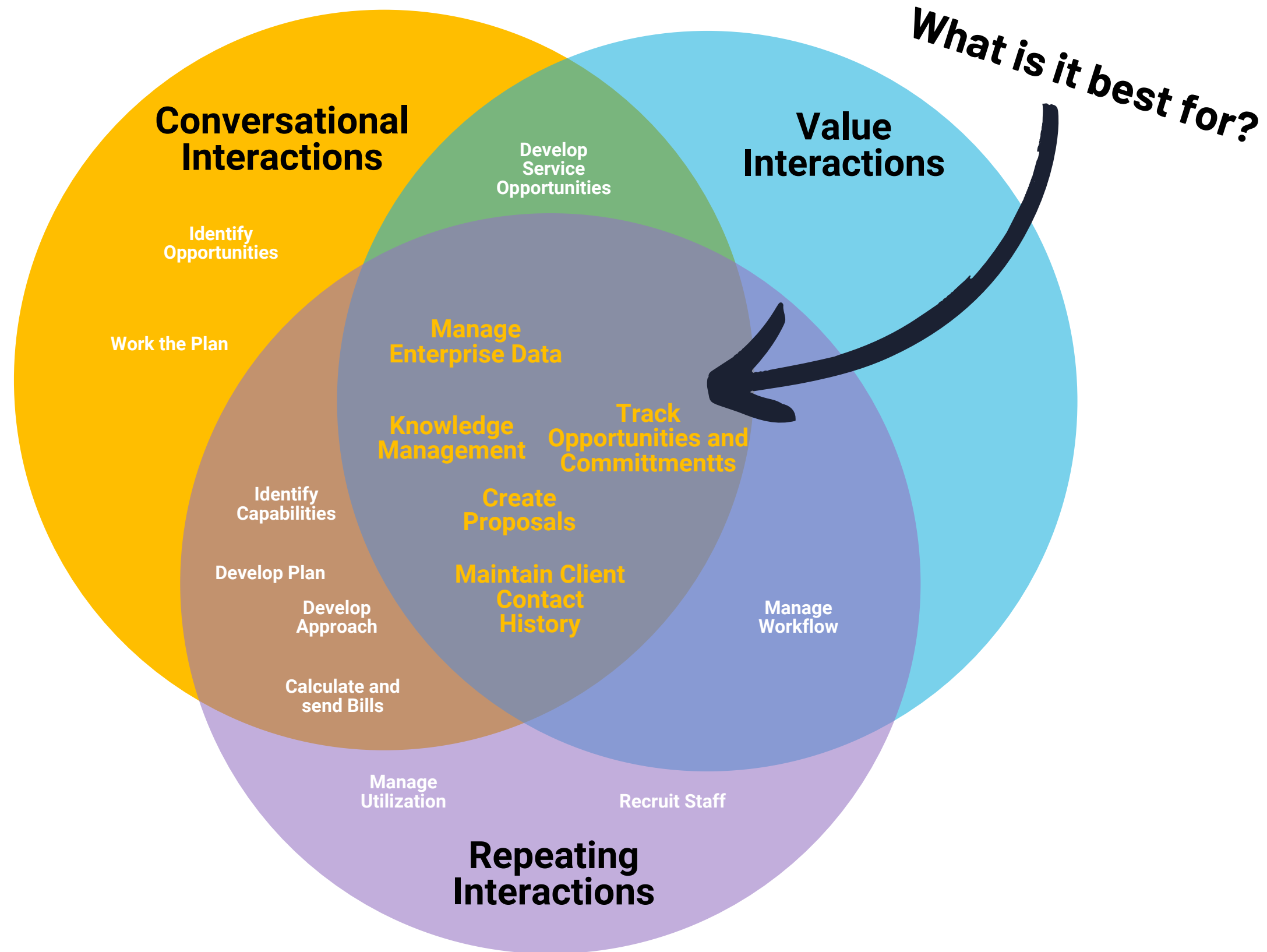


The problem is - this works so well and looks so cool people are mistaking AI for understanding.



WHAT ABOUT CHATGPT?

Chat GPT is a GENERATIVE AI - it creates "new" output given an input.



GENERATIVE AI -
is not for everything

WHAT ABOUT CHATGPT?

Language

A Hallucination is where a generative AI gives a response that is wrong in the intended context of the input. ChatGPT presents its responses as a certainty even if it is wrong.

Accuracy

Generative AI may generate inaccurate and/or false information.

Bias

Being trained on data from the internet can lead to bias.

Hallucinations

AI can generate responses that are not based on observation.

Infrastructure Required

Large investments are required for compute and data.

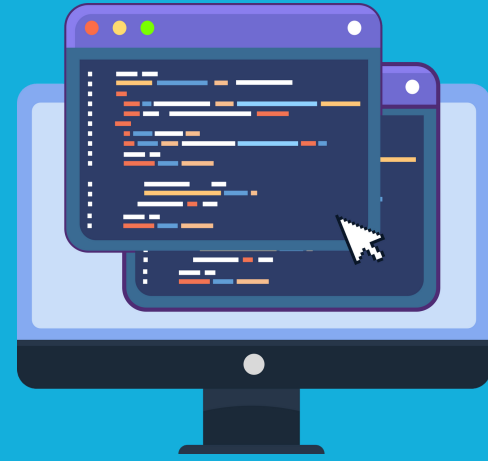
Transparency

LLMs use both supervised and unsupervised learning, so its ability to explain how it arrived at a decision may be limited and not sufficient for some legal and healthcare use cases.

Jump to openAI
and have a play

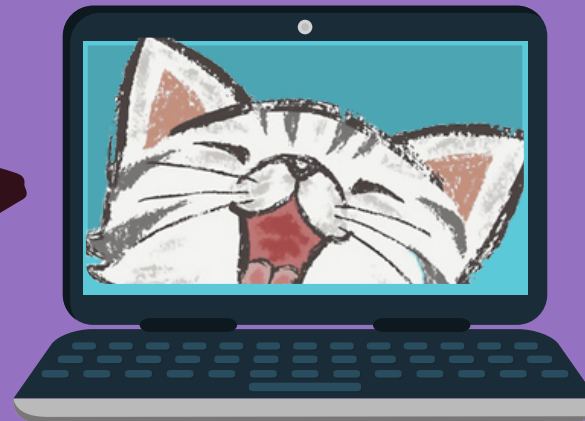


HOW ARE AI MODELS TRAINED?



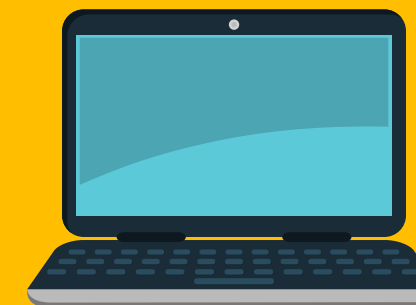
```
class:Animal
Animal subject
if (subject.covering == fur) AND
(subject.ears == 2) AND
(subject.cuteness>80) AND
(subject.attitude ==BAD) then
return subject = cat;
```

Traditional



Machine Learning

Here, read these books.....



Now, tell me what you know about cats.

Large Language Models LLMs

Section 2

OUR GOAL: To find useful, creative and ethical uses for AI in education

AI is being used in education today in embedded applications such as SCRIBO, LITEARU, KOFAX, and SAASYAN.

How much do we know about these products, their origins, their training and biases?



Taking stock of AI today

We are using AI today. It should be surveyed, categorised and a catalogued so CEnet and members all have an understanding of their current systems.



AI marketing hype

AI is the new buzz. We need to develop a framework to help ourselves and schools dig through the AI marketing hype to the true value proposition that underlies this tool.





OUR GOALS



Maximise Economic Benefit

AI is being presented as a solution to all problems. However we need to sort out the kind of problems today's AI is good at solving and use them.



Set the language of AI

While AI, as a technology in its current form, has been around since the 1950's the current AI hype has been around since October 2022. The vocabulary describing AI is not yet set. Catholic education has a role in setting this.



AI and Catholic Ethical Teaching

In addition to the moral and responsible development use and deployment of AI we are called to examine the Church's position on AI in its various forms.



Minimise Safety Risk

AI has the potential to greatly assist in child protection and early detection of incidents. How do we ensure that this occurs fairly and accurately?



Prepare for AI based cyber threats

Current AI models act best as "force multipliers" for various data tasks. This includes cyber attacks. We (CEnet and the members) need to be ready to deal with AI controlled and directed cyber risks.



Regulation Compliance and Accountability

At the time of writing, there is no common vocabulary for AI and AI deployment let alone regulation, compliance or accountability measures. This must change, and will impact our AI strategy.



OUR CHALLENGES

As we begin this journey, there will be a number of obstacles we will need to overcome:



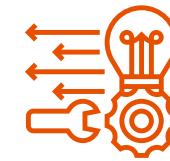
Make sure we have the right people in the room

CEnet is going to need the right mix of decision makers in the room to create the AI Strategy, Vision and Objectives - TWICE - once for CEnet and once for the members.



Be smart enough to see a good opportunity and brave enough to jump on it.

Beginnings are such delicate times, we need to seek out, evaluate and be able to deploy new AI technology quickly and safely.



Establish a common vocabulary

We need to establish and publish a common vocabulary that can be used in RFQs, Contracts and product evaluations. We also need to know that vendors know what they are selling.



AI guiding principles

Build and enforce a set of AI guiding principles that are morally sound and reflect the strategy of the organisation.



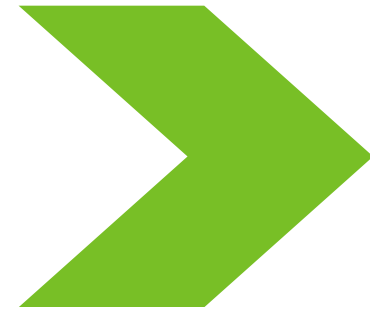
GENERATING THE AI ROADMAP

1

Establish
Responsible
AI
Principles

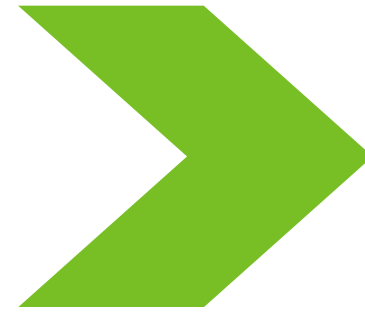
2

Develop
policies to
direct AI
usage

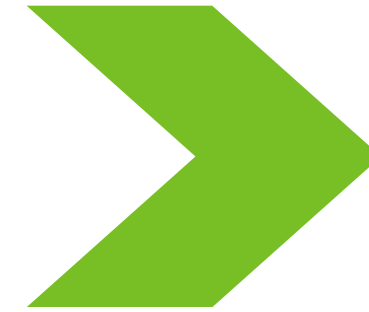


Align AI
and
Organisational
Strategy

Assess
Organisation AI
Maturity



Prioritise
Opportunities



Build AI
Roadmap



Section 3

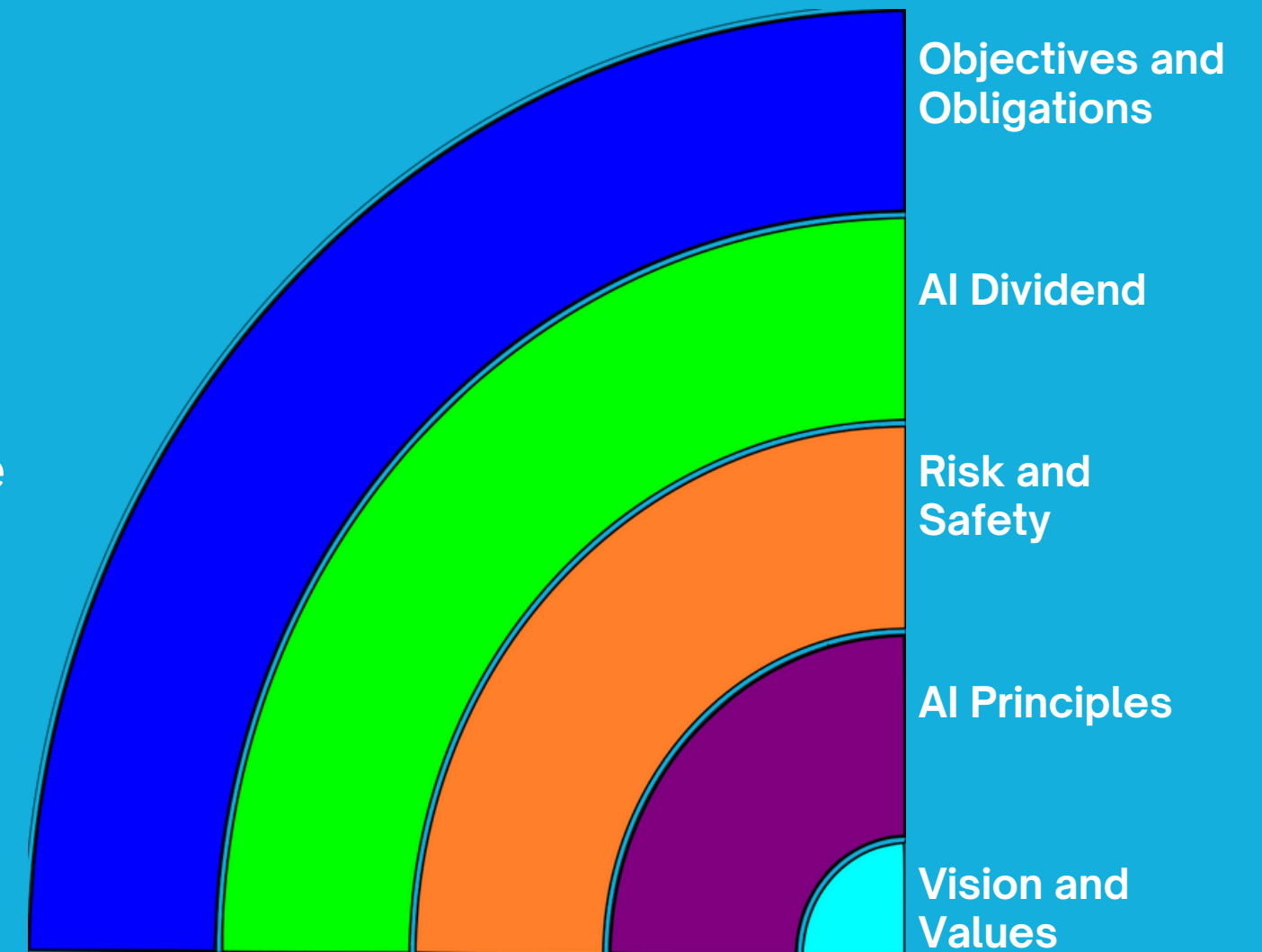
THE ORGANISATIONAL CONTEXT

AI in education is inevitable - how to prepare

Despite all of the hype and discussion AI is beginning to enter the realm of education. This presentation examines some steps that can be taken by members in preparation for the AI future.

The IAMAI Model

In this model the organisation's Vision and Values and Objectives and Obligations remain the same as always but AI adds three new levels of abstraction between the Vision and Objectives. IAMAI is an AI specialist arm of *Internet Australia Pty Ltd* who have been providing internet solutions and advice to schools and education systems for more than 20 years.





A METHOD TO QUICK-START MEMBERS ON THEIR AI JOURNEY

How do we integrate the new AI specific layers in the IAMAI model to an existing organisation? People are people and want to jump in to the AI dividend layer first, how do we help this? We have to use a range of tools traditional and AI based to help. The basics are summarised here:



Common Language

Use a common language so we and our members know what we are talking about.



Have an AI Roadmap

At some point all organisations need to have a road map for the implementation of AI projects.



Imagine AI adoption in three phases

Activate

Base Safety

- Consent.
- Access Controls.
- Functionality.
- Quality.
- Ethical.

Assess

Active Research

- Investigate what others are doing.
- Explore the downsides and risks.
- Look for what AI can deliver.

Reinvent

Rebalancing

- Use the outcomes of AI to reimagine and rebalance the delivery of education
- Look to past rebalancing exercises to see how the future may pan out.



Activate

Base Safety

Consent

Access Controls

Functionality

Quality

Ethical Considerations



CONSENT

JUST WHAT HAVE WE SIGNED UP FOR?

Examine our contracts and EULA

Based on our position with regard AI in education we will need to examine our contract and EULA to ensure consistency. Some organisations call out AI explicitly some do not.

Examine our file and image sharing arrangements

Video and still images are often stored and categorised into “Smart Albums”. These albums use image recognition data derived from AI and deep learning. Where is this data being shared and with whom is it being shared?

Examine our rights to our data

What level of transparency is there regarding your data. When is you data no longer yours and is considered “new data” and is the IP of someone else?





PRINCIPLES OF ETHICAL AI



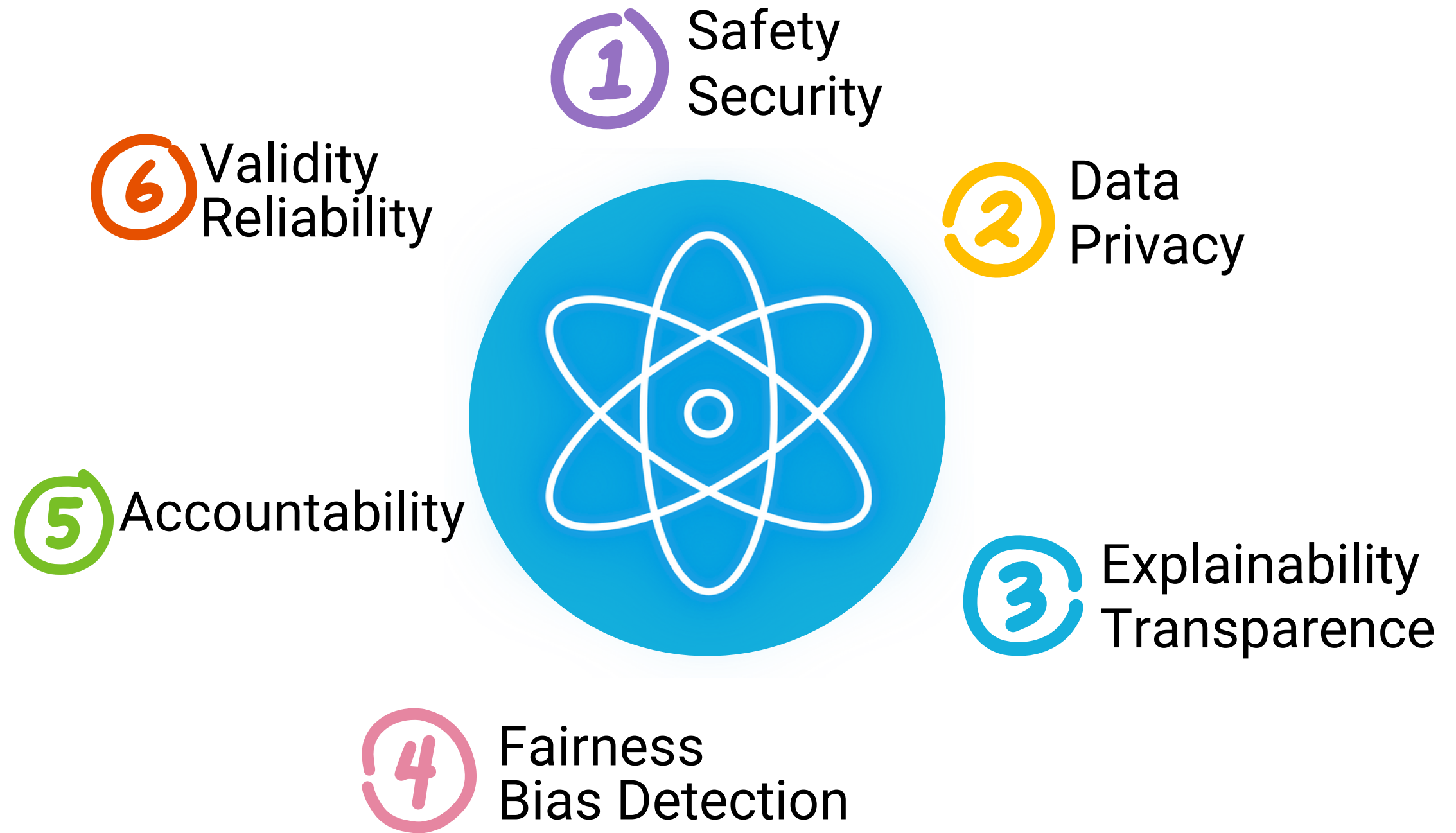
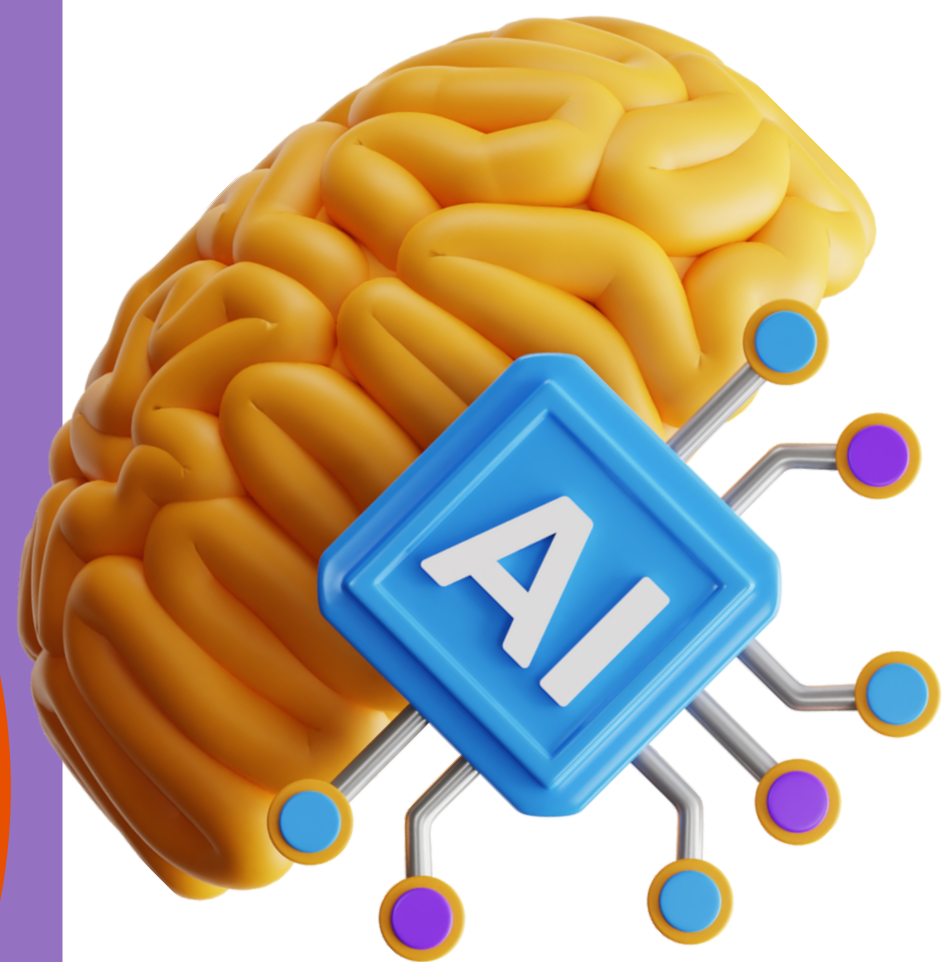
AI CANNOT EXIST IN AN ETHICS FREE ZONE

At the moment there is a great deal of effort being expended in the definition of ethics and AI principles. However it seems the development and deployment of generative AI has got in front of the development of the principles and the methodology for deploying them.

This section summarises a number of AI principles proposed by various organisations.



PRINCIPLES OF ETHICAL AI





THE ROME CALL TO AI ETHICS

The "Rome Call for AI Ethics" was developed in 2020 and aimed to promote an ethical approach to artificial intelligence.

Contributors, the Pontifical Academy for Life, Microsoft, IBM, FAO and the Ministry of Innovation signed on February 28th 2020.

The Rome Call for AI Ethics comprises 3 impact areas and 6 principles.





THE ROME CALL TO AI ETHICS

The "Rome Call for AI Ethics" 6 principles:



Transparency



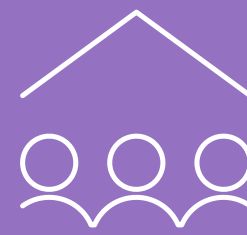
Inclusion



Accountability



Impartiality



Reliability



Security



AUSTRALIA'S AI ETHICS PRINCIPLES

The Australian Government has developed voluntary principles for the development of AI:

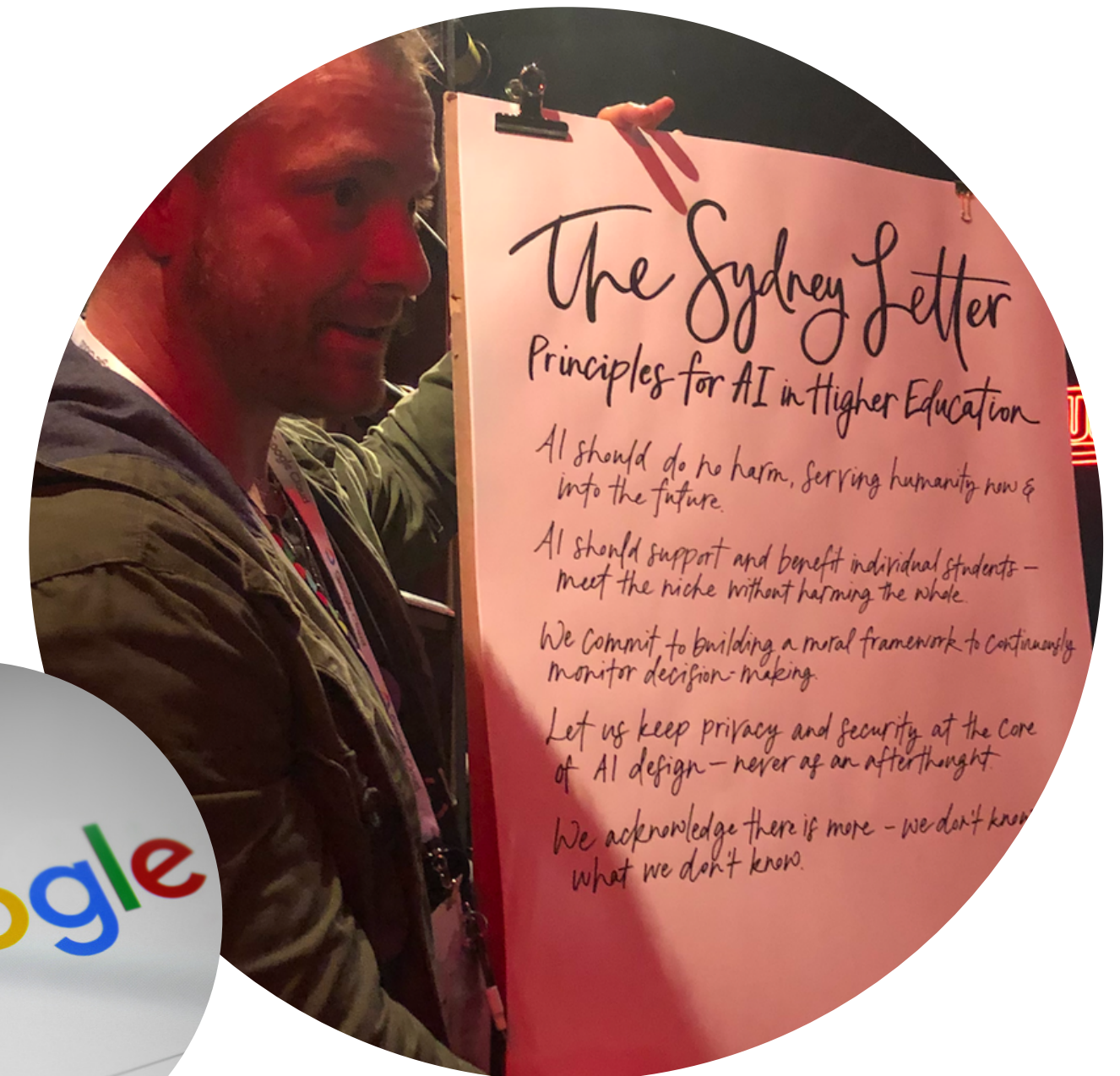
- Human, societal and environmental wellbeing
- Fairness
- Privacy protection and security
- Reliability and safety
- Transparency and explainability
- Contestability
- Accountability






GOOGLE'S SYDNEY LETTER

- AI should do no harm
- AI should support and benefit individual students
- We commit to building a moral framework to continuously monitor decision making
- Let us keep privacy and security at the core of AI design
- We acknowledge there is more - we don't know what we don't know





CENET LEADERSHIP TEAM PERSPECTIVE

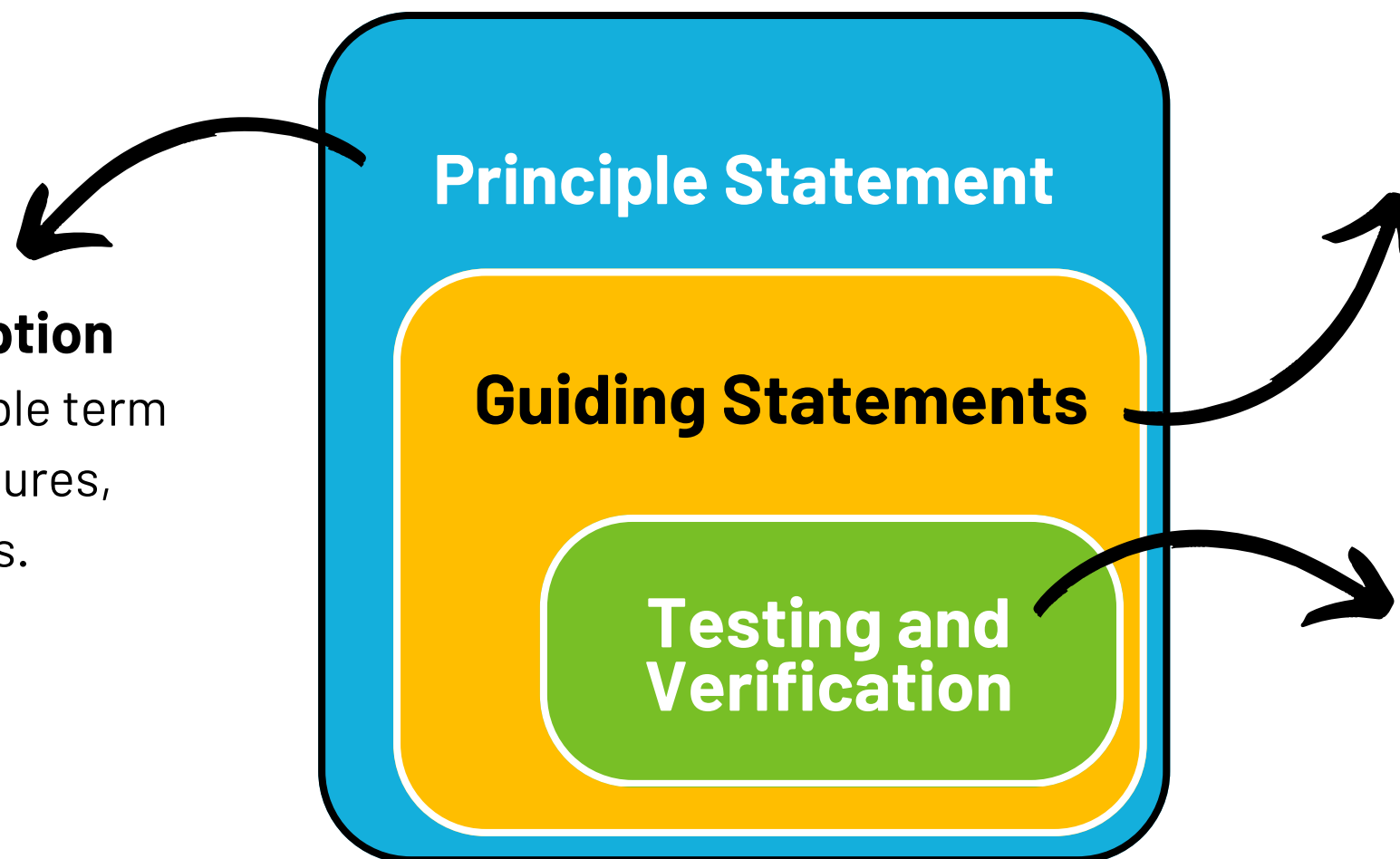
AI workshop group-work notes 		
What principles do we need to include in developing AI deployment strategies?		
Group 1	Group 2	Group 3
Reliability / Bias (detection reduction)	Bias Detection	Bias Reduction Fairness
Accountability	Accountability, validity, reliability, contestability	Accountability
Security/ Privacy	Security Privacy Protection	Security Privacy
Transparency	Transparency	Transparency Contestability
Human, Societal and Environmental Wellbeing		



ANATOMY OF AN AI PRINCIPLE

Title/One Line Description

An eloquent and memorable term that can be used on brochures, and awareness campaigns.



Principle Statement

Guiding Statements

Testing and Verification

Numbered list of meaningful descriptors

Used to create understanding of the statement in the context of our sector.

This also forms the basis of the rubric to determine how well a system complies with our principles. For each Principle Statement there can be one or more guiding statements.

Test Specifications for each Guiding Statement

Controls and specifications that can be used to analyse and test if an AI meets our guiding statements, and what to do if does not.



ACCESS CONTROLS

As we jump into the technology in search of the AI dividend, the first thing organisations need to do is to manage access to the AI models.

AI models can be “jail-broken” to provide information that is not suitable for particular audiences or they can simply provide replies that are inappropriate, or just plain factually incorrect.

For organisations who want to use this technology now, we need to provide:

- a context for who the user is,
- their role in the organisation,
- a method to improve the AI prompt entered by the user, a method to filter and manage responses from the AI and
- a mechanism to isolate certain data from the AI itself.

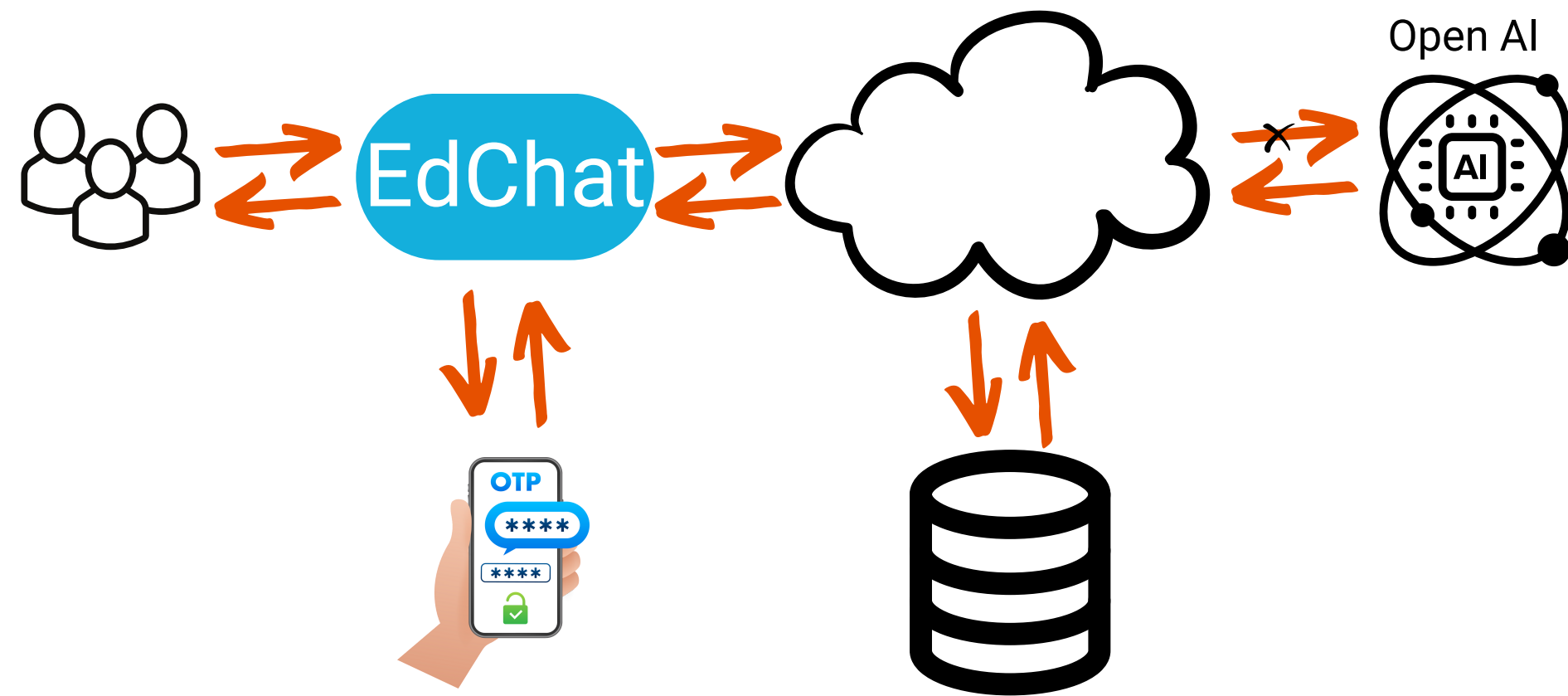




ACCESS CONTROLS

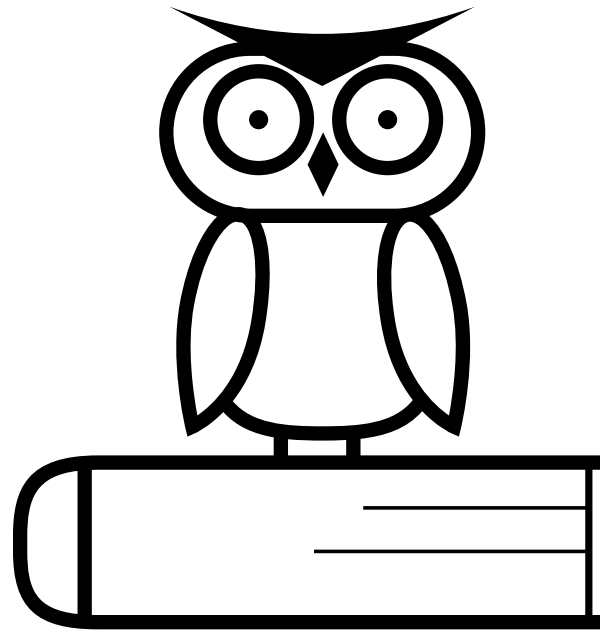
In this first phase of preparing for an AI future we can control how we access the generative AI model.

The South Australian Education Department have developed a model called EdChat:





BENEFITS OF EDCHAT

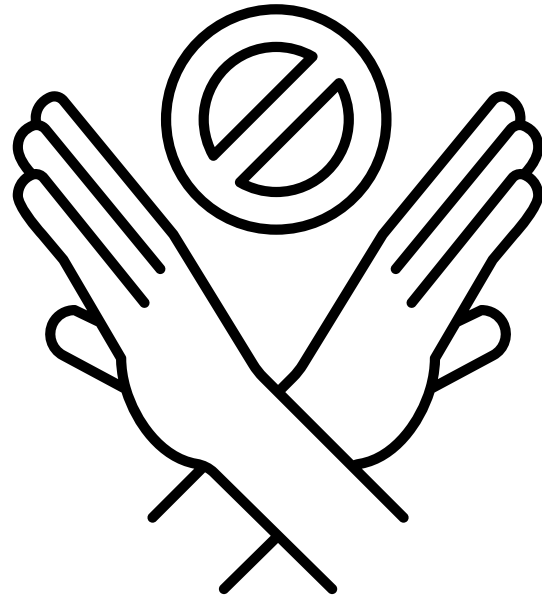


The EdChat model has a number of benefits:

- The system works on existing infrastructure (identity, logging, data lakes etc)
- The prompts passed to the AI can be customised to the user based on age role etc.
- Jail break prompts can be intercepted.
- No internal data is passed to the AI
- Logging, branding responses to events are controlled locally.
- EdChat attempts to expose the decision making process by analysing and editing the prompt



LIMITATIONS OF EDCHAT



The EdChat model has a number of recognised limitations:

- EdChat creates an unrealistic view of generative AI interaction
- Staff and students are not prepared for real world AI interactions
- It is not clear how the AI can be trained on local data if no local data is sent to the bot.

Remember, this is not designed as an end game solution but it creates a (much) safer space for students to engage with these AI environments.



Assess

Active Research

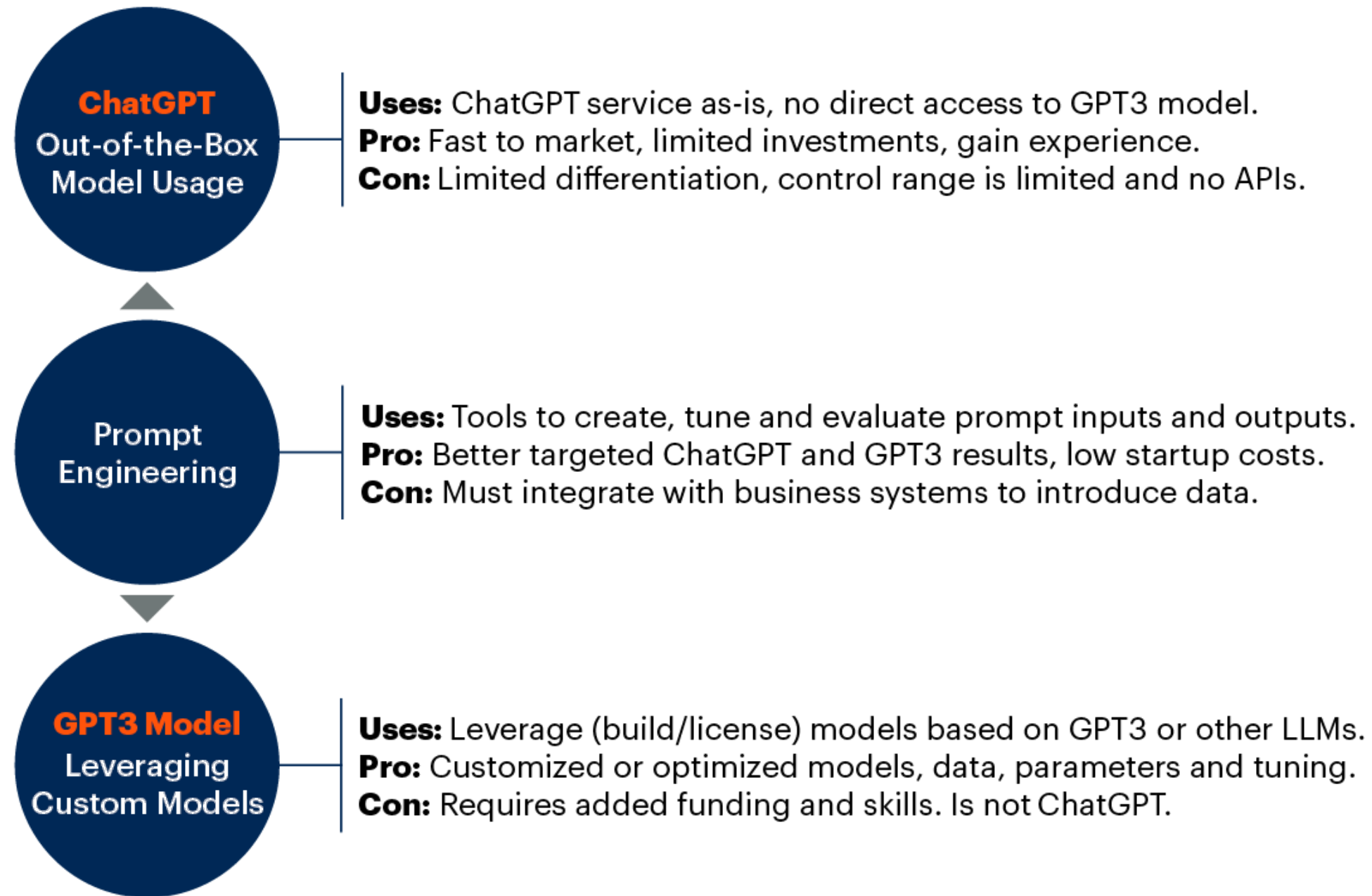
Investigate what others are doing
Explore the downsides and risks
Look for what AI can deliver



TYPICAL USAGE TODAY

EduChat | CEnet

Enterprise OpenAI ChatGPT/GPT Usage Areas

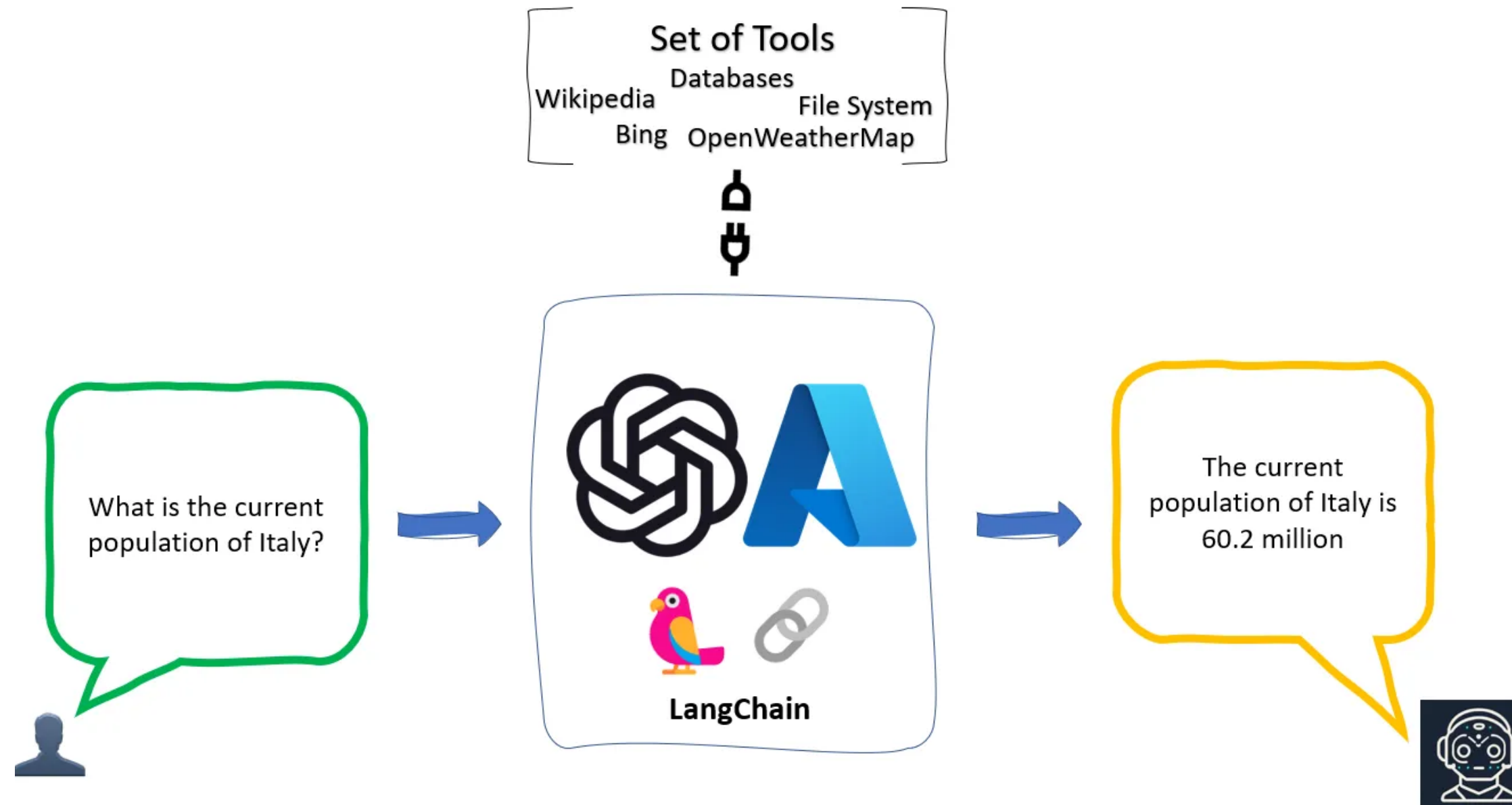


Source: Gartner
782031_C



HOW MIGHT WE USE AI AT CENET?

Lets look at a cool tool - LANGCHAIN



LANGCHAIN acts as an interface between the LLM and your data.



WHERE DOES THE DATA FLOW?

Data Sources

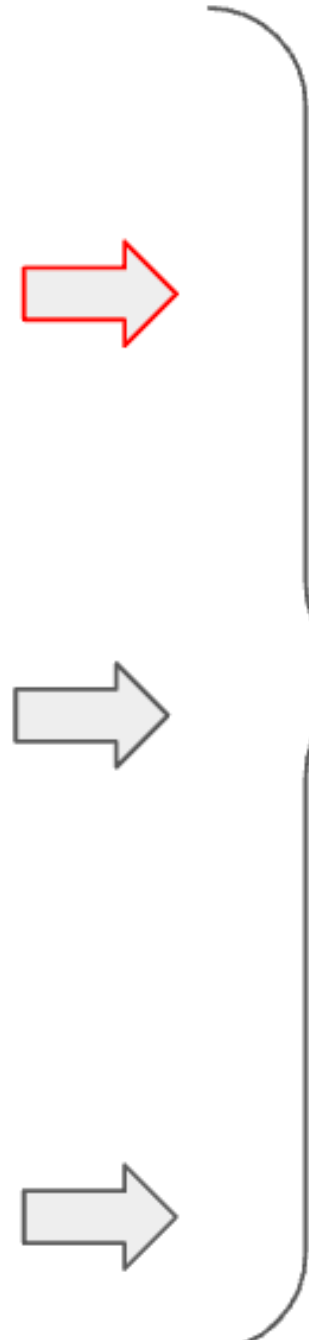
Unstructured Data



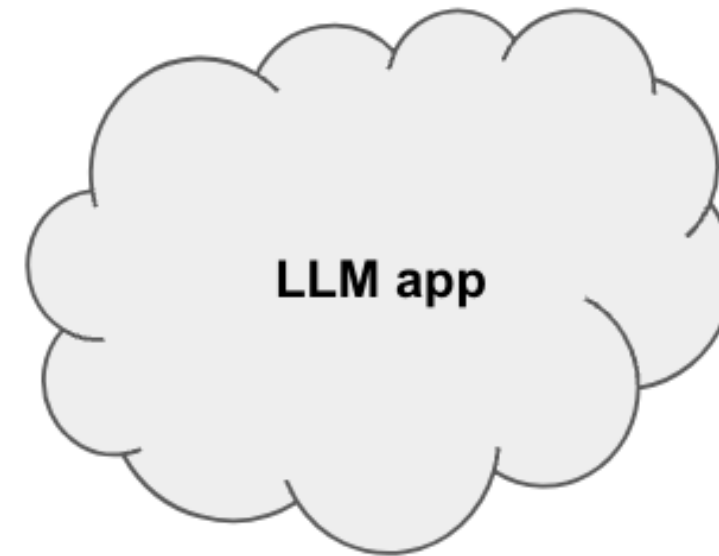
Code

```
var level = $(this)
var target = $(this.attr('data-target')) // st
level.replace(/.*(?=[^\s]+)$/ , '')
if (target.hasClass('carousel')) return $
var options = $.extend({}, target.data(), $
  (slideIndex = this.attr('data-slide-to')
  (slideIndex) options.interval = false
$.fn.call(target, options)
  (slideIndex) {
    target.data('
```

Structured Data



Application



Use-Cases

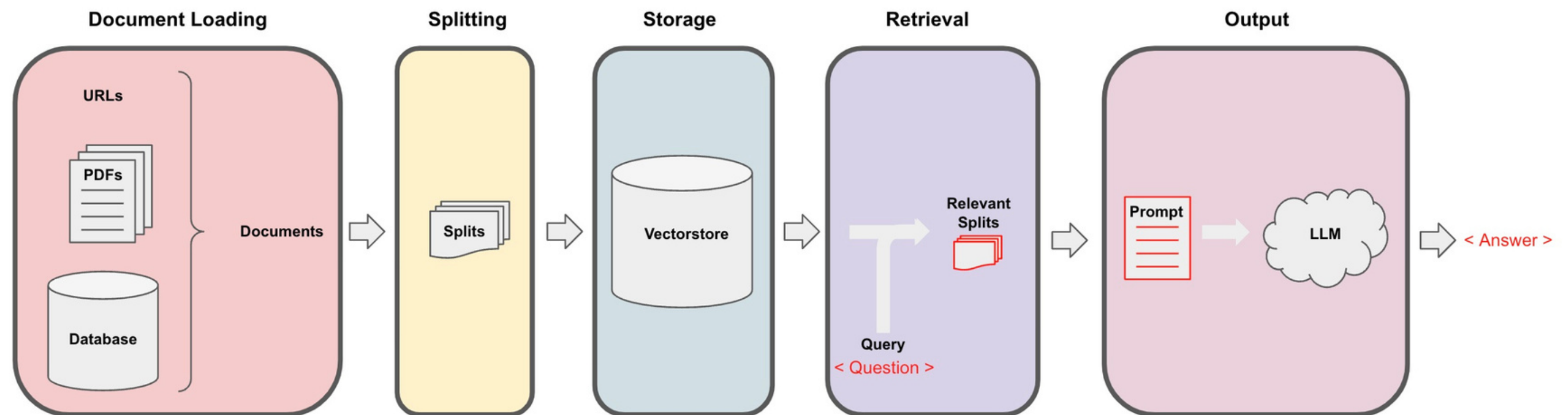
QA / Chat





THE DATA CONVERSION PROCESS:

1. **Loading:** First we need to load our data. Unstructured data can be loaded from many sources. Use the [LangChain integration hub](#) to browse the full set of loaders. Each loader returns data as a LangChain [Document](#).
2. **Splitting:** [Text splitters](#) break Documents into splits of specified size
3. **Storage:** Storage (e.g., often a [vectorstore](#)) will house and often embed the splits
4. **Retrieval:** The app retrieves splits from storage (e.g., often with similar embeddings to the input question)
5. **Generation:** An [LLM](#) produces an answer using a prompt that includes the question and the retrieved data
6. **Conversation (Extension):** Hold a multi-turn conversation by adding [Memory](#) to your QA chain.



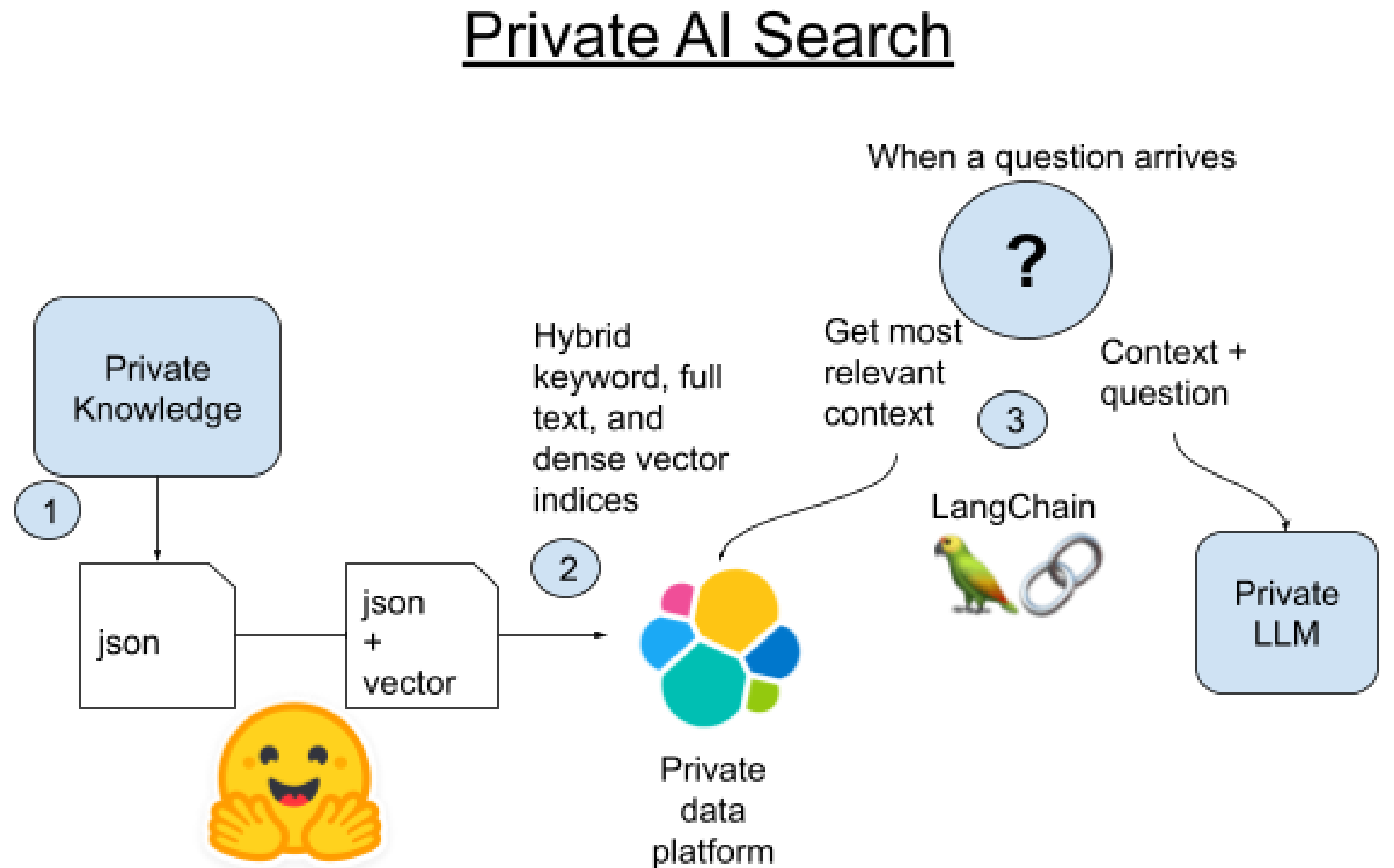


HOW WILL WE KEEP THIS PRIVATE:

To keep it private we can bring in a smaller and easy to **self-host** LLM.

Some get good results with Google's **flan-t5-large** model, which makes up for its lack of training with a good ability to parse out answers from injected context.

The idea is to search and select from our data stores to retrieve private knowledge and then inject that context with a question to our private LLM.





OTHER AI RESEARCH:

This research combines traditional robotics research with LLMs and allows robots to "understand" novel situations and how to deal with them.

They have created VLM (Visual Language Model) Translates web data and user prompts into robot actions using LLMs.





Reinvent

Rebalancing

Use the outcomes of AI to reimagine and rebalance the delivery of education.

Look to past rebalancing exercises to see how the future may pan out.

RECONSTRUCTION OF EDUCATION



Use the outcomes of AI to reimagine and rebalance the delivery of education

1

Embrace generative AI and encourage students to use it for homework assignments, however the assessment consists of the assignment plus at least 5 prompts and a reflection on why each prompt was used.

2

Flip the classroom - Have students learn about the topic at home using AI tutors then refine and test the understanding in the classroom.

3

Use generative AI to **develop engaging** classroom activities to reinforce learning at home.



RECONSTRUCTION OF EDUCATION



REMEMBER - AI IS NOT FOR EVERY PROBLEM

1

Students **still need to learn to read and write** generative AI will NOT help here.

2

Basic arithmetic and logic still need to be taught - again generative AI will not help here.

3

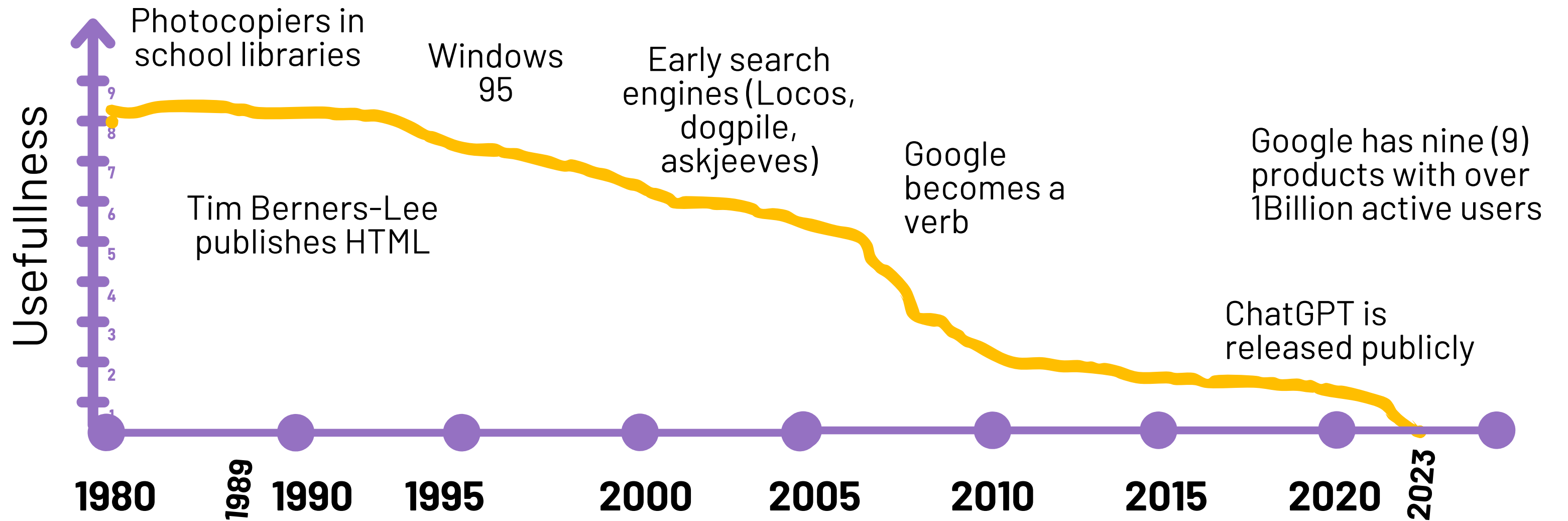
Generative AI will increase productivity and level the quality of work produced so the **content in introduction and 101 level courses will change to more advanced topics.**



RECONSTRUCTION OF EDUCATION



Homework Over the Years



Section 4

THE EDUCATION CONTEXT

CEnet in partnership with the Bede Ritchie (Diocese of Wollongong) and Dan Invargson (IAMAI) have been working to develop a position paper on the application of AI to Australian Catholic Schools.

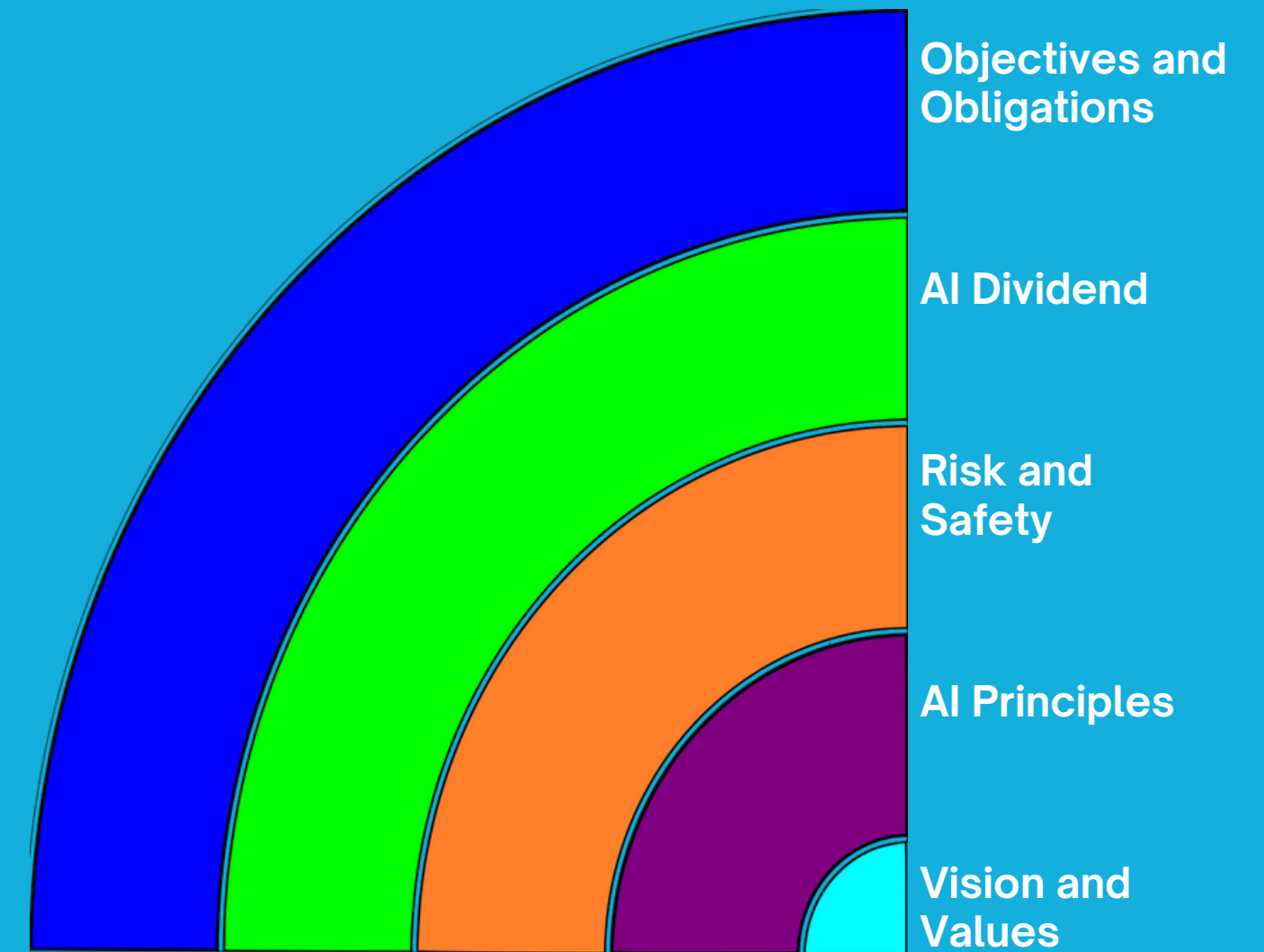
CEnet have been providing input and are working towards some demonstration models of AI being hosted in the CEnet information domain. That can be used to interrogate personally identifying information (PII).

Bede and Dan have been working on techniques so AI to be used safely in schools and in the school/educational context.

All are using a common vocabulary.

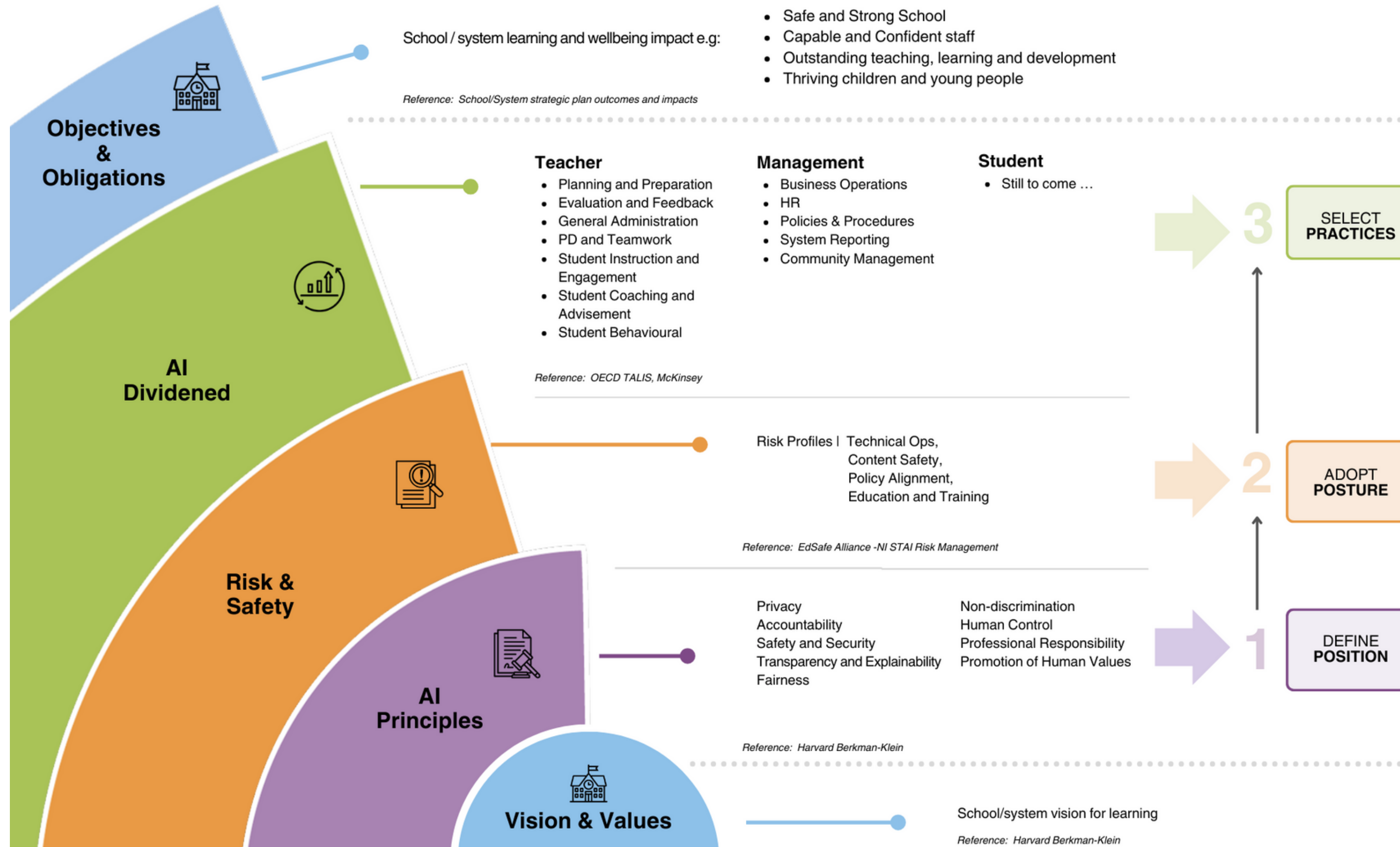


The IAMAI Model



In this model, the organisation's Vision and Values and Objectives and Obligations remain the same as always but AI adds three new levels of abstraction between the Vision and Objectives.

THE IAMAI MODEL



IAMAI model demonstrates how AI can be used in the education space in three major verticals:

- Teacher
- School Management and
- The Student

This work is ongoing but early work includes a type of AI "Prompt Enhancer" that can be used to assist teachers in using AI effectively in classroom situations.

CEnet are brokering an arrangement with Google to further this research and the existing CEnet research into AI for the CEnet business vertical.

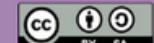


TEACHER GUIDE TO AI

As a Schoolie how do I know I am doing the right thing?

LOW RISK	MEDIUM RISK	HIGH RISK
<p>Do not involve or have a direct impact on students and are always able to be reviewed and edited by a Teacher or staff member.</p>	<p>Create content for students (or non teachers) as an audience but mediated through a Teacher</p>	<p>May impact on student wellbeing; are used as an assessment tool (or lead to a longer-term representation of a students' performance on a record); or where there are professional sensitivities over content.</p>
<p>PRACTICES</p> <p>Personal learning, clarification, research formatting, non-teaching administration, forms, newsletters, internal communications</p>	<p>PRACTICES</p> <p>Lesson plans, differentiated content, formative items, rubrics, class activities homework, assignments, worksheets, teacher internal administrative, emails</p>	<p>PRACTICES</p> <p>Initial marking, reporting, feedback, student result interpretation, summative assessments, teacher evaluations, advisory & pastoral care, wellbeing</p>
<p>SAFETY ACTIONS</p> <p>Review Policies for: Acceptable Use, Data Privacy, Data Security, Citations Consider Professional Learning in: Basics of Gen AI, Data privacy, Academic Integrity and Citation for Gen AI use Apply Technical Support for: Personal accounts using Same Sign On, Data privacy protection Assure Content Standards through: Guidance on Treatment of Serious Content, Guidance on Citation requirements for Gen AI content output</p> <p><small>See full Framework for detail of each action above</small></p>	<p>SAFETY ACTIONS <small>As for 'Low Risk' PLUS</small></p> <p>Review Policies for: Access and Equity, Learning Resource Management Consider Professional Learning in: Prompting Skills, Digital Literacy/ Content Assurance, Setting conditions for Gen AI, Assessing an AI Dividend Apply Technical Support for: Consent Systems, Data Security Assure Content Standards through: Guidance on Treatment of Biassed Content, Guidance on content accuracy and quality, Guidance on Content Reliability and Consistency</p>	<p>SAFETY ACTIONS <small>As for 'Medium Risk' PLUS</small></p> <p>Review Policies for: Assessment and reporting, Child safety, Procurement Consider Professional Learning in: Gen AI Advanced, Use in Teaching Learning and Assessment, Preparing for Students Apply Technical Support for: Integrated Enterprise Authentication, System auditing & user tracking Assure Content Standards through: Processes for content removal or contestability, Ensuring Intellectual Property rights for uploaded content, Ensuring licence to use Gen AI content output</p>

AI Principles
Human Control & Professional Responsibility | Safety and Security | Privacy | Fairness and Non Discrimination | Accountability | Transparency and Explainability





TEACHER GUIDE TO AI

Low Risk

Does not involve or have direct impact on students and are always able to be reviewed by a teacher or staff

Example Practices

Personal Learning, clarification, research, non-teaching admin, newsletters, internal communications

SAFETY ACTIONS

Review Policies for: Acceptable Use, Data Privacy, Data Security, Citations
Consider Professional Learning In: Basics of Gen AI, Data privacy, Academic Integrity and Citation for Gen AI use

Apply Technical Support for: Personal accounts using Same Sign On, Data privacy protection

Assure Content Standards through: Guidance on Treatment of Serious Content, Guidance on Citation requirements for Gen AI content output



TEACHER GUIDE TO AI

Medium Risk

Create content for students (or non teachers) as an audience but mediated through a Teacher

Example Practices

Lesson plans, differentiated content, formative items, rubrics, class activities
homework, assignments, worksheets, teacher internal administrative, emails

SAFETY ACTIONS

As for 'Low Risk' PLUS

Review Policies for: Access and Equity, Learning Resource Management **Consider**

Professional Learning in: Prompting Skills, Digital Literacy/ Content Assurance,
Setting conditions for Gen AI, Assessing an AI Dividend

Apply Technical Support for: Consent Systems, Data Security

Assure Content Standards through: Guidance on Treatment of Biassed Content,
Guidance on content accuracy and quality, Guidance on Content Reliability and
Consistency



TEACHER GUIDE TO AI

High Risk

May impact on student wellbeing; are used as an assessment tool (or lead to a longer-term representation of a students' performance on a record); or where there are professional sensitivities over content.

Example Practices

Initial marking, reporting, feedback, student result interpretation, summative assessments, teacher evaluations, advisory & pastoral care, wellbeing

SAFETY ACTIONS

As for 'Medium Risk' PLUS

Review Policies for: Assessment and reporting, Child safety, Procurement

Consider Professional Learning In: Gen AI Advanced, Use in Teaching Learning and Assessment, Preparing for Students

Apply Technical Support for: Integrated Enterprise Authentication, System auditing & user tracking

Assure Content Standards through: Processes for content removal or contestability, Ensuring Intellectual Property rights for uploaded content, Ensuring licence to use Gen AI content output



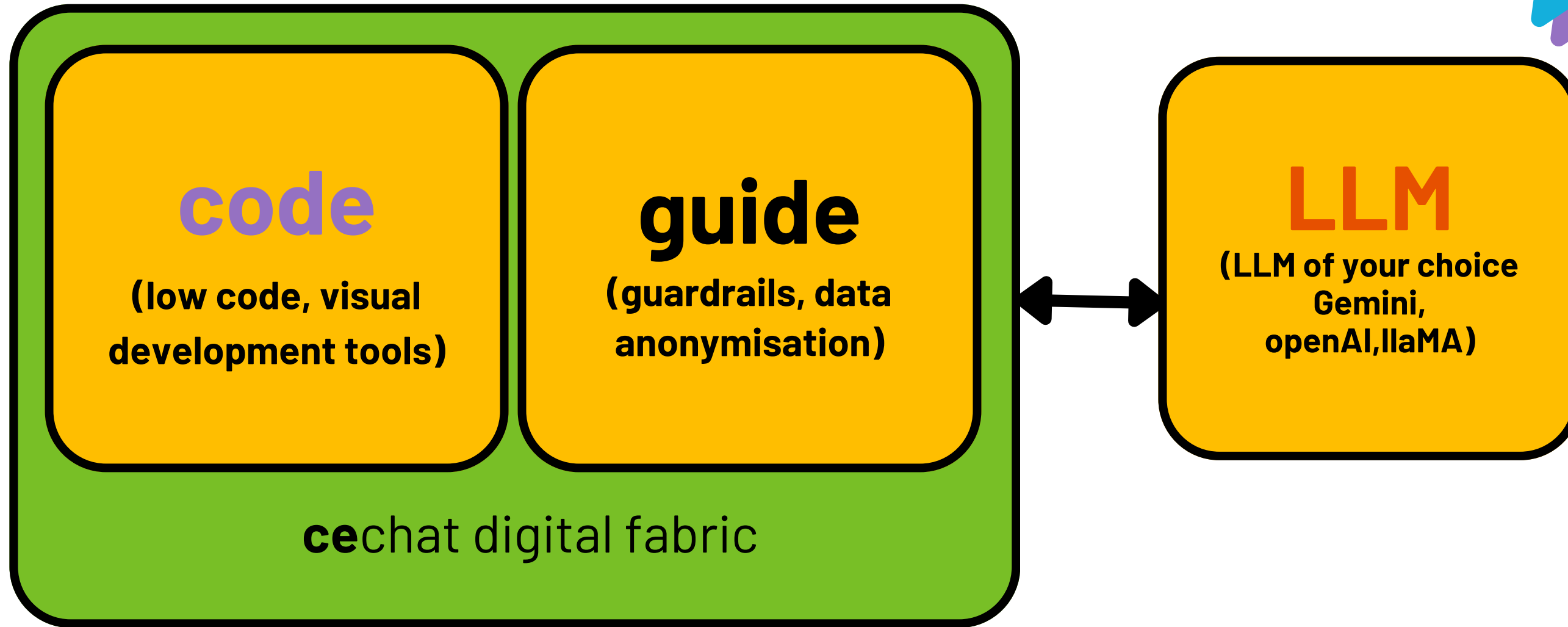
INTRODUCING:

cechat





ARCHITECTURE





ARCHITECTURE



llm
The LLM which is supplied by the vendor of choice typically this will be one of the large LLMs available in the market such as ChatGPT or Gemini but you could run a local copy of the llAMA model for example.

LLM
(LLM of your choice
Gemini,
openAI, llAMA)



ARCHITECTURE



guide

This module instantiates the guardrails, rules, prompt engineering and user identification, role and context. It ensures that the responses from the model are shaped to match our Educational and Catholic principles. Drive is responsible for securing user information and providing a buffer to restrict personally identifying information being released to the attached AI.

guide

**(guardrails, data
anonymisation)**



ARCHITECTURE



code
The final module code is a low code/no code tool set that allows teaching staff and students to create their own AI tools to meet the needs of the classroom.

code
(low code, visual development tools)



ARCHITECTURE



guide and *code* are tied together using CEnet's existing digital fabric.



Google Cloud



CEchat digital fabric

Section 5

THE CENET CONTEXT

CEnet needs to undertake two related but different strategic tasks:

1. Support Diocesan Operation and Educational Staff using variations of the IAMAI model
2. Develop and deliver an AI strategy within CEnet to support existing and emerging business functions.





1 ESTABLISH RESPONSIBLE AI PRINCIPLES

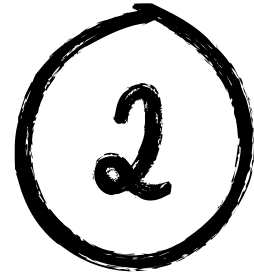
A vast amount of work has been done on the development of universal AI principles however not as much work has been published on:

- Ethical principles in the catholic tradition.
- Documentation of the actual meaning and intent of the statement of those principals.
- Development of mechanisms for assessing a particulate technology or application for compliance with those principals.

CEnet requires these tools in order to develop a viable roadmap for the adoption of AI in its business.

In response to these challenges CEnet will:

- *undertake an extensive literature review to establish the current state of catholic ethical discourse on the topic of AI and the impact of AI on Catholic Education.*
- *Reach out to Catholic ethicists and scholars with the aim of holding a workshop with CEnet staff and members to produce an agreed position on responsible AI principles with enough detail to be used to assess and judge the compliance of various systems to those principles.*



2

ASSESS ORGANISATION AI MATURITY

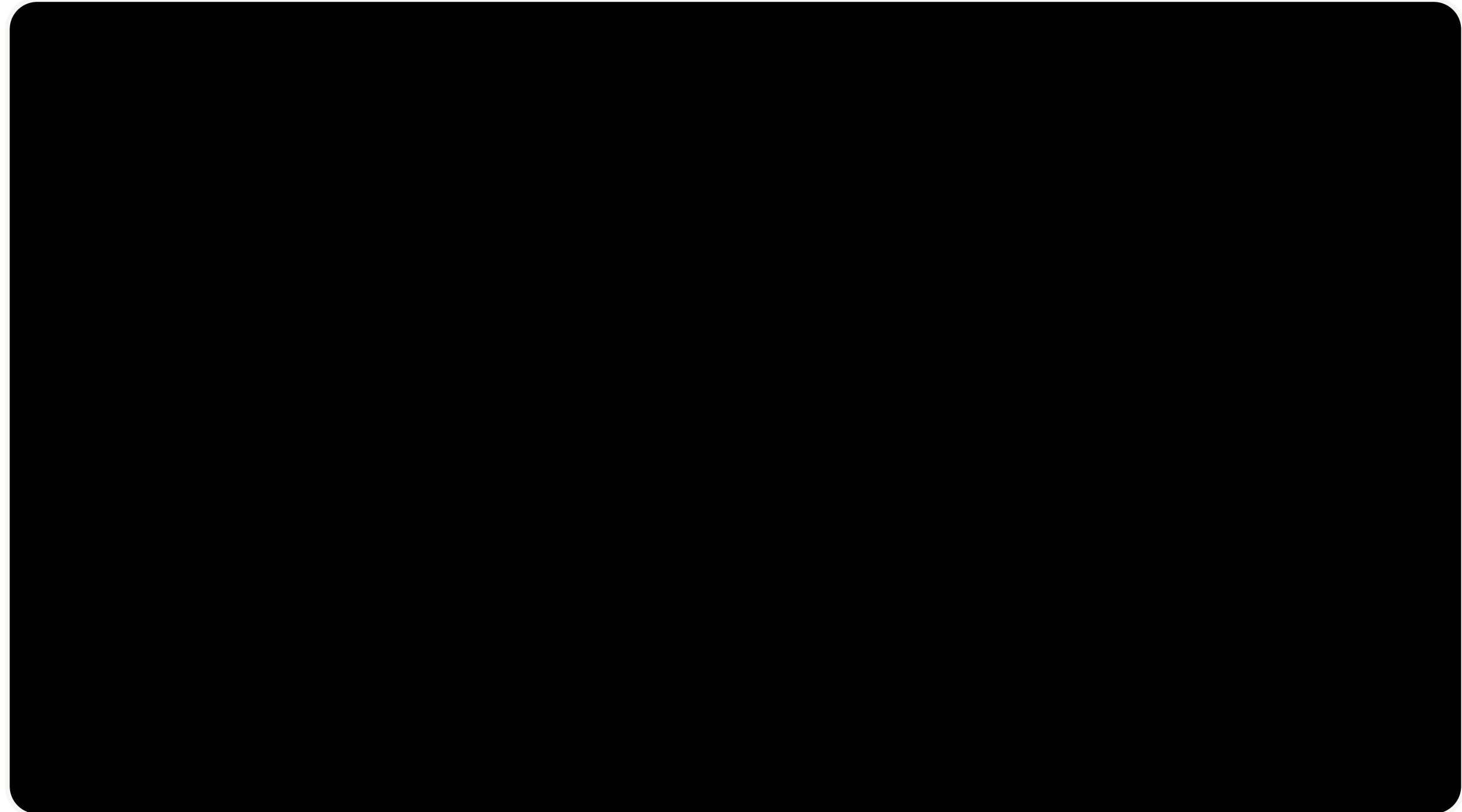
Currently there are no tools designed to assess the maturity of an organisation's response to artificial intelligence of any kind (deep learning, LLMs, other technologies).

CEnet will have to adopt existing maturity modelling tools to suit the AI environment.

In response to these challenges CEnet will:

- *undertake to work with our consulting partners (for example Info-Tech, Gartner and Australian partners to develop an AI maturity assessment tool that can be used by CEnet and members.*
- *Apply the newly developed tool to the CEnet business to identify gaps, strengths and opportunities to assist the strategic adoption of AI in the delivery of our services*

WHY IS THIS IMPORTANT?



Online safety for all **starts with all of us.**



GLOSSARY

- **LLM** - Large language model a kind of deep learning trained on text
- **ANI Artificial Narrow intelligence** - what we have today, limited
- **AGI Artificial General Intelligence** - does not exist
- **ASI Artificial Superintelligence** - bad news
- **Neural Network** - a type of data model that mimics human neurons
- **Generative AI** - AI that generates new information based on input
- **Deep Learning** - simulating neural networks

REFERENCES

<https://theconversation.com/understanding-the-four-types-of-ai-from-reactive-robots-to-self-aware-beings-67616>

THANK YOU!

“Yesterday is gone. Tomorrow has not yet come. We have only today. Let us begin.”

- Mother Theresa

