

IPC Breakout 2 // Digital Transformation and Innovation: Considering AI as a Strategic Partner in AEC

Thursday, November 6 • 11:30 AM – 12:00 PM • Salon 9



Greg Widmeyer (M.Sc.)

Director of Technology
DIALOG

Why are we here today?

FRONTIERS

Why AI Will Not Provide Sustainable Competitive Advantage

AI will transform economies and lift markets as a whole, but lasting differentiation will be built on human creativity and passion.

David Wingate, Barclay L. Burns, and Jay B. Barney • May 08, 2025

AI is storming workplaces — and difference, study says.
Source: Quartz

MONEY > PERSONAL FINANCE

MIT Says 95% Of Enterprise AI Fails — Here's What The 5% Are Doing Right

By [Jaime Catmull](#), Contributor. © I am a personal finance expert and writer.
Published Aug 22, 2025, 12:25am EDT. Updated Aug 25, 2025, 05:33pm EDT
Unshaw • April 15, 2025

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2025 i
on

"perfect storm" of
to invest in generative

ss? Key Questions to

Businesses will vary widely. A diagnostic framework can help you identify
navigate disruption strategically.

Want AI-Driven Productivity? Redesign Work

Reading Time: 20 min

To capitalize on the promises of artificial intelligence, leaders need to deconstruct jobs and processes, redeploy work, and reconstruct new ways of operating.

Ravin Jesuthasan • May 01, 2025

Reading Time: 9 min

Many analysts predict that AI will transform the global economy, but MIT economist Daron Acemoglu offers a contrasting view. In this brief video, he explains why AI might automate only 5% of tasks and add just 1% to global GDP over the next decade, and he shares his perspective on how business leaders should approach AI investments.

AI is hard, so how do you fast-track your AI initiatives?

Information: General

**“Everyone has a plan until they
get punched in the face.”**

- Mike Tyson



Greg Widmeyer | Director of Technology

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- 20+ years Technology
- 18+ years AEC
- Multiple roles
- Computer Engineering > Computer Science (BSc > MS)
- Speak at Evanta, BUILDDEX, Gartner, CEA, Microsoft
- LinkedIn: <https://www.linkedin.com/in/greg-widmeyer/>



LinkedIn

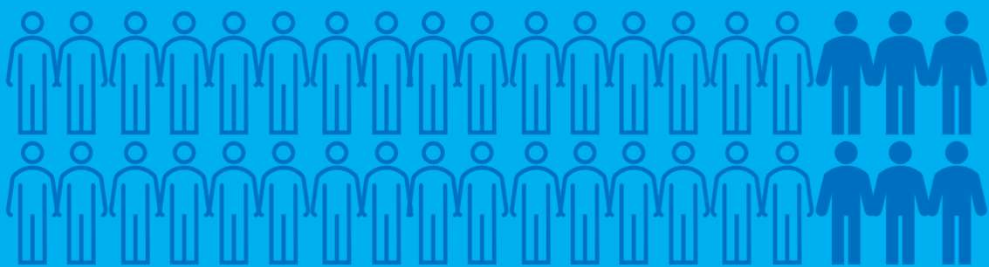
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Who we are

636 [120 Associates] 63

DIALOGers | Partners



Architecture
Electrical
Interiors
Laboratory
Landscape
Mechanical
Planning
Structural
Sustainability
Urban
Building Performance

Bridges
Civic & Culture
Healthcare
Higher Education
Hospitality
Indigenous Collab
Mixed-Use
Office & Workplace
Renewal
Retail
Science + Technology
Sports & Recreation
Transit & Aviation
Urbanism



Calgary
Toronto
Ottawa
Vancouver
Edmonton
San Francisco

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AGENDA

- AI Primer
- Policy, Governance, and Risk
- Culture [*of Experimentation*]
- Operations + AI
- Design + AI
- Lessons Learned

AI PRIMER

Speaking the same language

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What is AI?

A field of **computer science** that focuses on creating systems that can perform tasks that typically require **human intelligence**.

AI can be **a tool**.

AI can be **a member of your team**.

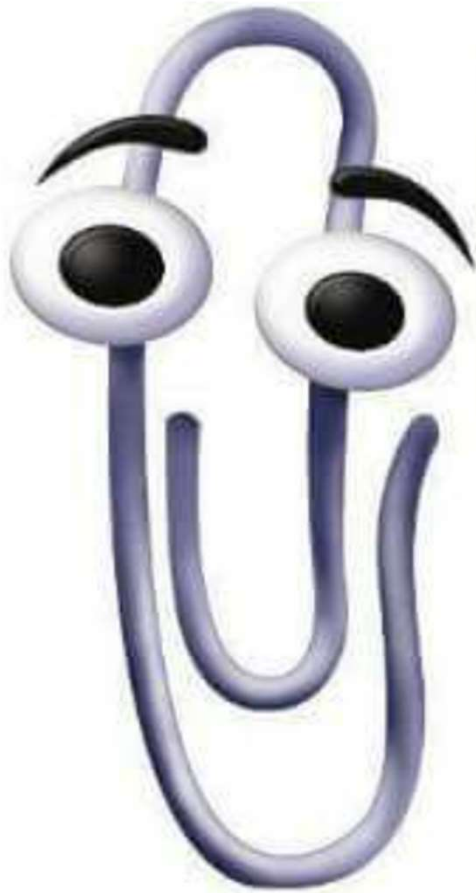
AI can be **your personal assistant**.

You can bounce ideas off it, defeat writers block, get **creative inspiration**, ask it for detailed research, have it format data, find patterns, and perform analysis.



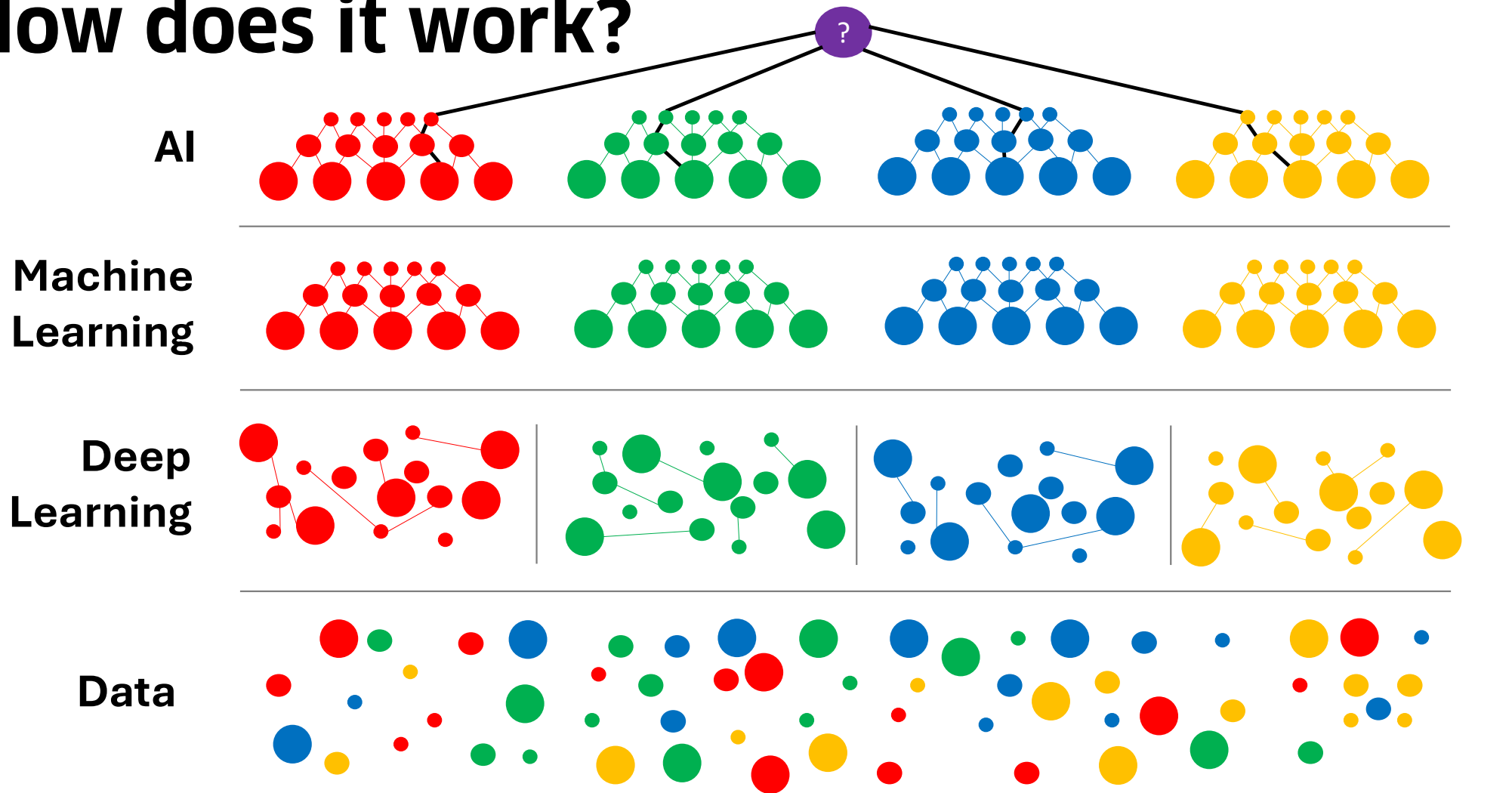
LinkedIn

Currently, the #1 skill search on LinkedIn is AI Literacy

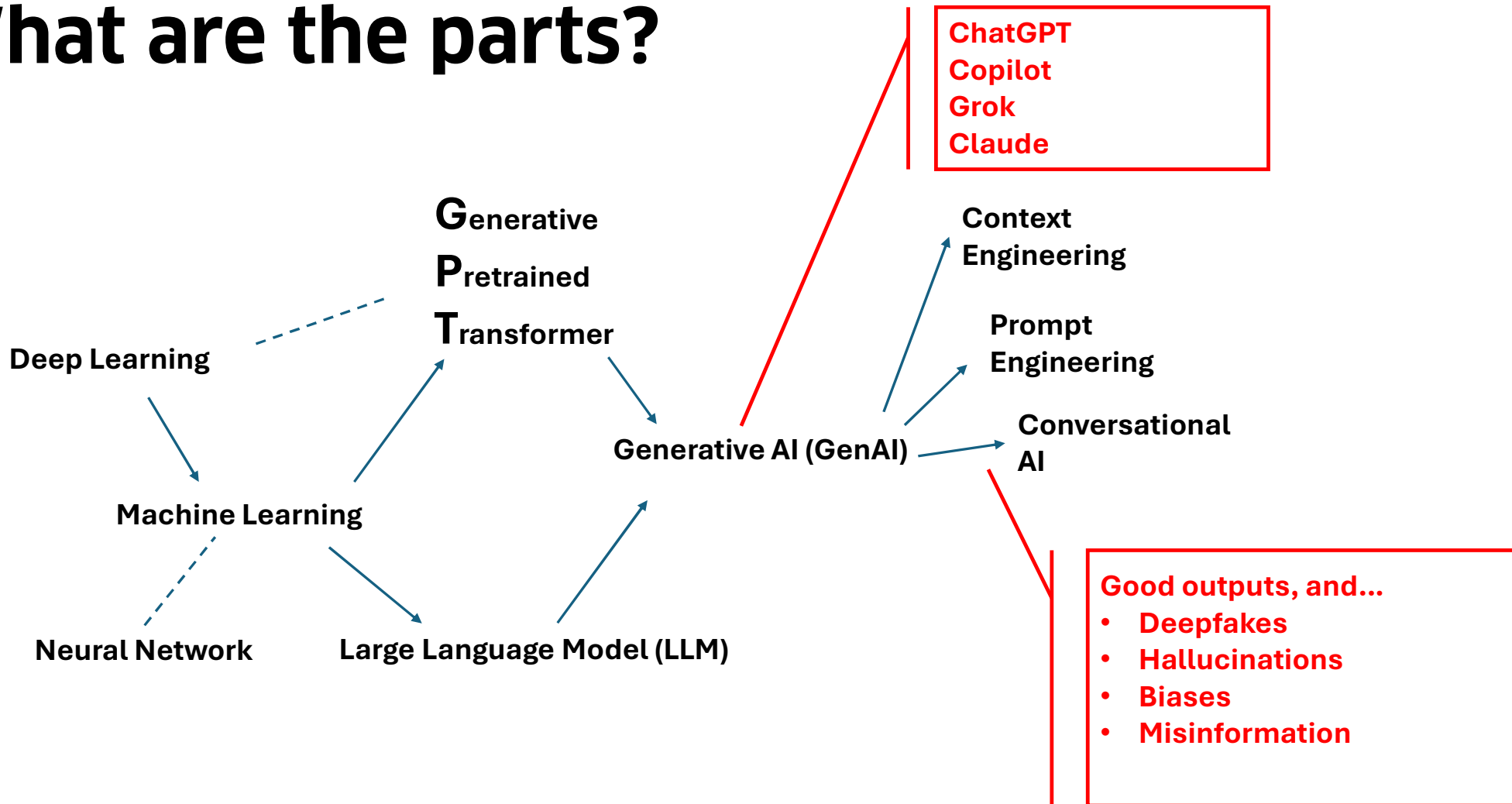


It looks like you're writing
unsubstantiated nonsense.
Would you like to turn on
all caps?

How does it work?



What are the parts?



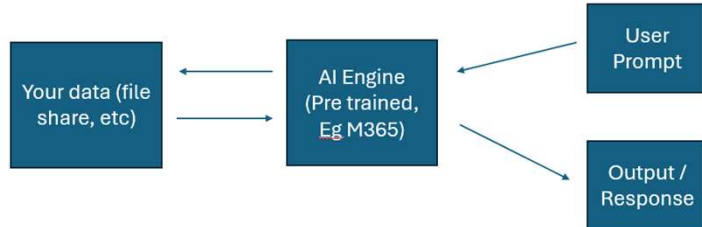
Definitions

Retrieval Augmented Generation (RAG)

Retrieval – someone asks a question, and a retrieval system search a knowledge base.

Augmented – the question, and the information provided by the retrieval system are combined.

Generation – the LLM uses the question and information to create an accurate and relevant response.



Examples



Enterprise Knowledge Management



Customer Service Chat Bots

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Definitions

Chain of Thought Reasoning

```
>>> Give me a consise summary of chain of thought reasoning in LLMs
Thinking...
Okay, the user is asking for a concise summary of Chain of Thought (CoT) reasoning in LLMs. Let me break this down.
```

```
First, they want something brief but informative. So I need to cover what CoT is without going into too much detail. They might be someone new to AI concepts or maybe familiar with basic prompting techniques looking for a quick refresher. Either way, clarity is key here.
```

```
The term "Chain of Thought" comes from human reasoning processes where we break down problems step by step. The user probably wants an analogy to understand how LLMs mimic this. Explaining that CoT makes the model think out loud would help them grasp it faster.
```

Chain of thought reasoning mirrors of how humans think, by taking complex problems and breaking them down into simpler problems. The output will demonstrate the steps and make it easier to trace the answer.

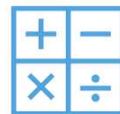


💡 Think for longer



🕒 Extended thinking

Examples



Math Word Problems

Demonstrating a knowledge of each step
Instead of output only an answer.



Programming / Coding Tasks

Breaking a coding challenge into smaller blocks of code.

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Definitions

Vibe Coding



Everyone is now a software developer! Ok not exactly, but anyone can create their vision of an app, website, or service, and get it to MVP status (minimal viable product). Entire companies are being started over the weekend now based off an idea and a vibe coding marathon.

Caution – MVP does not include privacy, security, scalability, etc.

Examples



Smart Phone App

Building the functional parts of a new app.



Integrations (API)

Adding “piping” between different tools and data sources.

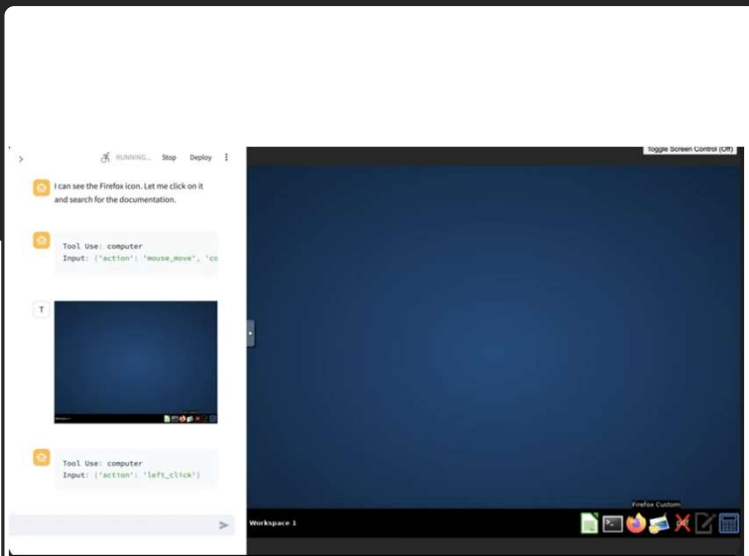
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Definitions

Computer Vision

This is an AI system that uses pictures and video to interpret the world and extract meaningful information for identifying what it sees.

It replicates a human's visual system and uses the underlying LLM to identify its experience.



'Anthropic Computer Use'

Examples



Quality Control

Automated inspection of products for defects



Predictive Maintenance

Analyses and detects potential issues

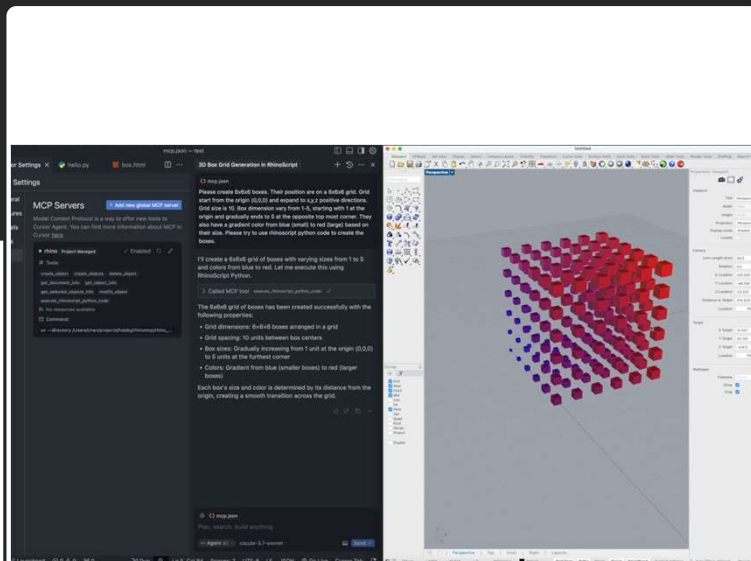
Definitions

Model Context Protocol (MCP)

MCP is an open protocol that standardizes how applications connect to LLMs. Think of MCP like a USB-C port for AI applications.

Just as USB-C provides a standardized way to connect devices, MCP provides a standardized way to connect AI models to different data sources and tools.

*Still very developer centric – you'll need to know some basic coding



Rhino MCP Creating Geometry

Examples



Control Apps Directly

Automated controls of tools like browsers or Rhino



Access Data Sources

Pull information from databases or website APIs

POLICY

With Governance and Risk

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Border is like
Policy

TITLE BLOCKS are like
Strategy

Drawing Area is like
**Intellectual
Property (IP)**

'Enterprise'



Zoom AI



Copilot



Miro AI



B	Y REVISED	JS	05/02/24
A	X REVISED	JS	05/01/24
REV	DESCRIPTION	BY	DATE
AMENDMENTS			

SITE	5075 CASCADE TD STE I, GRAND RAPIDS, MI 49546	SCALE	1:50, 1:100	DATE	05/02/2024	DRAWN BY	YOUR NAME	NAME OF YOUR BUSINESS ADDRESS LINE 1 ADDRESS LINE 2 TEL: 123 456-7890
TITLE	NAME OF THE DRAWING	PROJECT NO.	000000	DRAWING NO.	000000	SHEET NO.	A01	

Everything Else is the
**Internet /
Noise**

'Consumer'



ChatGPT



MidJourney



NotebookLM (Gemini)

**Why you
should
care!**



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Privacy



ChatGPT

“As noted above, we may use Content you provide us to improve our Services, **for example to train the models that power ChatGPT**. Read our instructions on how you can opt out of our use of your Content to train our models.”



Microsoft
Copilot

“Microsoft 365 Copilot Chat prompts and responses are processed within the Microsoft 365 service boundary which offers enterprise data protection. **Prompts and responses aren't used to train the underlying foundation models.**”

**Archived for DIALOG compliance in event of litigation*



Google
Gemini

“To help with quality and improve our products (...) human reviewers read, annotate, and process your Gemini Apps conversations. (...) **Please don't enter confidential information in your conversations or any data you wouldn't want a reviewer to see or Google to use to improve our products, services, and machine-learning technologies.**”

☒ Read
the fine
print

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Data Security

Outside circle of trust

- No signed agreements
- Data could reside anywhere
- No knowledge of what was generated



Google
Gemini



ChatGPT



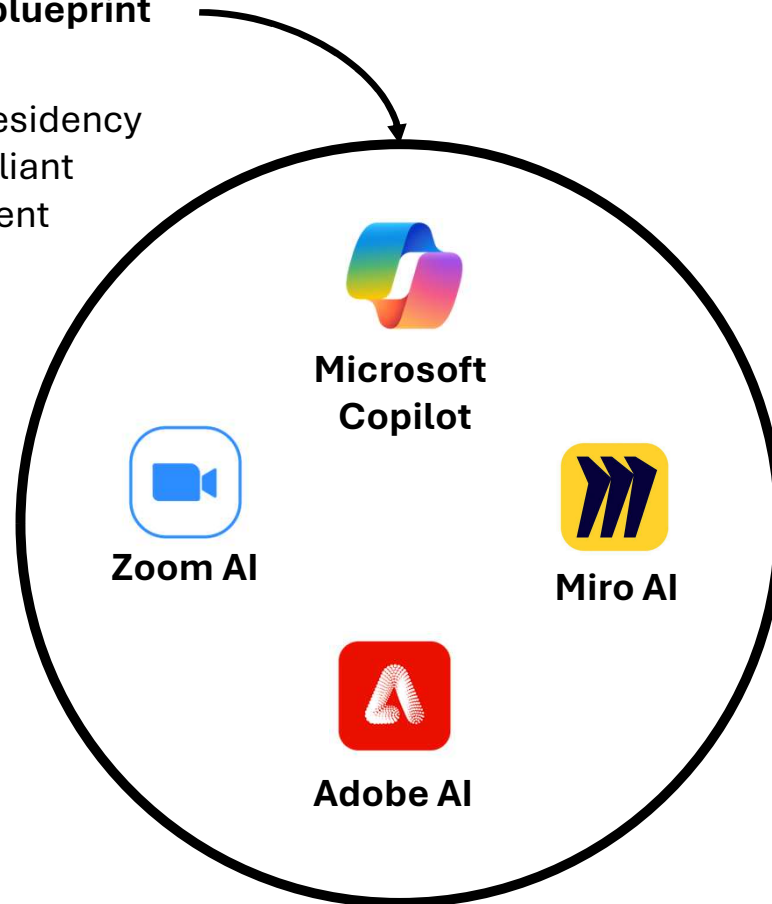
Claude



*Beware of
Imposters*

Your circle of trust \ blueprint

- Signed agreements
- Knowledge of data residency
- Auditable and compliant
- Copyright commitment



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Digital attacks are outpacing our ability to detect them

1,265%



Increase in phishing attacks, driven by the growth of generative AI¹

162%

Expected increase in deepfake-related fraud expected by the end of 2025²

62%

Accuracy rate in differentiating between AI-generated and human faces³

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AI Nutrition Facts

BUILDEX Alberta Presentation

Description

Describe your product

Privacy Ladder Level ⓘ	1 ▾
Feature is Optional	Yes ▾
Model Type	Generative
Base Model	Microsoft Copilot

Trust Ingredients

Base Model Trained with Customer Data	No ▾
Customer Data is Shared with Model Vendor	No ▾
Training Data Anonymized	N/A ▾
Data Deletion	Yes ▾
Human in the Loop	Yes ▾
Data Retention	30 days

Compliance

Logging & Auditing	No ▾
Guardrails ⓘ	Yes ▾
Input/Output Consistency ⓘ	Yes ▾

Other Resources

ChatGPT, Claude (Anthropic), Gemini, TestFit, Snaptrude

Learn more about this label at [nutrition-facts.ai](#)

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CULTURE

Of Experimentation

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Ankur Patel, CEO of Multimodal, advises workers to learn how to do their current jobs **using AI** tools that **enhance productivity**. He also notes that **soft skills**—mobilizing people, building relationships, leading teams—will become **increasingly valuable** as AI takes over more technical or routine tasks.

“You can’t have AI be a group leader or team leader, right? I just don’t see that happening, even in the next generation forward,” Patel said. *“So I think that’s a huge opportunity...”*

- FastCompany Article



Industrial
Revolution



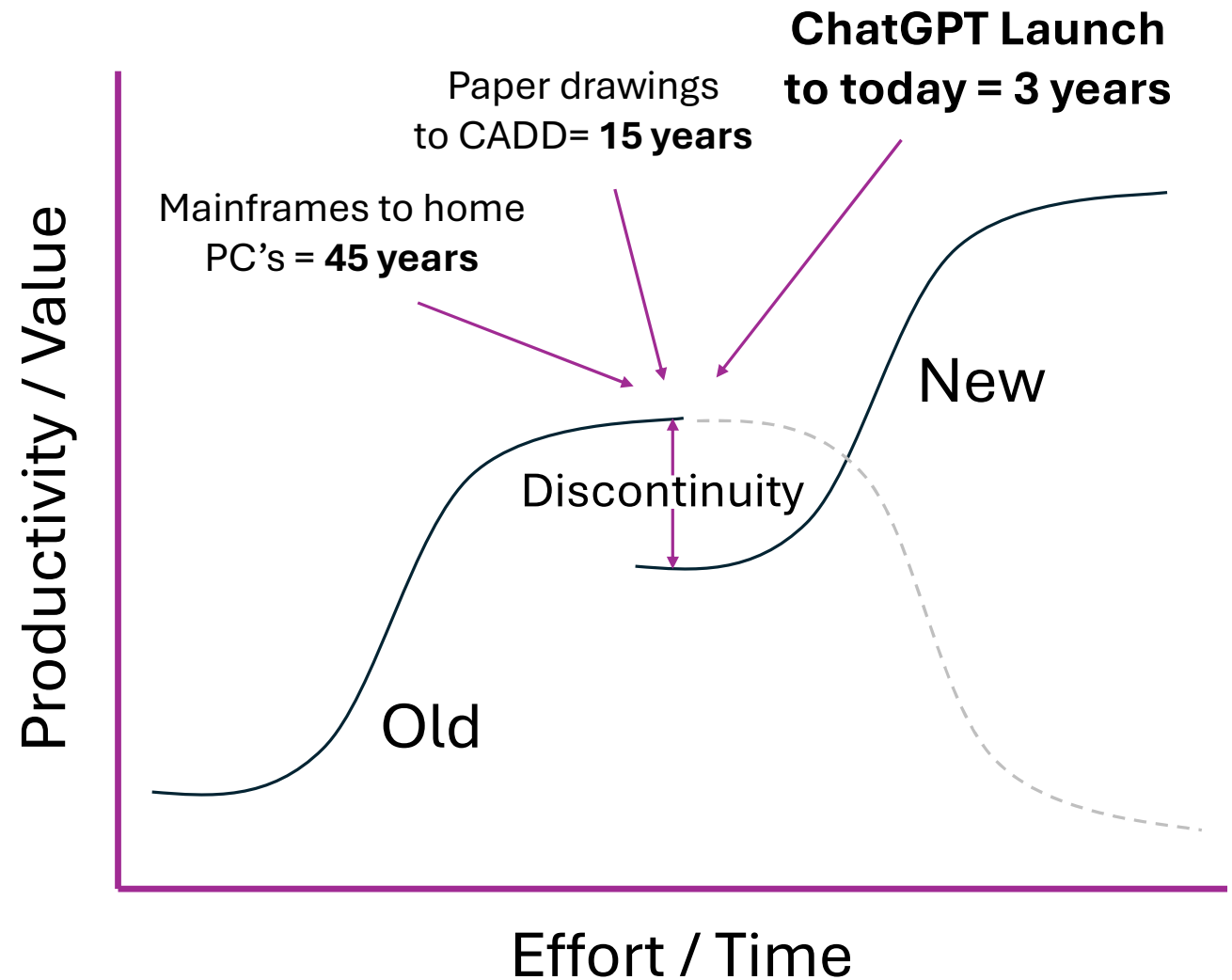
Technology
Revolution



AI
Revolution

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Change Management



Dictionary

Definitions from [Oxford Languages](#) · [Learn more](#)



ex·per·i·men·ta·tion

/ɪkˌsperəmənˈtəʃən, ekˌsperəmənˈtəʃən/

noun

the process of performing a scientific procedure, especially in a laboratory, to determine something.

"**experimentation** on the brain and the nerves"

- **the action or process of trying out new ideas, methods, or activities.**

"It was a period of innovation and **experimentation** with new decorative techniques"

~~Fail Fast~~

Gain Experience

Capture Outcomes

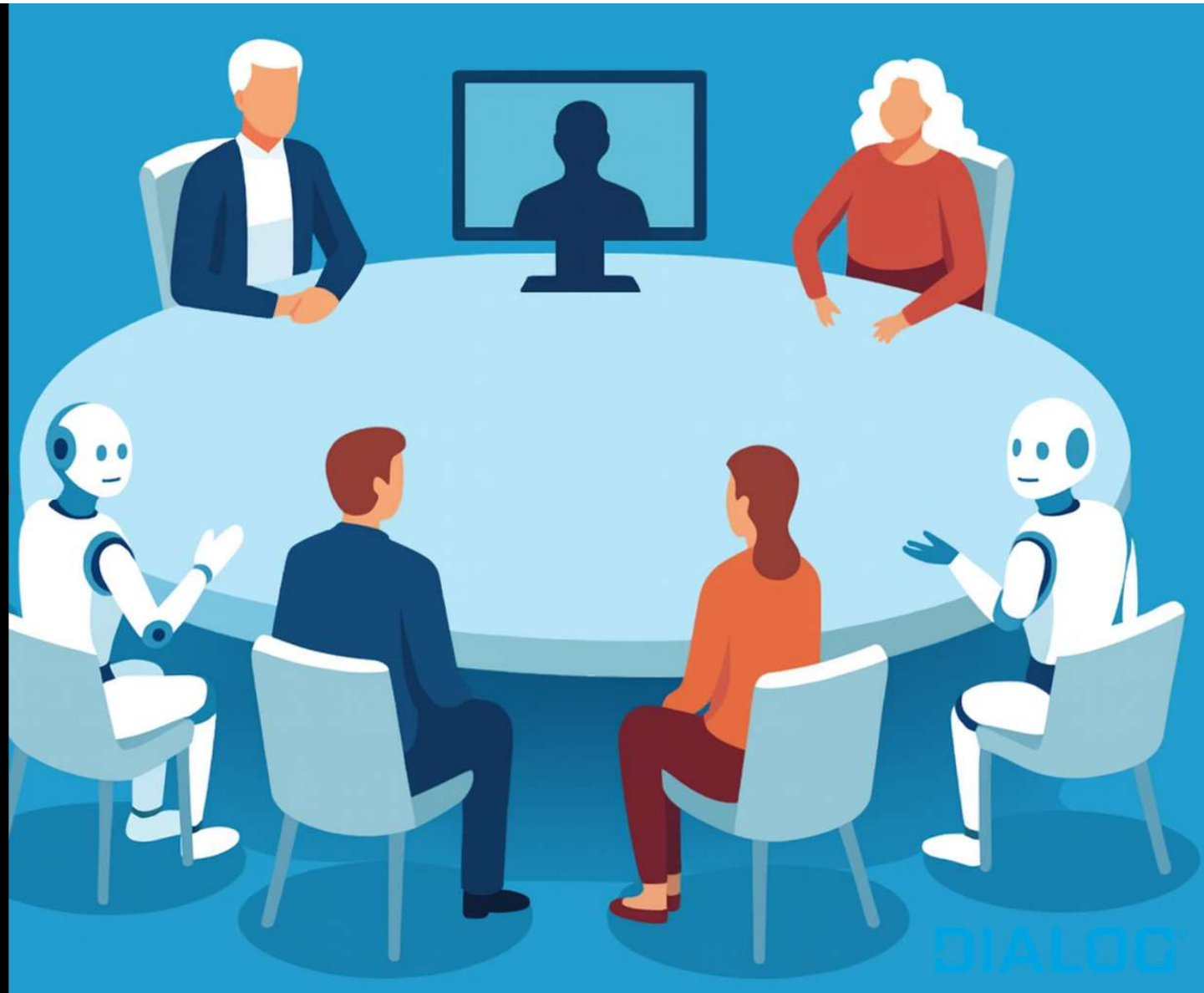
OPERATIONS

+ AI

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Build an Augmented Team

AI Nutrition Facts	
BUILDEX Alberta Presentation	
Description	Describe your product
Privacy Ladder Level ⓘ	1 ▾
Feature is Optional	Yes ▾
Model Type	Generative
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Trust Ingredients	
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Other Resources	
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Learn more about this label at nutrition-facts.ai	



Creating Personas

Considerations:

- Tone of voice
- Expertise level
- Personality traits
- Perspective
- A clear role
- Behavior guidelines
- Constraints

“You are a systems thinking business systems analyst. Your responses are concise, professional, with bullets for each of the steps you describe. You avoid technical jargon, but you are detail oriented. You will find the problems and omissions with processes and describe why they are important to include.”

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JOIST-AI

> Bidaya AI

BIDBLOX

work@rb

openasset

Bid site scraping

RFP Shredding

Proposal Generation

CV Generation

InDesign Integration

Search

DIALOG®



Chat



Work

Web



Hi, how can I help?

Message Copilot



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DEMO
Miro

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Welcome to NotebookLM

All Featured notebooks

Most recent + Create new

Recent notebooks

Create new notebook

Featured notebooks

- The Atlantic
How To Build A Life, from The Atlantic
Apr 22, 2025 - 46 sources
- Secopol
Super Agent
May 5, 2025 - 17 sources
- Travel
The Science Fan's Guide To Visiting...
May 12, 2025 - 17 sources
- Arts and Culture
William Shakespeare
The Complete Plays
Apr 25, 2025 - 17 sources
- Economic
The World's Head
May 7, 2025 - 70 sources
- Business
Earnings Reports For Top 50 Corporations
Apr 17, 2025 - 168 sources
- Google Research
How do scientists link genetics to...
Jul 8, 2025 - 16 sources

[See all >](#)

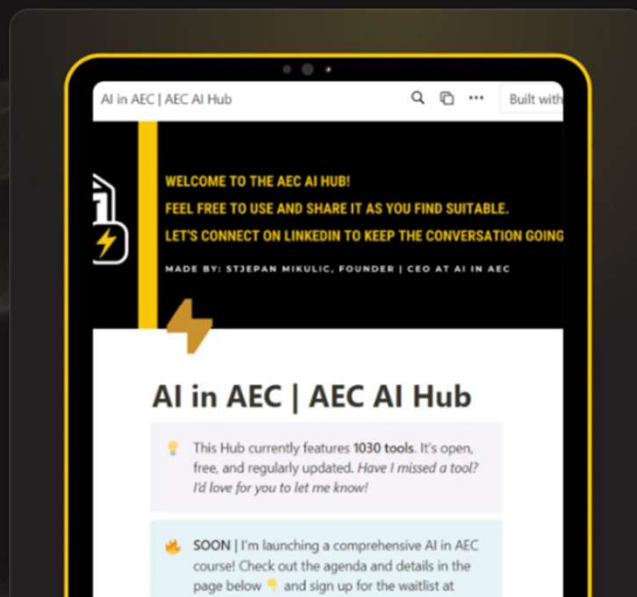
DESIGN

+ AI

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Find the Best App for Your Workflow.

Access the AEC AI Hub – the world's largest database of AI tools and resources for the AEC industry! It's completely FREE, open, regularly updated – and currently features more than 1700+ apps!



With This Database You'll Get...

- Understand The AEC Tech Landscape: Stay on top of AI news and updates with this comprehensive database.
- Data-Driven Decision Making: Make smarter, data-backed decisions to accelerate your company's growth.
- Operational Agility: Quickly identify trends and adjust your strategies to capitalize on emerging opportunities.
- Unparalleled Category Exploration: Sort the resources with 15 categories and 3 key Cheat Sheets.

This database is the easiest and most effective way to make strong business decisions and navigate the AI landscape.

P.S. By getting access, you'll be asked to sign up our exclusive course waitlists. Don't worry – we don't spam and you can always

Sheets Views

Update view

Plans

- Plan 8
- Plan 7
- Plan 6
- Plan 5
- Plan 4
- Plan 3
- Plan 1
- Sixth Floor
- Fifth Floor
- Fourth Floor
- Third Floor
- Second Floor
- First floor
- Mezzanine floor
- Ground Floor
- Site Plan

3D Views

Auto Diagram + New Sheet

Enter prompt...

Nano Banana

DEMO

Snaptrude

3D view 4

66%

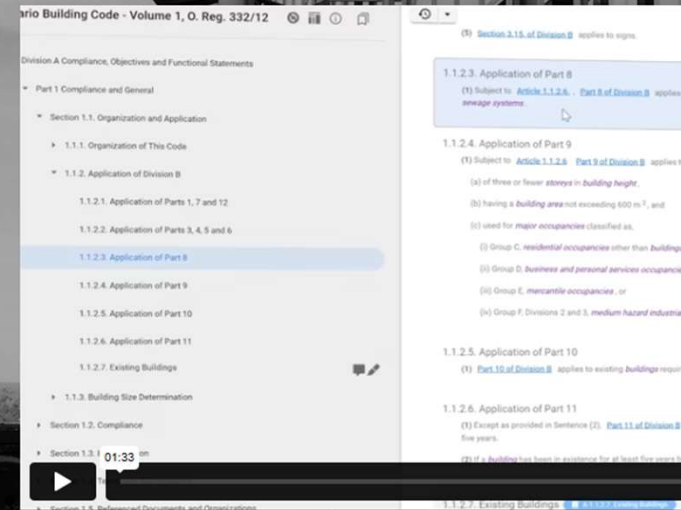


Trax.co

Access complete National & Provincial Building Codes all in one!

Search. Comment. Share.

From code research to inspections to operations,
quick access to your code projects will save time and
money.

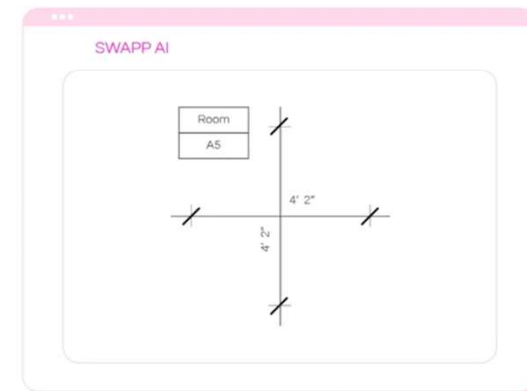


Swapp.Ai

SWAPP Enhances Accuracy

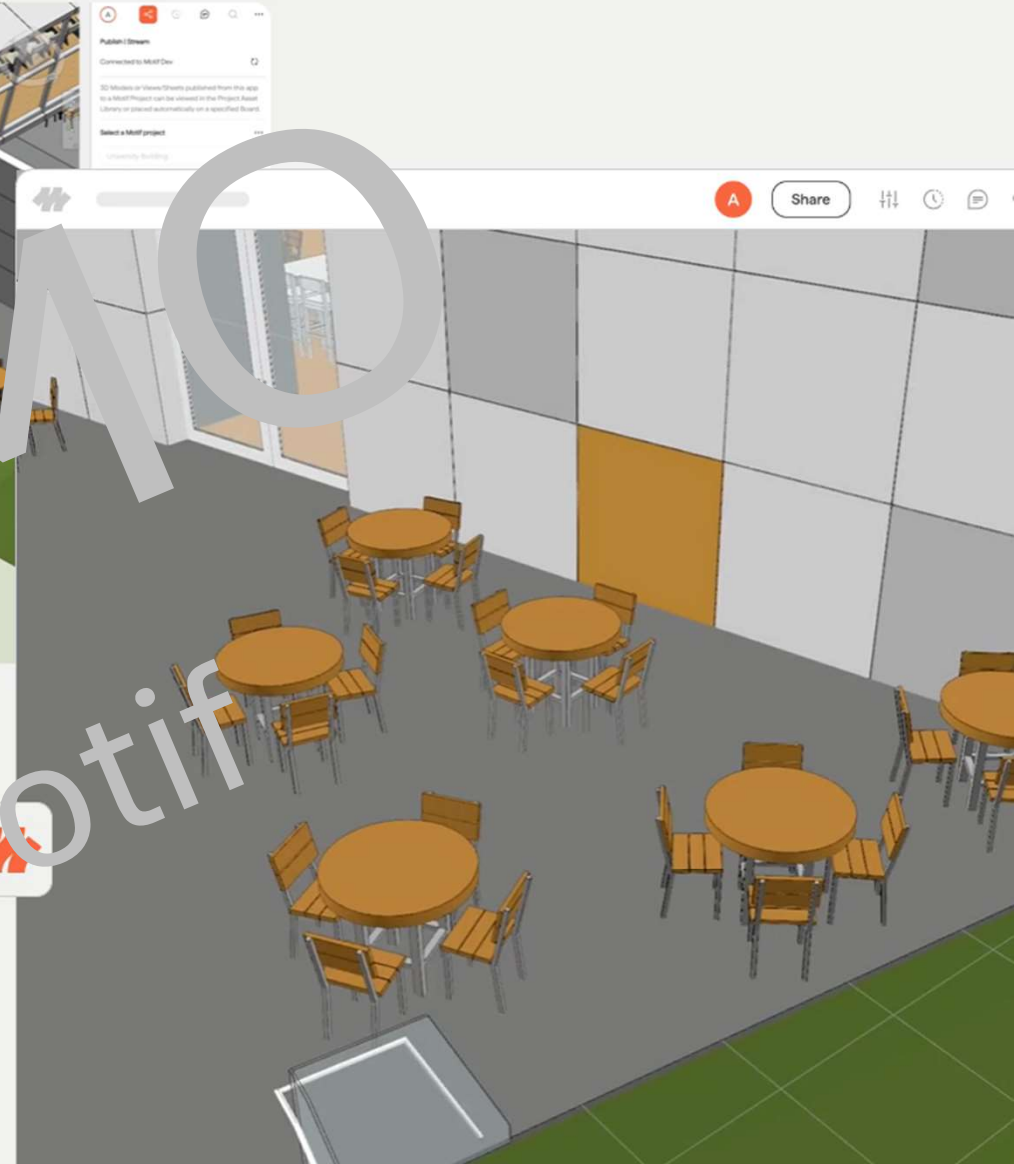
Achieves professional-grade documentation that exceeds industry standards

- Ensures continuous improvement through careful tagging, data collection, and implementation.
- Delivers high-quality outputs across all architectural verticals.
- Exceeds industry standards in level of detail and accuracy.





One unified
space—always
in sync



Live-stream from Revit and Rhino and see
designs updated in real time. No exports,
no hassle. Comments in Motif sync back
automatically to keep everyone up-to-date
and on the same page.



Site Planning



Deal Evaluation



Concept Iteration



Direct Integrations

Plan Sites in Hours, Not Days

- Map parcels or draw custom boundaries for any typology to visualize opportunities early.
- Build out an entire site with customizable massing, turning radius and topography data to avoid costly redesigns later.
- Visualize your site plans with 3D context to gain faster approvals.

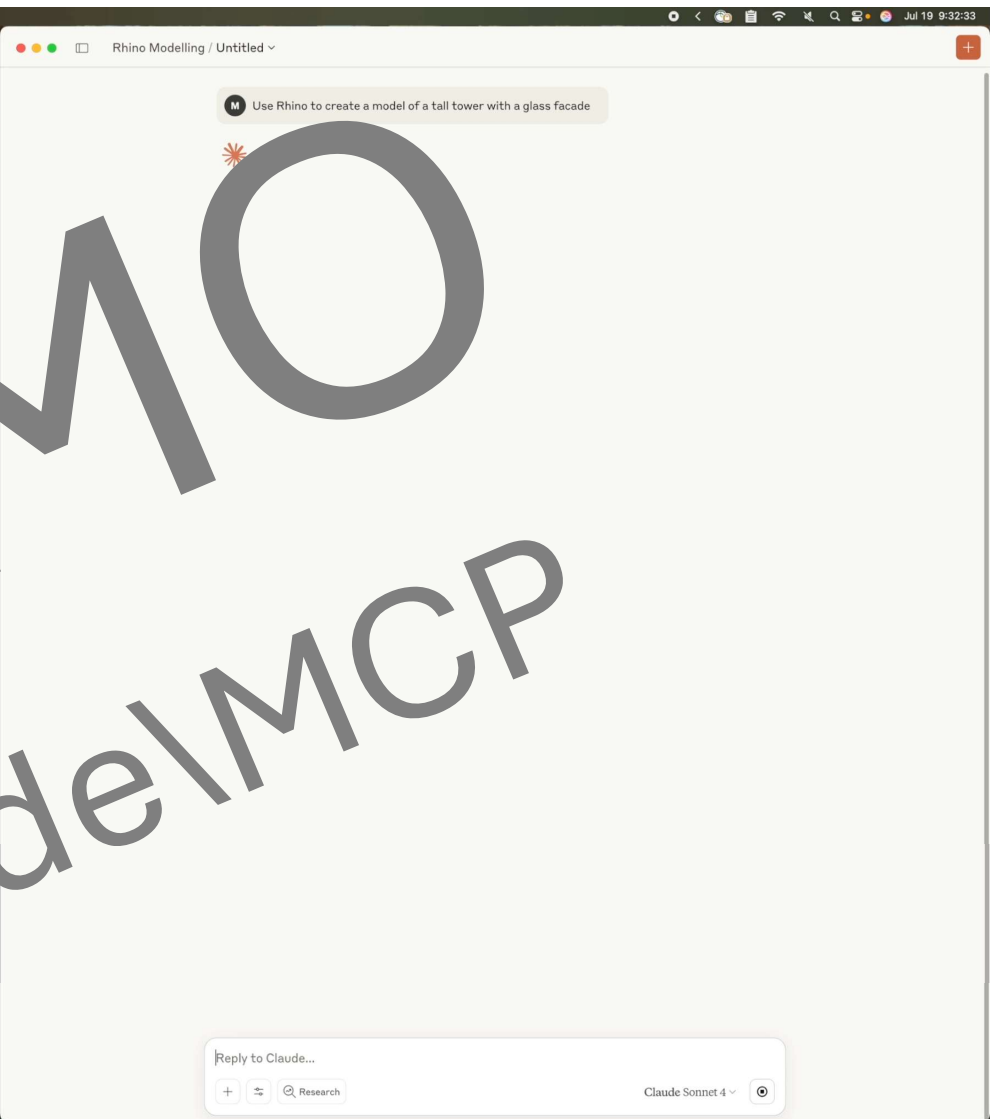
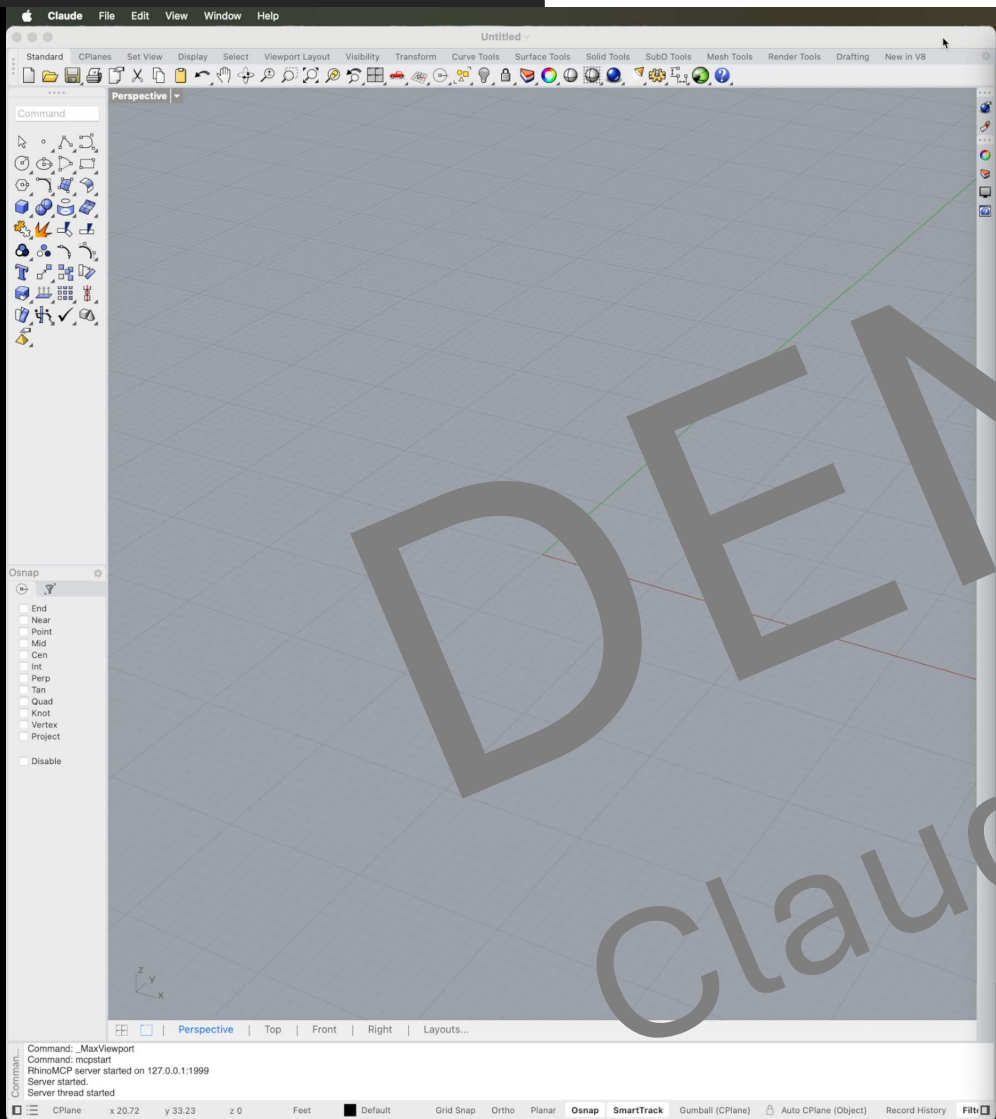
In the design sessions, we can get to a massing or a yield that's probably within 10 to 15% margin of error, oftentimes in 30 minutes or an hour. That usually takes weeks with a traditional design process.



Michael Bernstein

Development Manager at The Geyser Group





Lessons Learned

Because We're all in this together!

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Personal Learning

NOT an IT Project

- *Engage Everyone!*

Avoid Roadblocks

- *Policy & Strategy*

Understand your Culture

- *Change Management*
- *+ Empathy*

Promote Experimentation

- *Catalog your pilots*
- *Share results with everyone!*

Questions?

**Greg Widmeyer | Director of Technology
DIALOG**

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