

Hello, I'm Matt Stone, DevOps & Support Engineer for Atomic Smash right here at Temple Studios and today I'm talking to you about AI and how it's reshaping the future of web development... a very original topic, I know!

But in all seriousness while this topic currently has a lot of hype and popularity, the changes it's bringing to the industry, both the positive and the negative, will have a lasting impact in how we work so I want to share the experiences of my AI journey so far and what we should expect as web developers, agency owners, as well as the many roles within Digital Marketing that make up our industry.

Matt Stone

Developer

- **DevOps & Support Engineer for Atomic Smash** (Current)
- Web Developer for Atomic Smash (5 years)
- I.T. Manager for The Ascot Group (13 years)
- PHP/WordPress since 2008
- Macromedia/Adobe Coldfusion

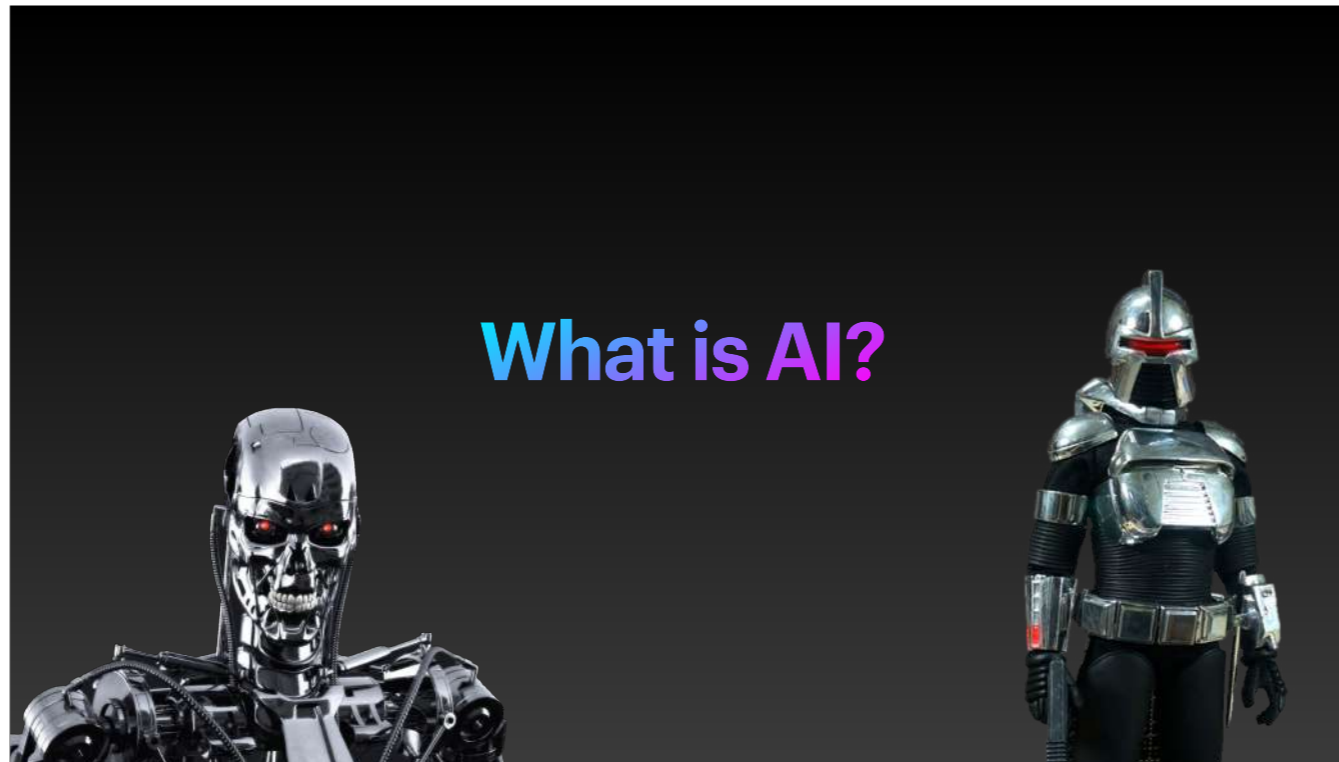


I won't bore you with too many details about myself but I got my start in web development all the way back in 2002 when I used my spare time to learn how to build websites and applications using Macromedia Coldfusion, which was an early dynamic markup language that once powered a significant portion of the web before PHP became more dominant.

This led me to my first development job building a CRM system for a database marketing agency.

The CRM system was eventually re-written in PHP in the late 2000s, which was fast becoming the more popular scripting language. It was around this time I started working with WordPress while I was I.T. Manager for The Ascot Group where I worked closely with the web team.

In 2019 I started attending the original Bristol WordPress People meet-ups which is how I discovered Atomic Smash, and this is how I ended up applying for the job I have now, so it's great to be able to contribute back to this newly reformed event in my very first talk to you all.



Now I'm sure most, if not all of you know what AI is.

We're obviously not talking about the humanity-ending type of Artificial Intelligence often portrayed in the movies...

...at least not yet!

Despite the name, which might conjure visions of a starship's computer, or HAL 9000 from 2001: A Space Odyssey, we're actually talking about Machine Learning, or more specifically...



...the area of AI known as Generative Pre-trained Transformers or GPT which are a type of Large Language Model or LLM.

<click>

In really simple terms a GPT is a predictive text generator, capable of predicting what words should come next after a given input.

It is generative in terms of being able to create new content, pre-trained on large amounts of text, whereas the transformer aspect is the really clever part, a technology that allows it to understand the context of the text and provide a more natural and coherent response that makes sense to us, as humans.

I could go into much more detail but this is just a very simple overview of what GPT is in the context of our talk about AI today.

Development Tools

A brief history of assistive tools

- **Simple text editors** - Notepad (Windows), TextEdit (Mac), VIM (Linux)
- **Early WYSIWYG editors** - Microsoft FrontPage, Macromedia Dreamweaver
- **Code Editors** - NotePad++, Sublime Text, Coda, Atom, PhpStorm, VSCode



Before we discuss the future of web development, we first need to look at the past and where it all started.

AI assisted tools are exactly that, a tool that extends our ability to manipulate and modify something in the environment around us.

We're going to take a look at the evolution of assistive tools that we've used in web development since Tim Berners-Lee unveiled the World Wide Web and HTML markup language to us in the early 90s, to give us an understanding of where we've been before we look at where we're going.

As HTML is a markup language it can be created and edited in pretty much any application that can output plain text which is why Microsoft Notepad, Apple TextEdit, and VIM were originally some of the popular choices for creating websites, and well into the era of more advanced editors many developers swore by these simple tools as the best way to create them.

As websites become more advanced, had more multimedia content, and advanced features, editors that could let you build in a visual drag and drop style (known as WYSIWIG editors or What You See Is What You Get), suddenly made web development accessible to those with little to no knowledge of HTML.

Microsoft FrontPage and Macromedia Dreamweaver became the most popular editors for both novice and experienced developers, and also enabled people to create websites with dynamic content.

The first website I created was using FrontPage, and I loved experimenting with it's ability to store and display data from a Microsoft Access database, this was a precursor to how we're all used to using content management systems like WordPress today.

Whilst WYSIWIG editors are still widely used in some applications, a majority of developers today use Code Editors or Integrated Development Environments which provide features such as syntax highlighting, code linting, spell checking, debugging, version control integration, as well as being easily able to add new features and functionality through the use of extensions.

We could technically still use Notepad or TextEdit and build a website today, but modern websites are incredibly complicated when compared with their earlier counterparts.

Using modern assistive editors allows us to build vibrant and dynamic sites in much shorter time scales than would even be possible in a simple text editor which is essential to being cost effective for clients.

AI Tools for Development

Are they a good or bad thing?

- Will AI tools put Developers out of a job?
- Tools are intended to assist our existing skills to create and shape things we otherwise couldn't
- In the right hands, AI tools help streamline development
- Like all tools, they can be used incorrectly and the results will reflect this



There is a lot of discussion around the use of 'no-code' AI tools to create websites, and some have gone as far to say that it won't be long before experienced Developers will have been replaced by low-paid marketers using AI tools to get the same result.

I don't believe this is the future for AI tools, certainly not within the foreseeable future.

AI tools are only as good as the information that they have been trained on, which often includes out of date or incorrect solutions to coding problems.

Due to the nature of how a GPT works they are prone to lying or providing data that has been made up.

These, and other problems, even if they are overcome won't change one fundamental advantage that an experienced Developer has, and that is understanding of the code being generated.

Let's take an example of someone who has never looked at PHP code before, and asks an AI assisted code editor to build a website for them, sure it might do a good job and create something usable.

But what if the code it outputs breaks the site or generates an unexpected result?

If you don't understand what the problem is, you could ask the AI tool to fix it, but these tools will often repeat the same steps or progressively make the code worse.

An experienced Developer can use their knowledge and skills to easily fix problems when the tools don't quite get it right, whereas someone without understanding may

end up going in circles and wasting significant time on the problem.

Becoming AI Native

Why being an 'adaptor' will put you ahead of the `resistors`

- Spencer Gallagher, Founder of Bluhalo, Cactus & The Agency Collective stated that *"AI isn't a silver bullet, but strategic adoption can be a game-changer"*
- We've all played about with ChatGPT or Microsoft Copilot
- Those who embrace AI tools to make their daily workload lighter will have a competitive advantage over those that don't
- Huge potential applications for developers and agencies to increase efficiency with the right use of AI tools

Spencer Gallagher, Founder of Bluhalo, Cactus and The Agency Collective stated in a recent article on SubStack that "AI isn't a silver bullet, but strategic adoption can be a game changer" and he couldn't be more right about that.

I share his view that AI adoption can currently be split into two camps:

Adaptors and Resistors.

The Resistors are the Developers and Agencies that may have either not wanted to use any AI services or tried out a few tools, but either isn't using them in any practical useful ways, or not using them at all.

The Adaptors are using AI to automate admin, streamline their creative processes and free up team capacity for high value work.

Those that adopt the "AI Native" mindset and structure their goals and processes around these tools will have a competitive advantage against those that don't.

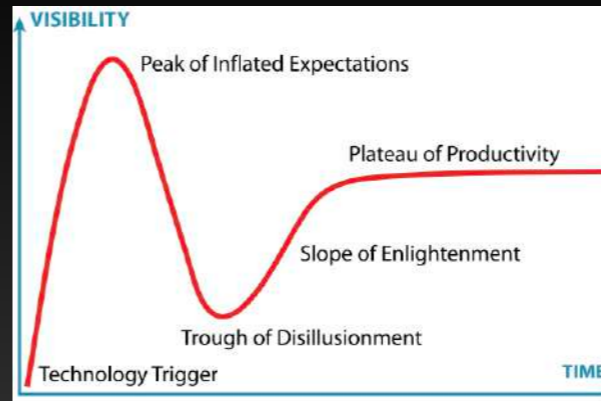
The question at this point is which one do you want to be?

I'll let you decide.

The Hype

Where are we now?

- New technologies almost always have a hype bubble
- Starting with a peak of inflated expectations
- Transitioning to a trough of disillusionment and slope of enlightenment
- Finishing with a plateau of productivity



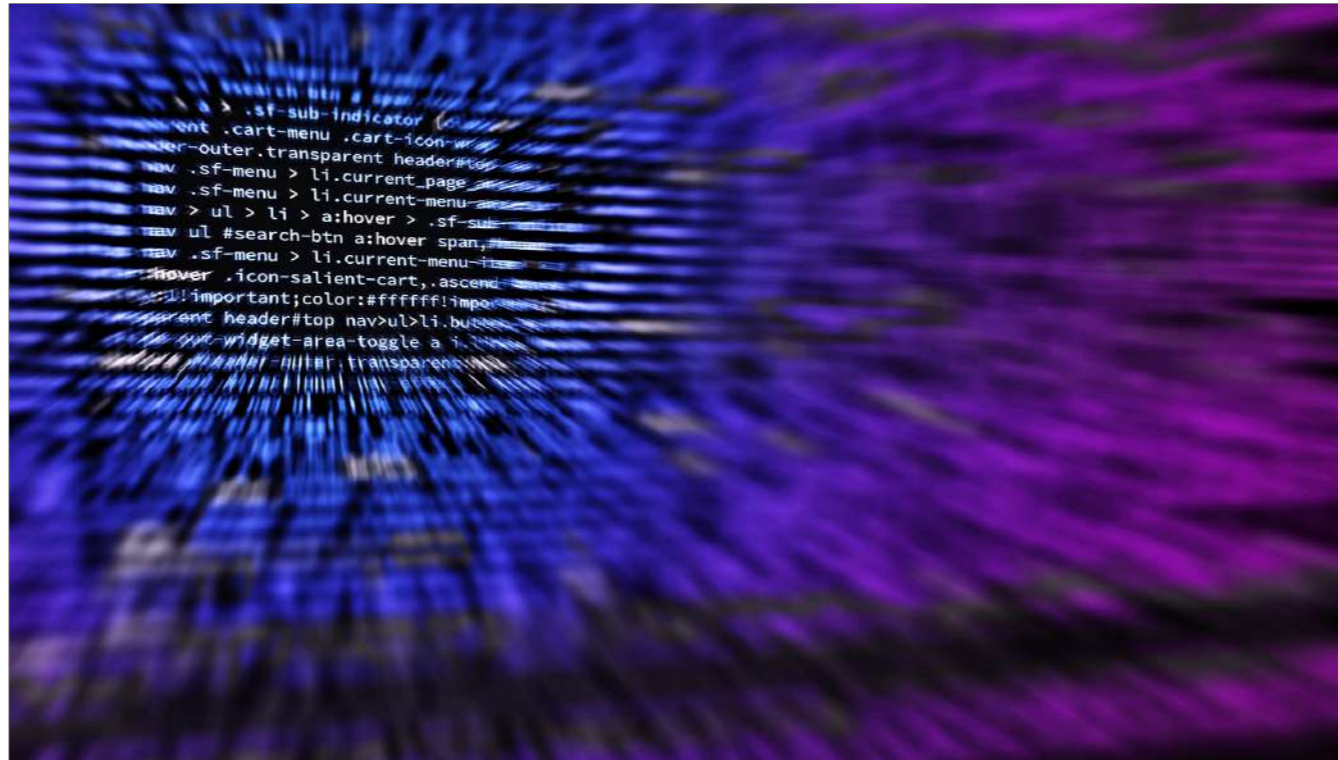
This brings us to the question of where are we now in the journey and development of AI tools? We look to the Gartner Hype Cycle to predict this.

If you're not familiar with the Gartner Hype Cycle it's a visual representation of the lifecycle of the introduction of new technology that shows how the Hype around new tech has a fast rise, a drastic fall, and eventual plateau once the technology has matured and found it's place in the market.

I'll be honest that when I first started seeing services I use add "now with AI" I did what a lot of us have done and rolled my eyes wondering when the hype machine will end.

Right now it's my opinion that we're currently somewhere just past the Peak of Inflated Expectations, we're still in that high where every technology provider is adding an AI companion or extension to their service.

Whilst initially being cautious or even dismissive of AI in the tech space I've since immersed myself in finding out more about how this technology is affecting our industry and have come to the realisation that we can love or hate these hyped up tools but when we hit the Plateau of Productivity as shown in the graph, in some form they will have become a normal part of our development toolset and we need to strive to be `adopters` to maintain a competitive edge.



So I'm going to share with you some of the tools I've been trying out and actively use in my day-to-day work.

We're going to start with a look at Cursor, the AI powered VSCode code editor. This tool is basically the open source version of VSCode which means you can configure settings and extensions just like you would in the main version of VSCode.

I've created a simple boilerplate website running the latest version of WordPress with the Classic Editor configured, and we're going to spend a short time styling out the site and adding a couple of features.

I've not recorded this next segment or practiced in advance so the results will be entirely unpredictable, but it will hopefully show you how these tools can save time and assist your development, but it may also show some of the pitfalls of relying too much on AI tools.

<transition to using Cursor to build out a simple WordPress website>

Now we've had a look at Cursor, we're going to take a quick look at Fathom AI Notetaker which I use on most client and internal video calls to help me remember what we talked about and what post-call actions I need to take.

While I haven't got a live video call setup with another person today, I can show you how it easily integrates into Google Meet and the great job it does of summarising what was talked about on a call.

<transition to using Fathom to showcase AI notetaking>

That's my overview of some of the AI tools I've adopted to use in my daily routine

Thank you

For listening to my talk

Thank you for joining us today to listen to me talk.

It's been a pleasure to share my experiences with you all.

Citations

Sources and useful links

- **GPT** - https://en.wikipedia.org/wiki/Generative_pre-trained_transformer
- **History of HTML editors** - <https://html-online.com/articles/evolution-of-html-editors/>
- **VIM icon** - By User:D0ktorz - reworked in SVG, GPL, <https://commons.wikimedia.org/w/index.php?curid=1228427>
- **Gartner Hype Cycle** - https://en.wikipedia.org/wiki/Gartner_hype_cycle
- **Overwhelm to Opportunity** - <https://spencergallagher1111.substack.com/p/overwhelm-to-opportunity>

AI Tools

That I use in my daily development

- **Cursor** - VSCodium based editor - <https://www.cursor.com/>
- **Fathom AI Notetaker** - Video call note <https://fathom.video/>
- **Perplexity** - <https://www.perplexity.ai/>



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