



HOLLYWOOD

Revolutionizing software creation: Harnessing the power of GenAI

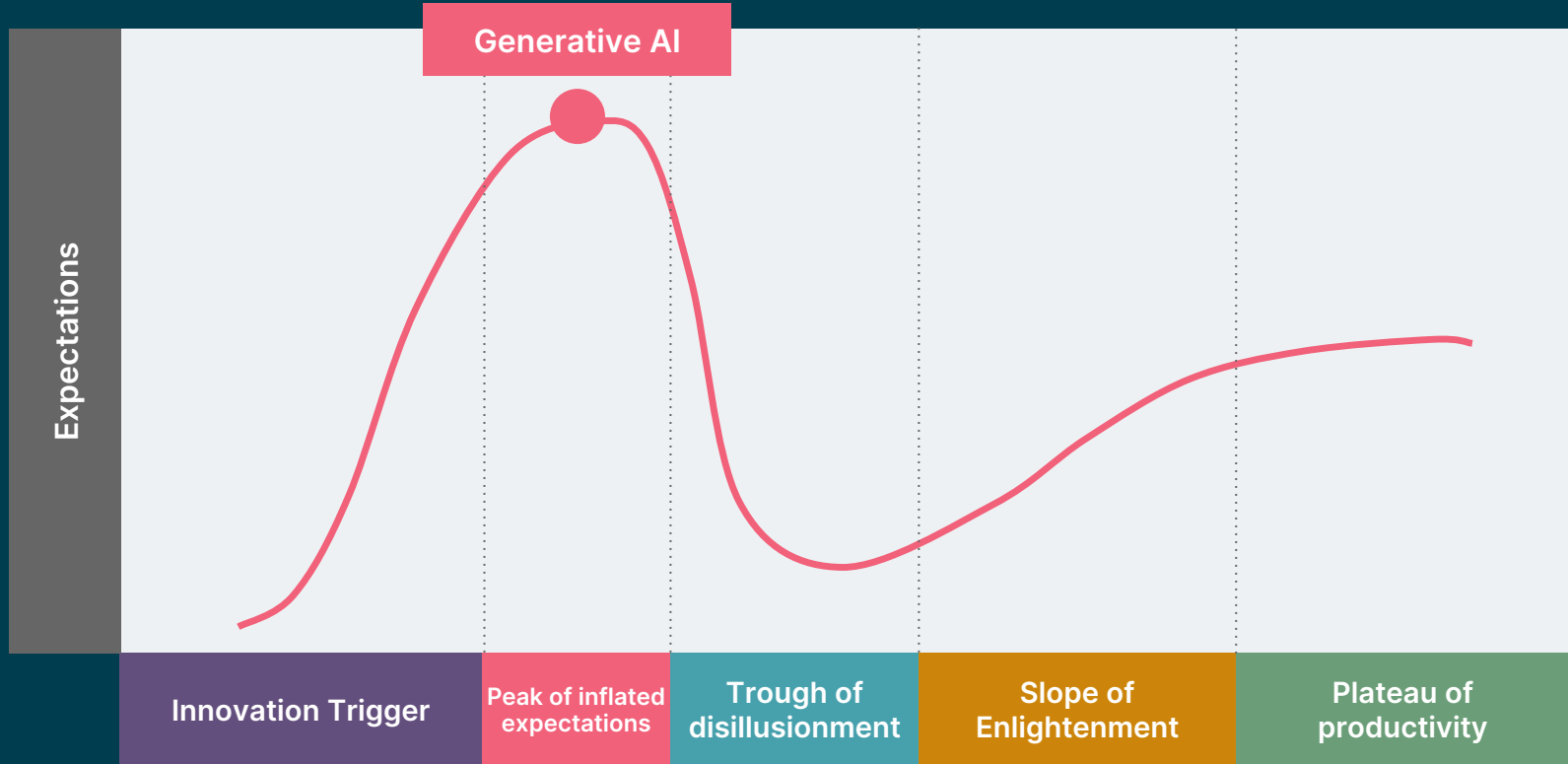
Mike Mason

Chief AI Officer, Thoughtworks

“The value of 90% of my skills just dropped to \$0. The leverage for the remaining 10% went up 1000x. I need to recalibrate.”

Kent Beck, April 2023

Creator of eXtreme Programming
Co-creator of the Agile Manifesto



The promises

McKinsey

A McKinsey study shows that software developers can complete coding tasks up to twice as fast with generative AI. Four actions can maximize productivity and minimize risks.

GitHub



70% of developers

See a benefit to using AI coding tools at work

Accenture

“The hottest new programming platform is the napkin.”

Paul Daugherty, Accenture Group Chief Executive & Chief Technology Officer

Referring to the use of OpenAI to generate a working website from a napkin drawing

Nielsen Norman Group

AI Tools Make Programmers More Productive

Summary: A study compared programmers using the GitHub Copilot AI tool to those who didn't. The AI group completed programming tasks much faster, for a productivity increase of 126%. Less-experienced programmers and those who spent fewer hours coding benefited the most from AI.

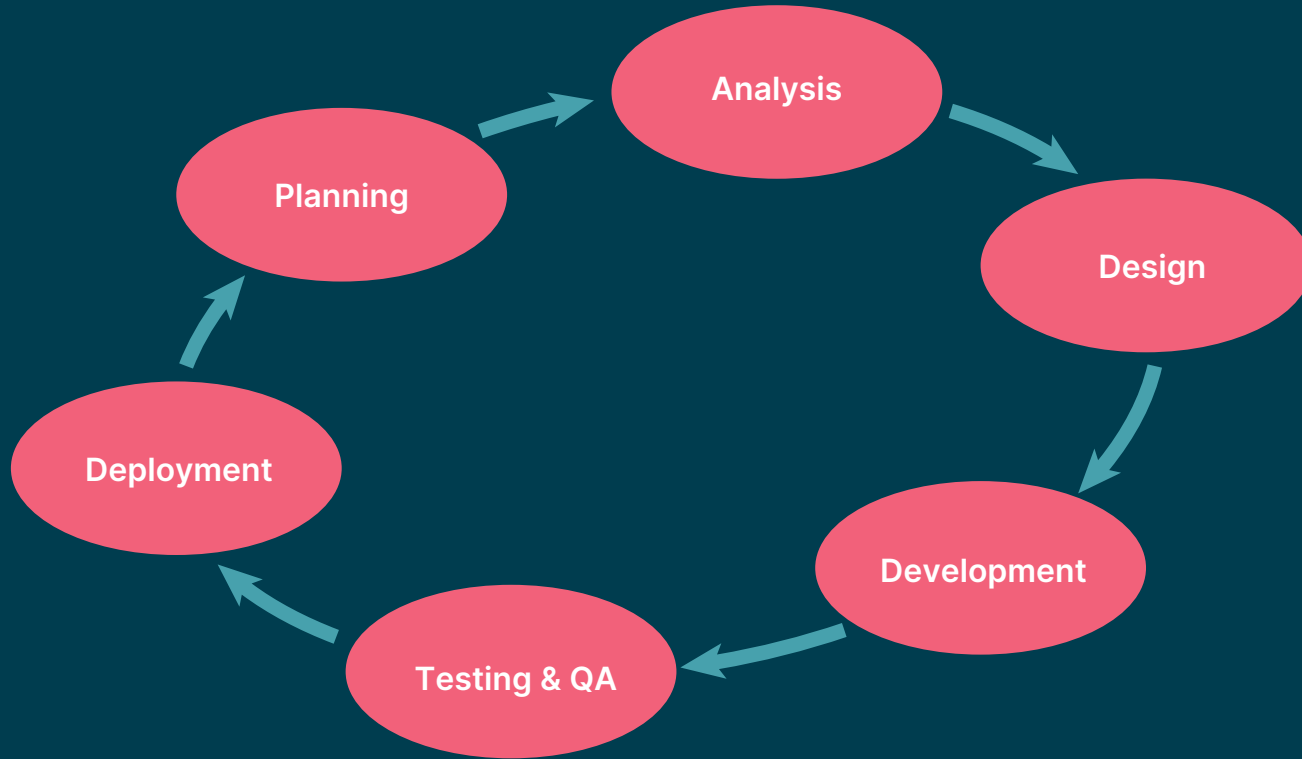
Westpac sees 46 percent productivity gain from AI coding experiment

By Kate Weber
Jun 1 2023
7:04AM

With no reduction in quality.

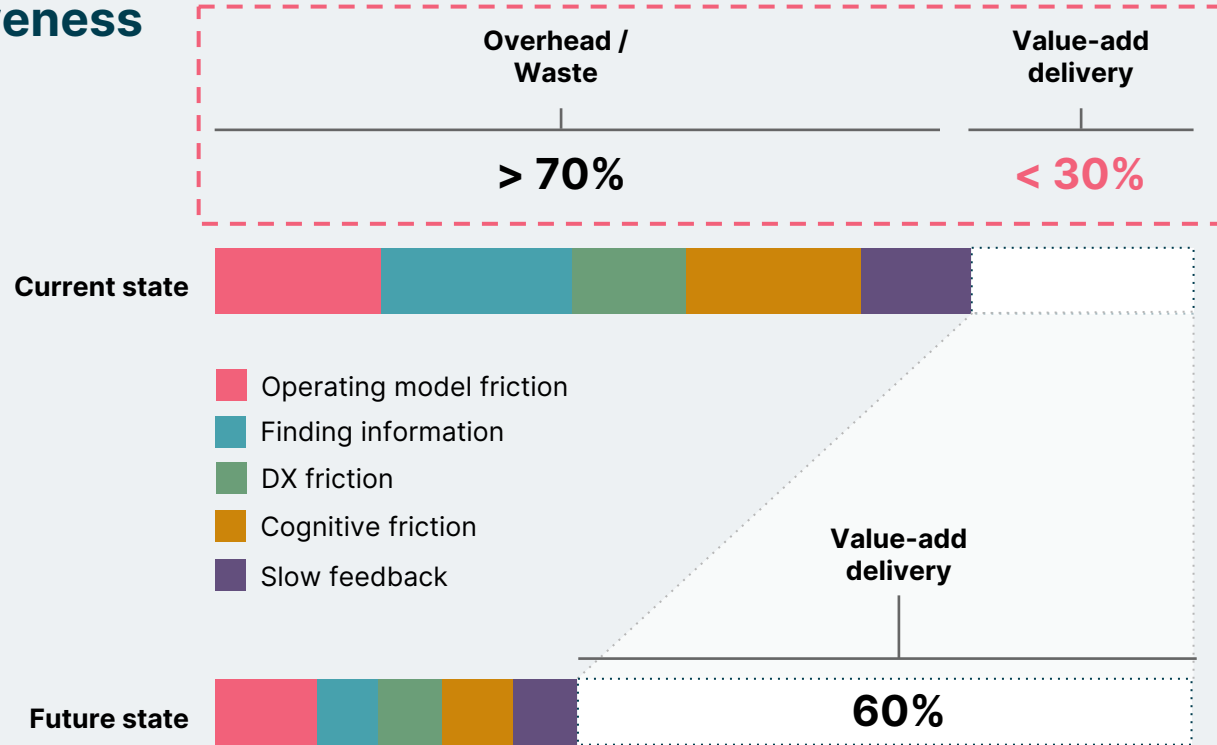


Software delivery process cycle



Reality check: building software is *hard*

Team effectiveness



AI's role in software engineering today



```
1 import datetime
2
3 def parse_expenses(expenses_string):
4     """Parse the list of expenses and return the list of triples (date, va
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
```




Imagine a website. Now generate it.✦

Create a marketing website in minutes using systems you already love.



Describe a company in a sentence or two

Generate

Don't know what to write? [Try example](#)



Site Builder

Sitemap

Wireframe

100% ▾

Share

Export

Home

Shuffle



Page 2

Logo

Link One

Link Two

Link Three

Link Four ▾

Button

Button



FEATURED ON
Product Hunt



360

library.relume.io/site-builder#

Story writing

Tasking

User story

Business Context

Preloaded, reusable context about the domain

You're part of a team building a web application that will allow salespeople in a company to organise their work and document their customer relationships.

Users: Sales Managers who are looking after a portfolio of restaurants/hotels/caterers/traders, looking to build a personal relationship and increase the revenue their respective customers are generating.

Functionality: Plan customer visits and document them, view plans on a map and execute unplanned visits for nearby customers. It needs to work on mobile phones and with unstable internet connection (aka "offline"), support internationalisation and localisation.

Domain terminology:

- Contact: a visit of a customer, or a phone call, or an email. A sales manager usually takes notes of each contact
- Activity: synonym for "Contact"

Scenarios

Assistant

Clarification

Story writing

Tasking

User story

</> Architecture

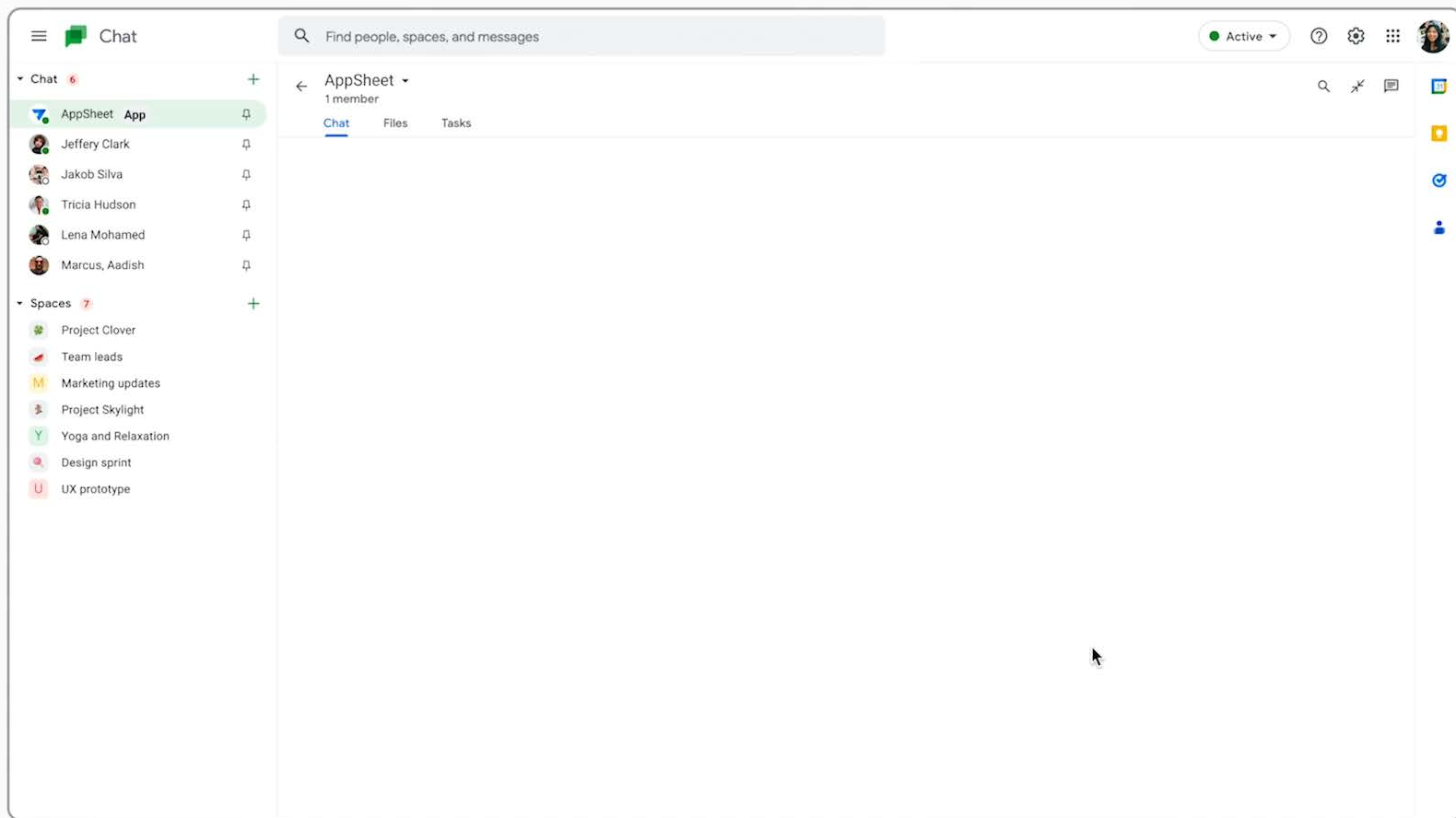
```
1 The application consists of a web frontend and a backend with HTTP RESTful APIs, and h
2
3 # Core technology stack
4 * Frontend: JavaScript, ReactJS, Gulp, Browserify, Jest
5 * Backend: Java, Gradle, Guice, Jersey
6 * Persistence: Postgres, Solr for search indexing
7 * Deployment: Docker, Kubernetes
8
9 # Integration points with other systems
10 INTEGRATION: Existing CRM interface: customer data and activities, flat file exports i
11 * Customer data (export)
12 * Contacts data (export)
13 * Address data (export)
14 * Activities data (export and import) > visits, calls, ...
15
16 INTEGRATION: Employee Active Directory login, to integrate for login functionality
```



Tasking

Assistant

Clarification



High level of abstraction



Low code

Models / DSLs / ...

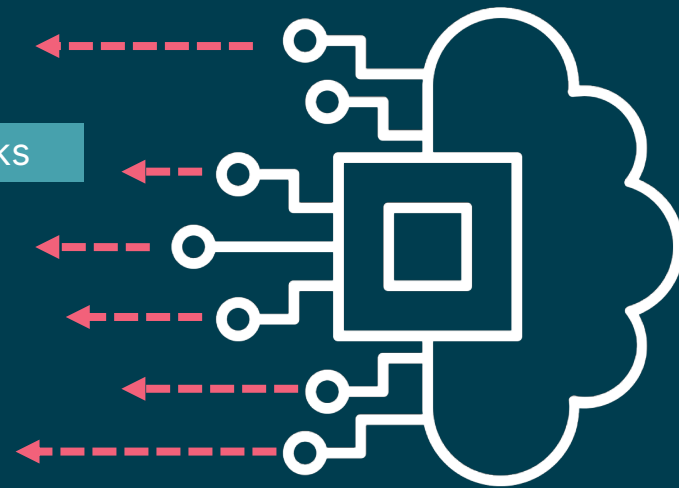
Frameworks

Programming languages

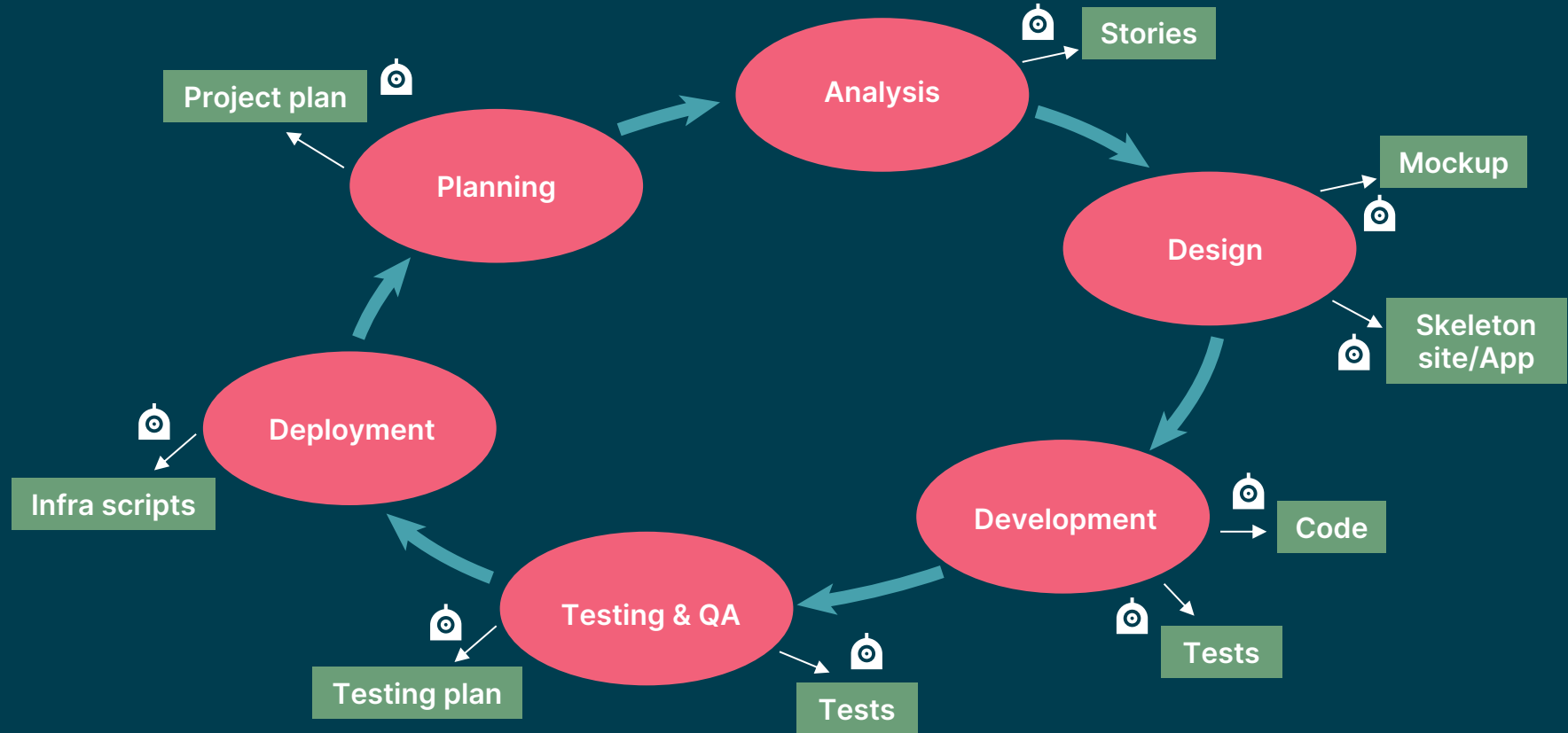
Low level of abstraction

Compiled code

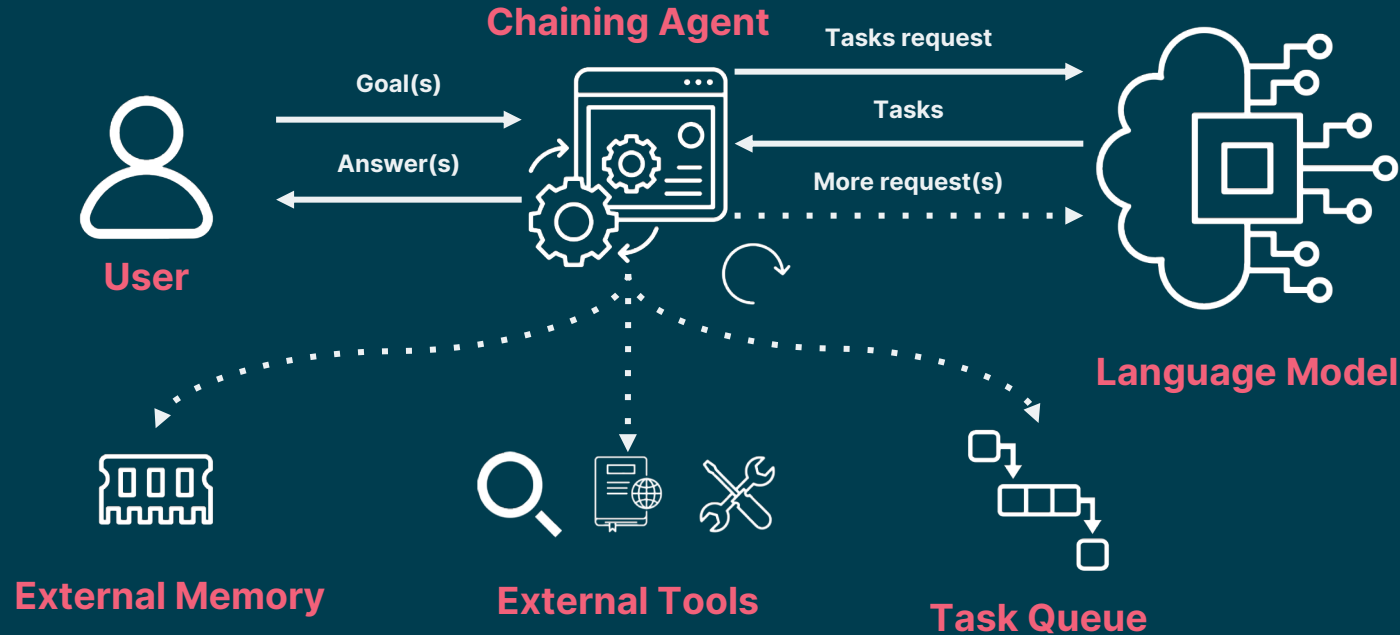
Natural language



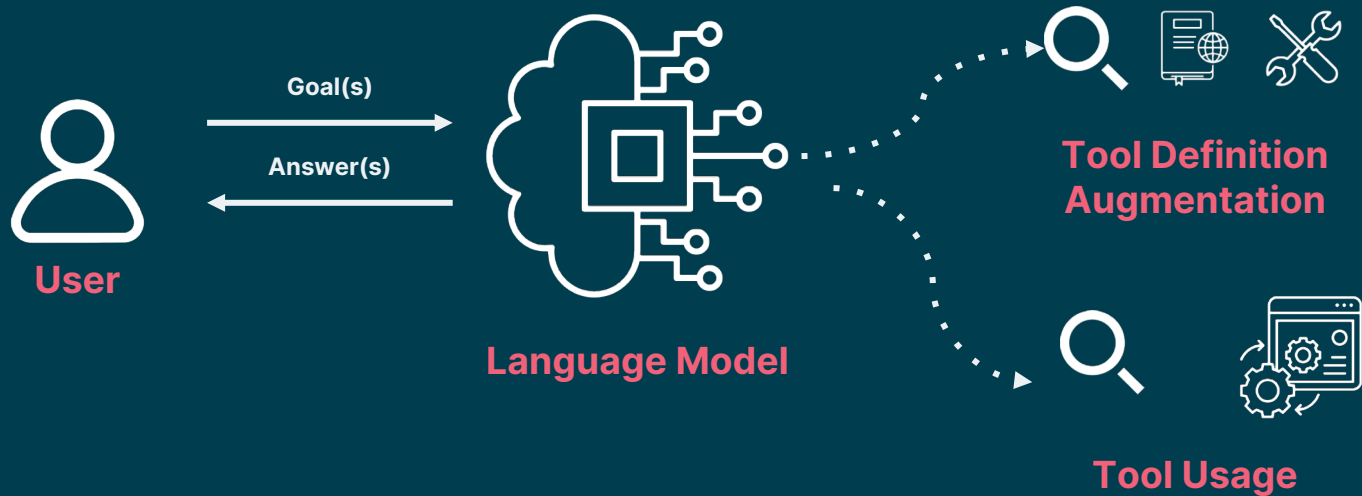
Today's GenAI still makes traditional artifacts



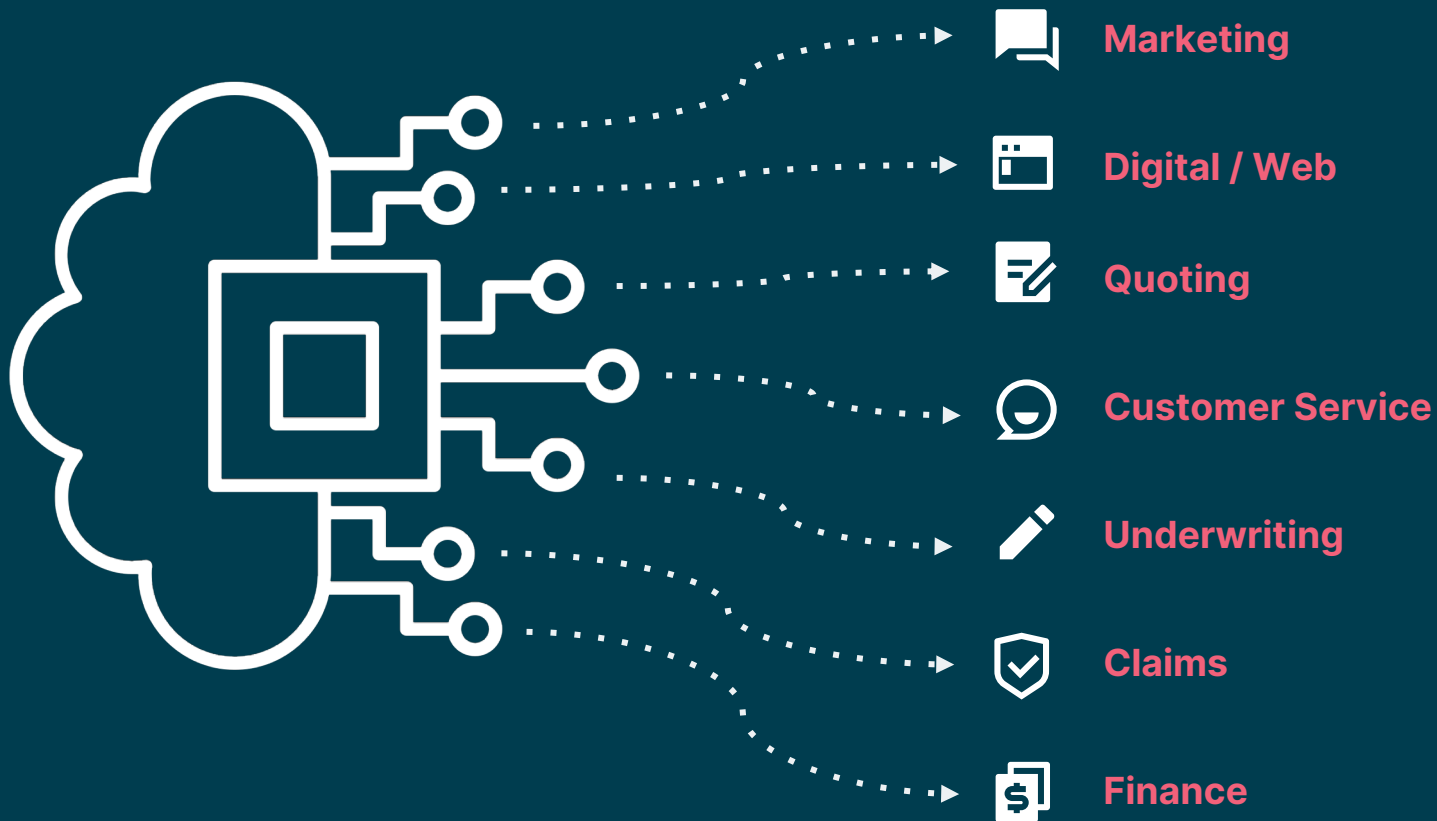
A glimpse of tomorrow: agents



A glimpse of tomorrow: tool-using LLMs



“Just deploy the model”



The future of applications: conversational and proactive

Research ^

Research Signals

Company Research

Ideate ^

Saved Ideas

Creative Matrix

Scenario design

Concept design

Strategy design

Storyboarding

Crystal Boba: Strategies

Cards

Full Cards

Stack

Table

Matrix

Strategic prompt

enter a prompt and press enter to generate strategies

Go

Generate

3 questions

and

3 strategies

Add subprompt



⚡ GPT-3.5

🦜 GPT-4

ChatGPT **PLUS**

Come up with concepts

for a retro-style arcade game

Explain options trading

if I'm familiar with buying and selling stocks

Design a database schema

for an online merch store

Show me a code snippet

of a website's sticky header

+ Send a message



How to get started with AI-assisted software delivery

- Enable AI code generation from the IDE
- Experiment with “non code” uses of AI
- Establish guidelines and policies to manage risk
- Ensure people understand they are still responsible for quality and results
- Measure impact and share learnings across the organization