

Low code and No code Workshop



Low Code and No Code (LCNC)

Software Development

Software Development Life Cycle



Need more people !!

6 Phases of the Software Development Life Cycle



Developer roadmap

NEW Generate visual roadmaps with AI

Developer Roadmaps

roadmap.sh is a community effort to create roadmaps, guides and other educational content to help guide developers in picking up a path and guide their learnings.

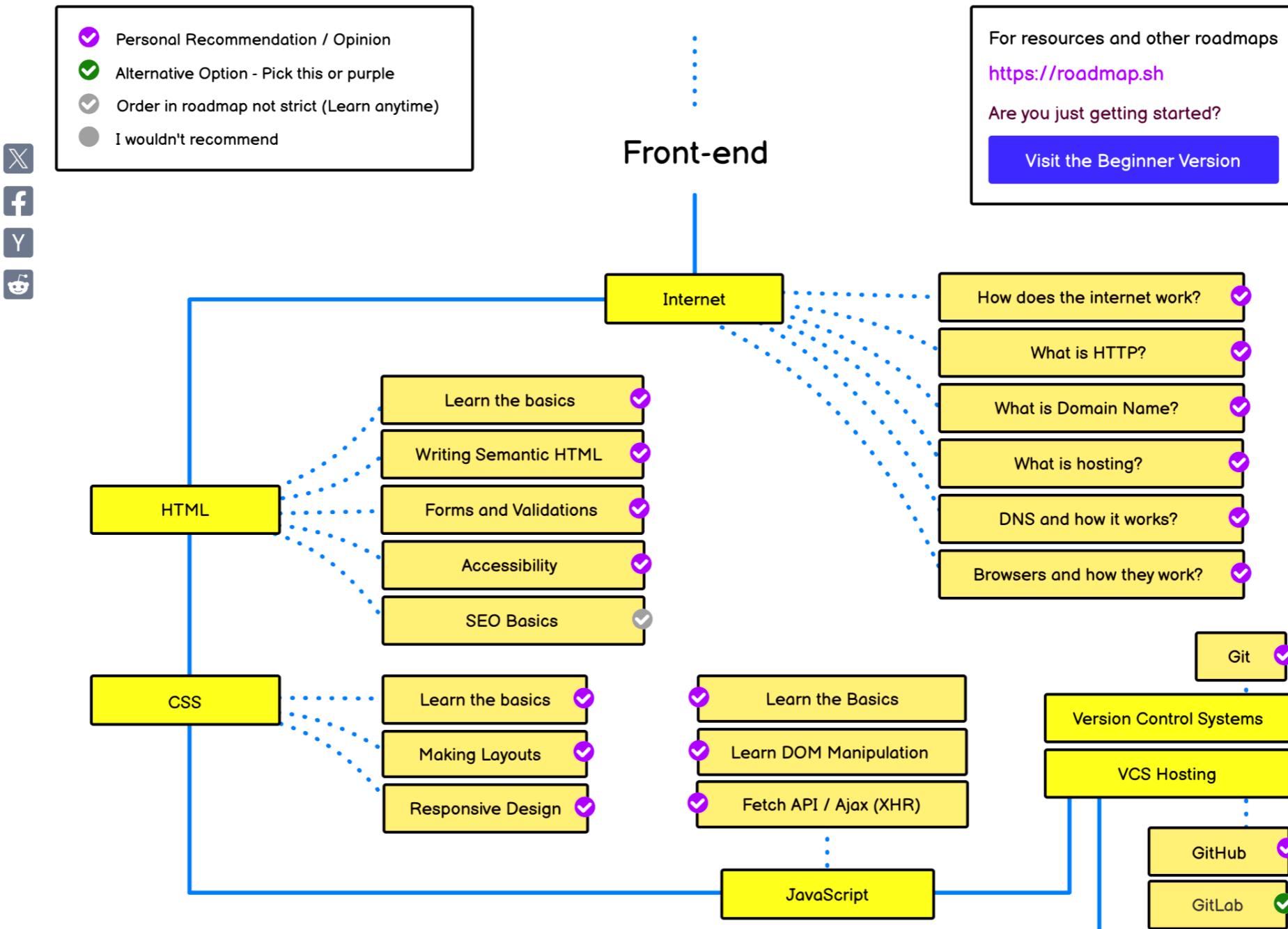
Role based Roadmaps

- Frontend
- Backend
- DevOps
- Full Stack
- AI and Data Scientist
- Data Analyst
- Android
- iOS
- PostgreSQL

The screenshot shows the homepage of roadmap.sh. At the top, there's a purple button labeled "NEW Generate visual roadmaps with AI". Below it is a large, bold title "Developer Roadmaps". A subtitle explains that roadmap.sh is a community effort to create roadmaps, guides, and educational content to help developers learn. A central heading "Role based Roadmaps" is followed by a grid of nine boxes, each representing a developer role: Frontend, Backend, DevOps, Full Stack, AI and Data Scientist, Data Analyst, Android, iOS, and PostgreSQL. Each box has a bookmark icon and some are marked as "New".

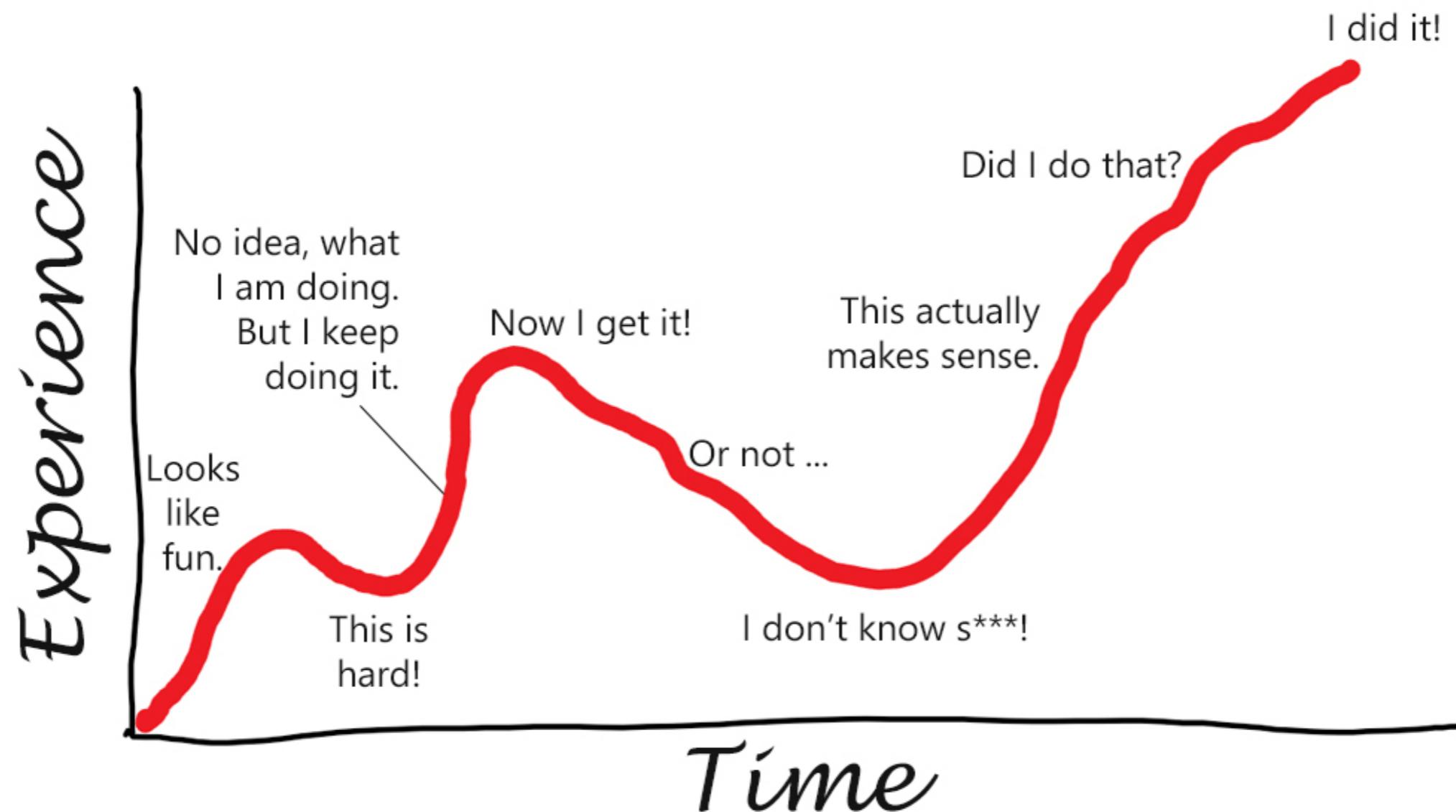
<https://roadmap.sh/>

Frontend developer



<https://roadmap.sh/frontend>

Learning Curve !!



“You don’t have programmer”

No Code

Build applications with visual interface

Drag-and-drop

Develop without writing code

Develop without any programming experience

Focus on speed to deliver application

Empowering non-technical users

Visual modeling
tools

Pre-build template

No Code

Design with modulars like Lego



Low Code

Requires some coding experiences

Focus on customization and flexible

Moderate learning curve

Focus on technical people

Integration with existing system

Low Code guideline

THE DEFINITIVE GUIDE TO LOW-CODE DEVELOPMENT

- 1 What is low-code?
- 2 Low-code features and benefits
- 3 Low-code comparison
- 4 Who can build with low-code?
- 5 How to pick a low-code platform
- 6 The future of low-code

0



<https://www.mendix.com/low-code-guide/>

Gartner Magic Quadrant for Enterprise Low-Code 2023



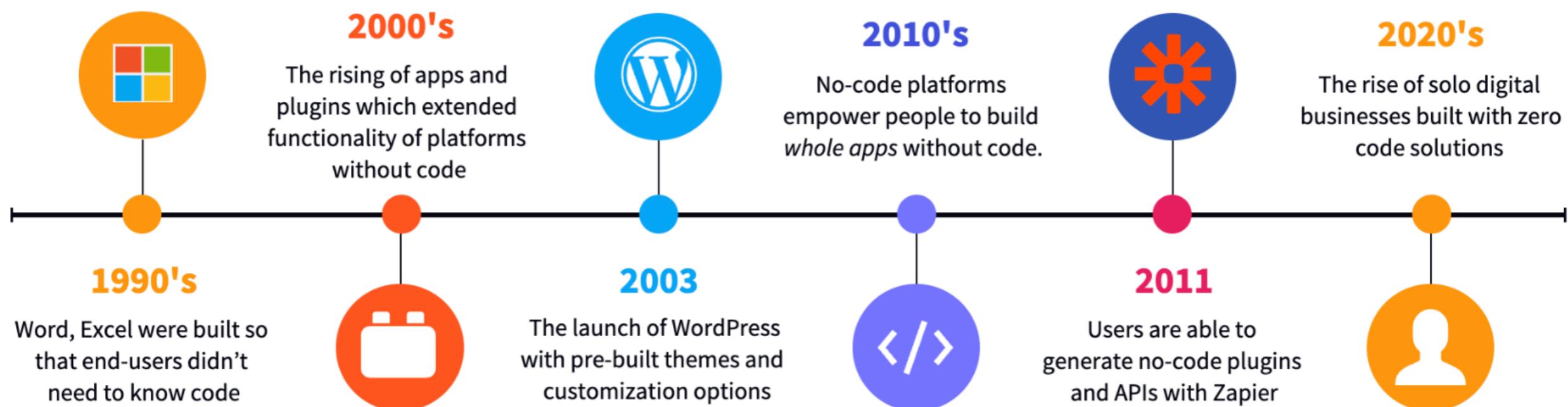
<https://www.gartner.com/en/documents/4843031>

Low Code vs No Code

	Low Code	No Code
Target person	Developer	Business
Main objective	Speed of development	Ease of use
Coding skill	Low, but required	No coding
Customization	Yes	Pre-build template Yes
Platform lock-in	Easy to move	Yes
Purpose	Rapid development tool for professional developer	Self-service application for business user
App complexity	Yes	No

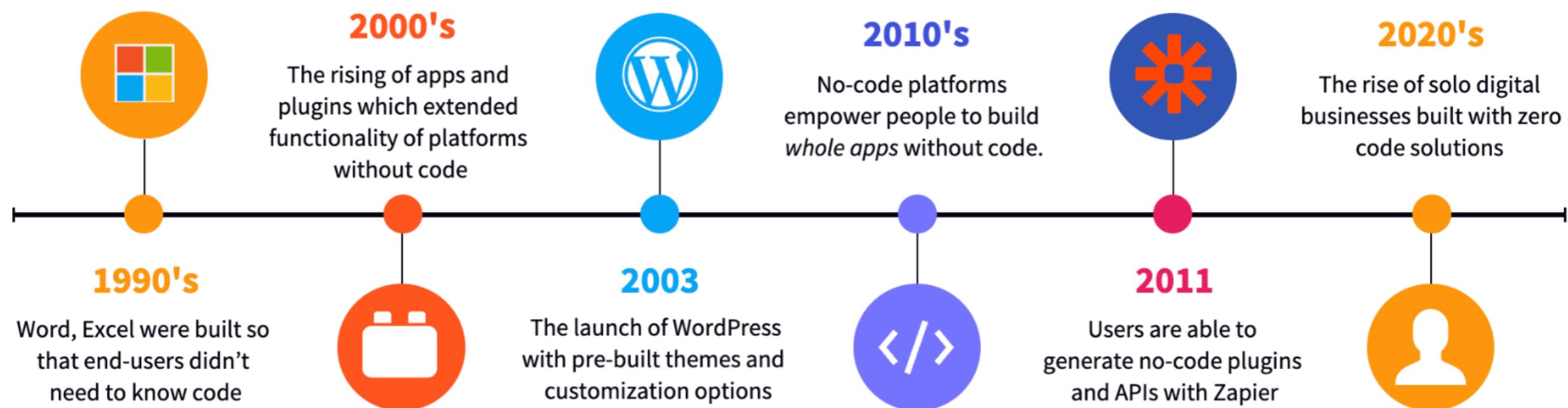
Evolution of LCNC

SHORT HISTORY



Evolution of LCNC

SHORT HISTORY



Rapid Application Development (RAD)

Business Process Management (BPM)

Low code and No code

Why we need ?

Increase speed development

Reduce need for skilled developers

Lower cost

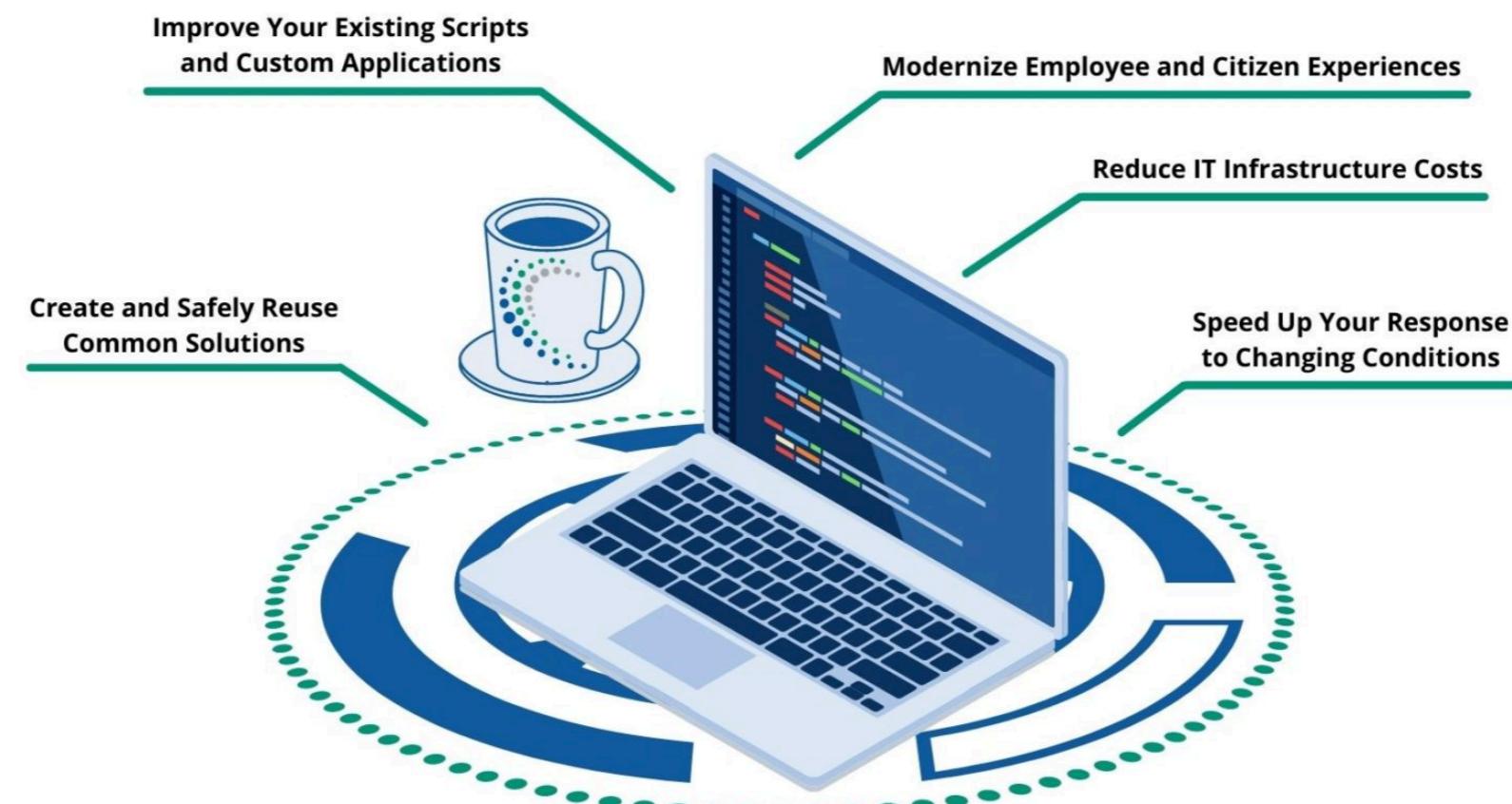
Increase accessibility

Improve agility

Encourage innovation

Benefits

Efficiency, Cost
Integration
Flexibility
Rapid development



Benefits

Easier collaboration between develop and business
Technical vs Non-technical



Limitation !!

Not suitable for complex application
High degree of customization
Subscription fees
Code quality and best practices
Dependency in platform provider
Performance

Concerns !!

Scalability

Security

Lack of quality

Customization

Need for expertise

Not for core business !!

Core

Generic

Support

LCNC Use-cases

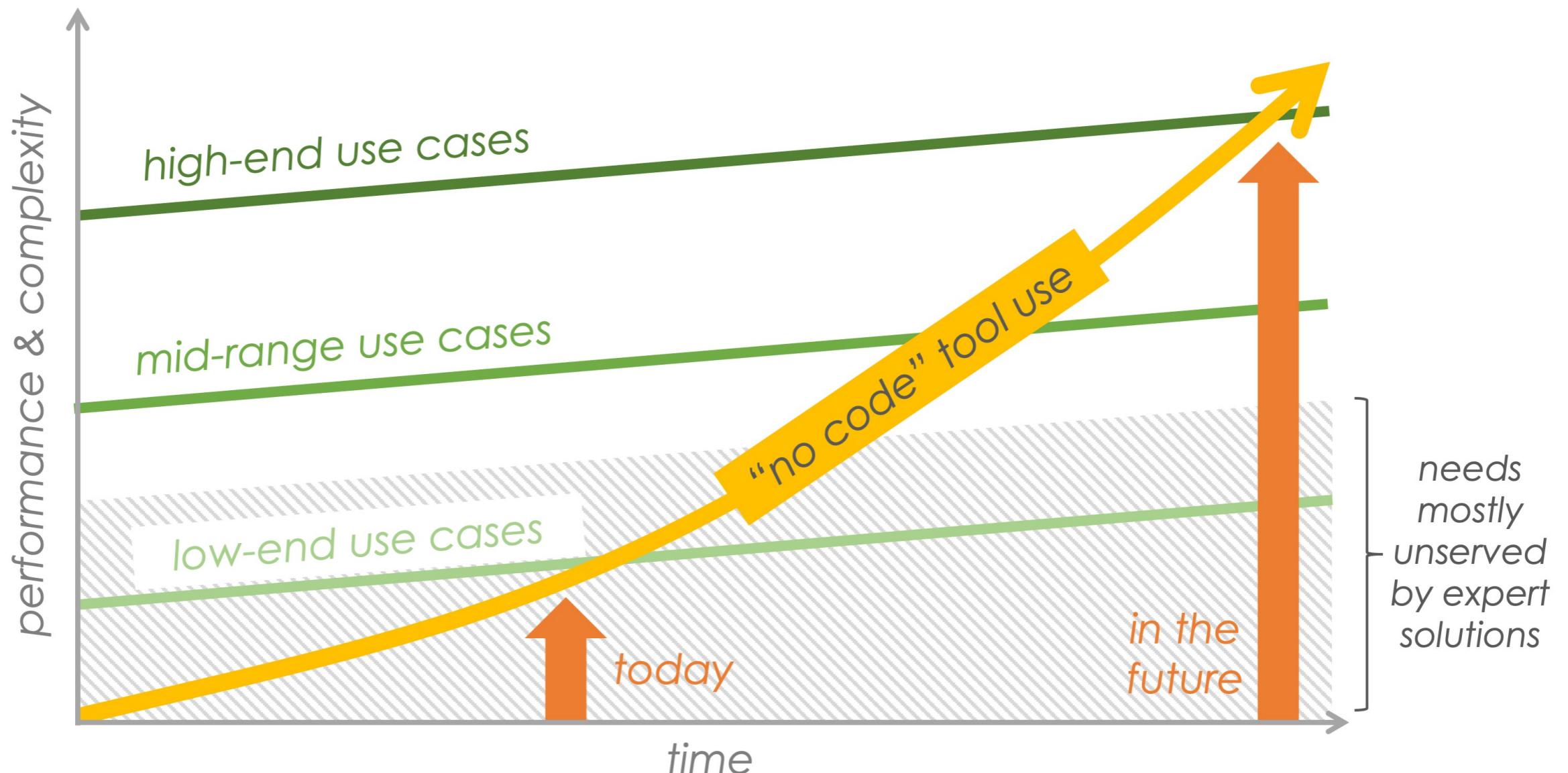
Internal application

Rapid Application Development

Business Process Automation (BPA)

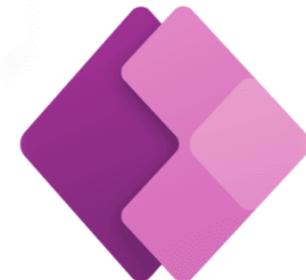
Reduce cost !!

LCNC Use-cases



Tools ?

Microsoft
PowerApps



mx mendix
Go make it™

Webflow

AppSheet

UiPath™

Airtable

Dialogflow

_zapier

Akkio

Tools ?

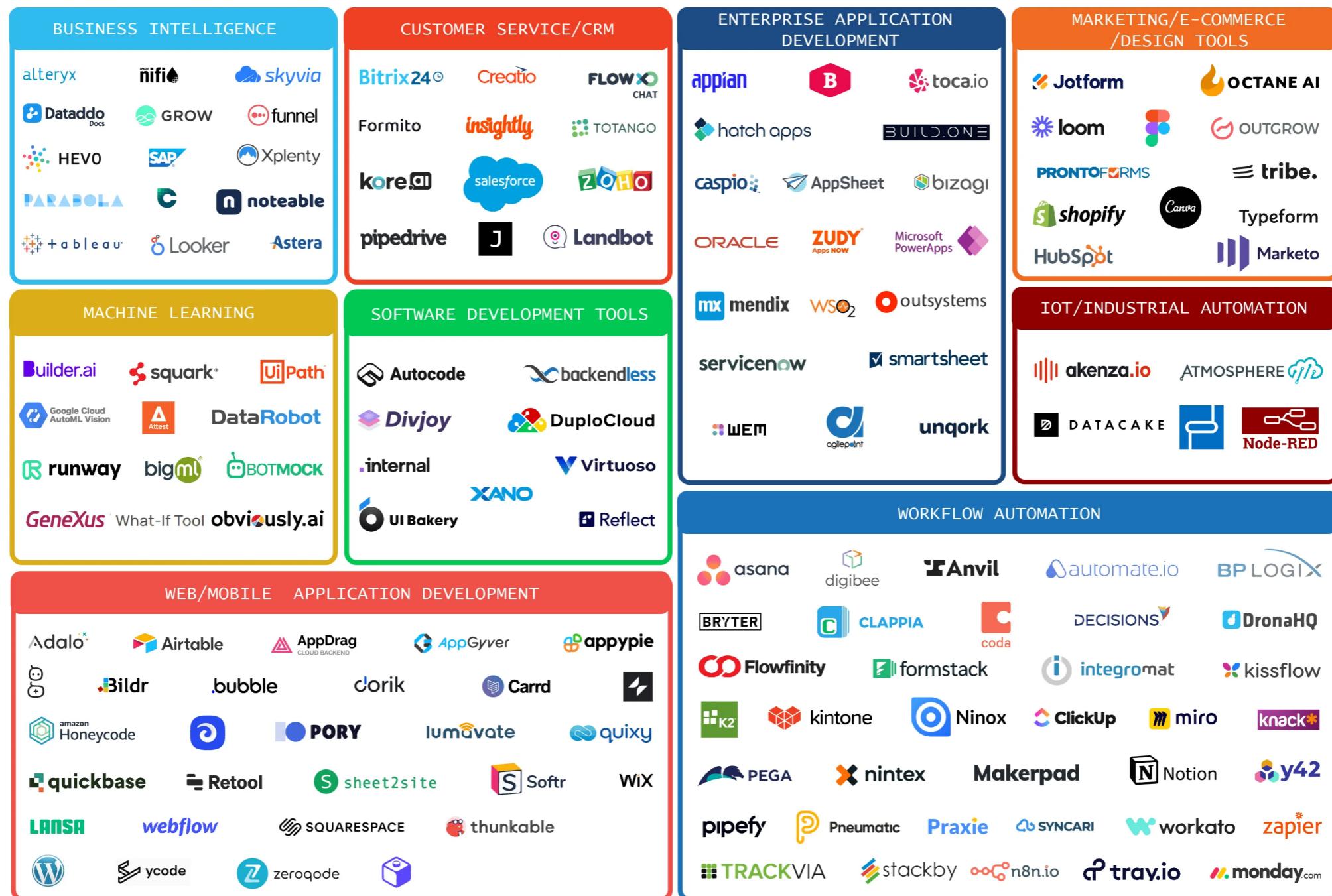


WORDPRESS



Ecosystem of tools

LOW-CODE/NO-CODE PLATFORM ECOSYSTEM



March 2022 - medium.com/@unigram_labs

How to choose tools ?

Based-on your requirements

Drag & Drop
interface

Visual
modeling tool

Template and
prototype

Cross
platform

Integration
capability

Scalability

Security
features

Automation
testing

Report and
analytic

How to build app with LCNC ?

Process

Define the scope

Talk to potential users

Create wireframe

Start building

Inspect and adapt

Wireframe tools

The screenshot shows the Figma website homepage. At the top, there is a navigation bar with links for Products, Solutions, Community, Resources, Pricing, Contact sales, and Log in. Below the navigation bar, a large heading reads "How you design 🖌, align 💪, and build 🚀 matters. Do it together with Figma." A prominent blue button labeled "Get started" is located below the heading. The main content area features a wireframe of a product management application. The wireframe includes a header with icons for file operations, a search bar, and user profiles. Below the header, there are sections for "Design updates" (with a starburst icon), "Producer" (with a "Discover" button), "Filters (4)" (with a "Clear" button), and a "Developer" section. A callout bubble points to the "Developer" section with the text "Does this pairing meet". To the right, there is a "Researcher" section with a bar chart icon and a "Let's run a test" button. The bottom of the wireframe has a red footer bar.

<https://www.figma.com/>

Start with Low code and No code

Requirements

Task management

Tasks

Responsible Person

Time

Members in team

Learning by doing

Google AppSheet

Google AppSheet

Supercharge
your work with
no-code

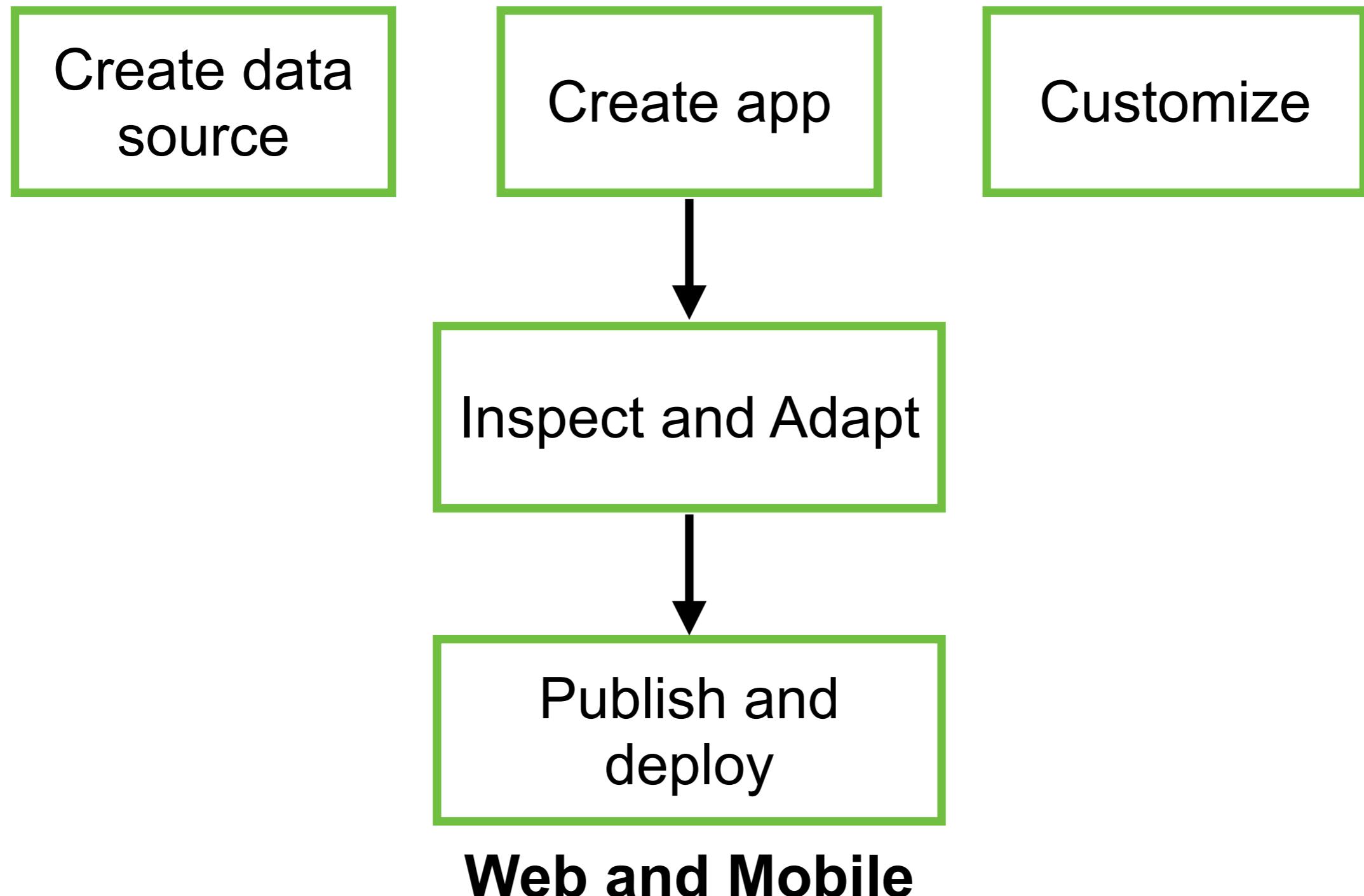
AppSheet helps you build powerful applications and automations that boost productivity. No coding required.

Get started



<https://www.appspot.com/>

Steps



Step 1

Create data source in Google Sheet (one-to-many)

Members table

	A	B	C	D	E	
1	Email	Firstname	Lastname	Mobile number	Responsibility	
2						
3						
4	PK					
5						
6						
7						
8						
9						
10						

+ ≡ Members ▾ Tasks ▾

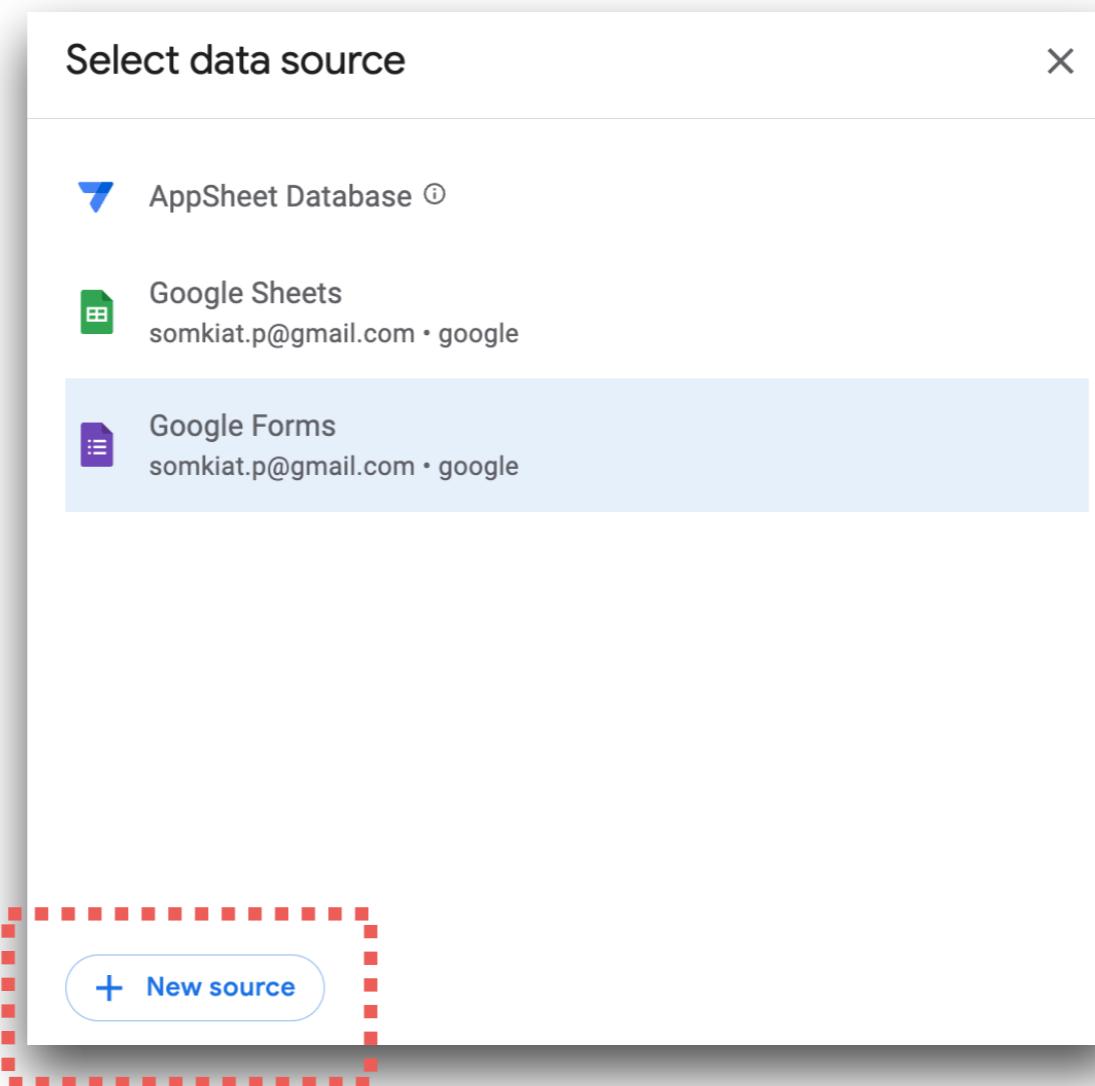
Tasks table

	A	B	C	D	
1	Task	Members	time	status	
2					
3					
4					
5					
6					
7	FK				
8					
9					
10					

+ ≡ Members ▾ Tasks ▾

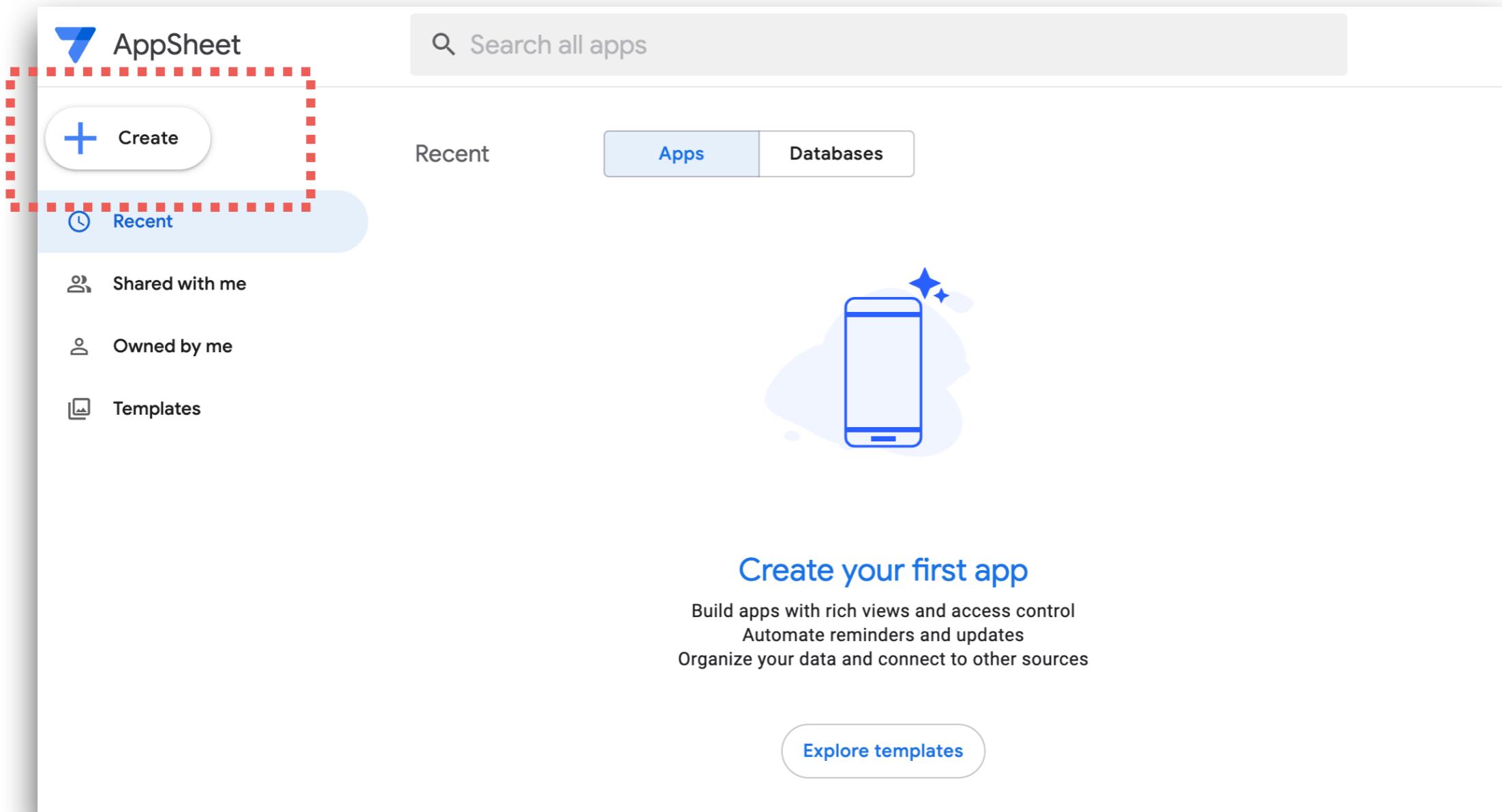
Datasource in AppSheet

AppSheet Database Existing Database



Step 2

Create app in AppSheet



Step 3

Choose type of your app

Create a new app

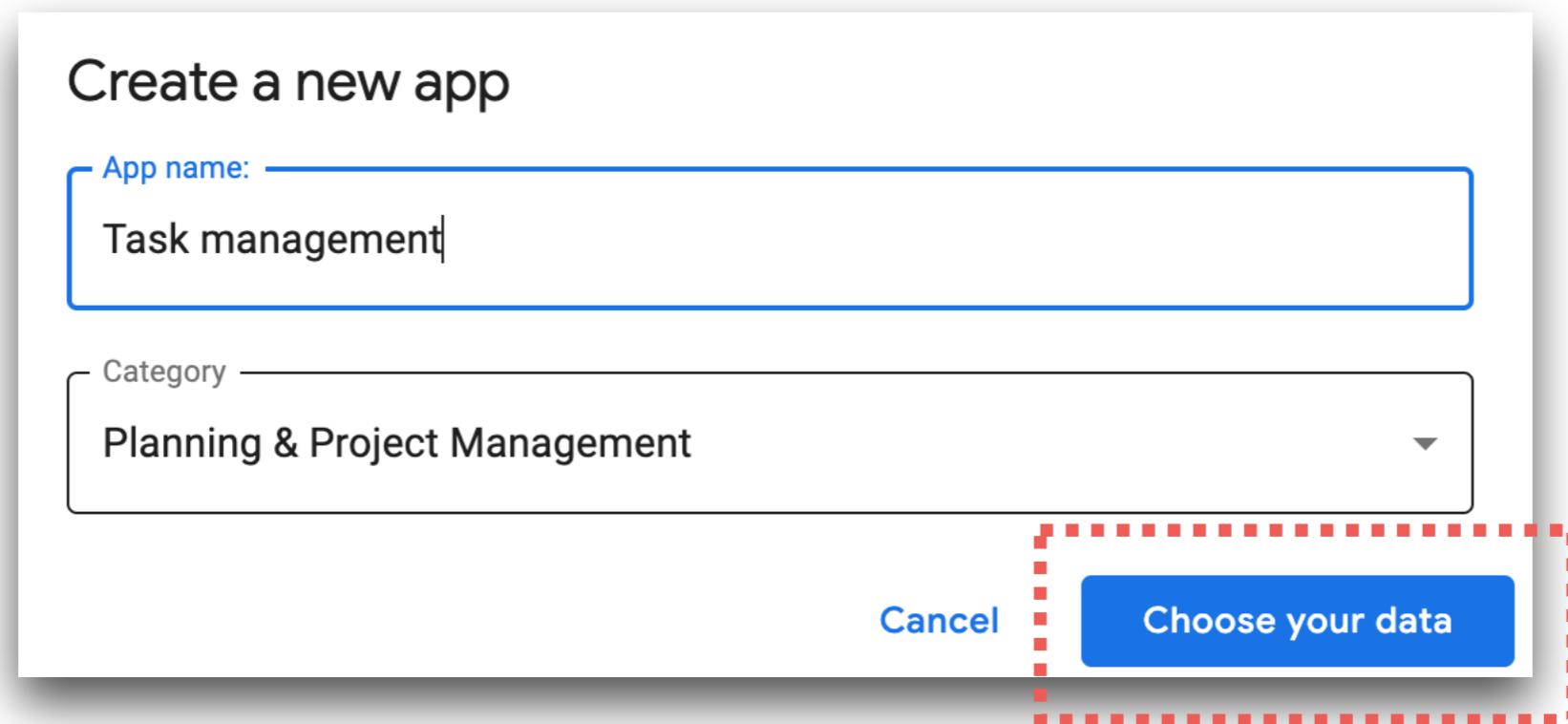
App name:

Category

[Cancel](#) [Choose your data](#)

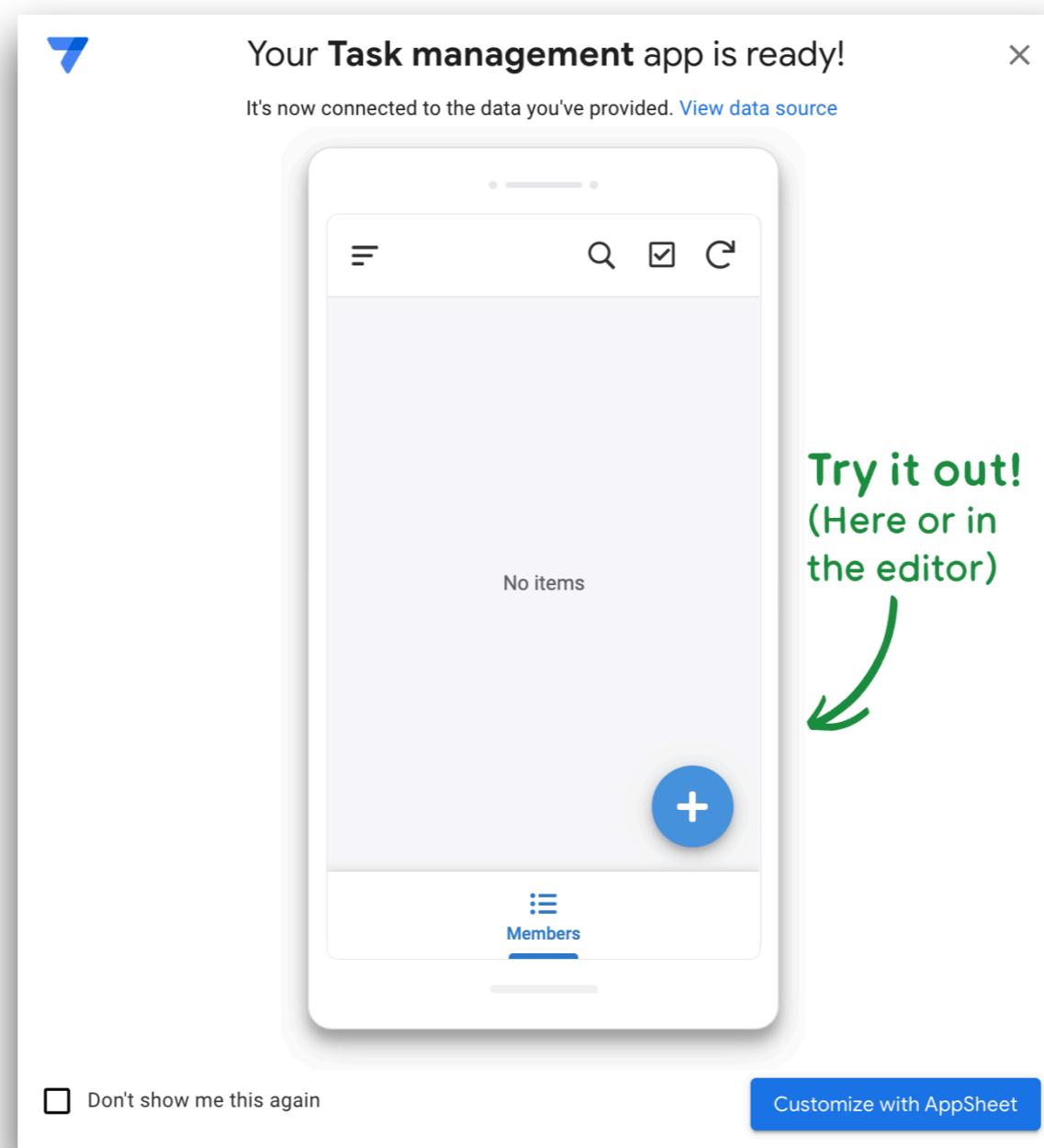
Step 4

Choose your data (working with Google sheet)



Step 5

Customize your app



Manage Data

Data

Task management

Data Table: Members

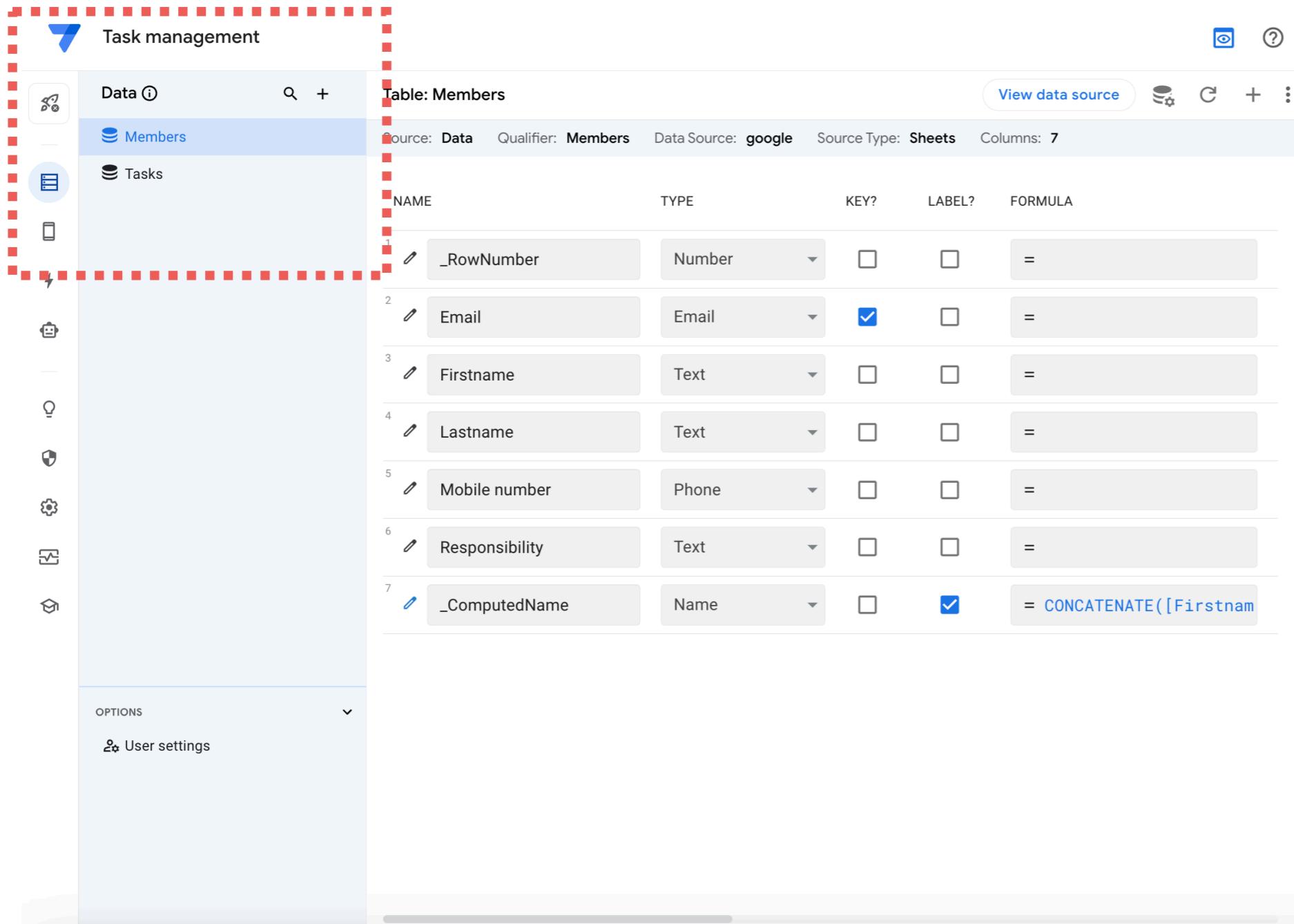
Source: Data Qualifier: Members Data Source: google Source Type: Sheets Columns: 7

View data source

	NAME	TYPE	KEY?	LABEL?	FORMULA
1	_RowNumber	Number	<input type="checkbox"/>	<input type="checkbox"/>	=
2	Email	Email	<input checked="" type="checkbox"/>	<input type="checkbox"/>	=
3	Firstname	Text	<input type="checkbox"/>	<input type="checkbox"/>	=
4	Lastname	Text	<input type="checkbox"/>	<input type="checkbox"/>	=
5	Mobile number	Phone	<input type="checkbox"/>	<input type="checkbox"/>	=
6	Responsibility	Text	<input type="checkbox"/>	<input type="checkbox"/>	=
7	_ComputedName	Name	<input type="checkbox"/>	<input checked="" type="checkbox"/>	= CONCATENATE([Firstnam

OPTIONS

User settings



Preview app

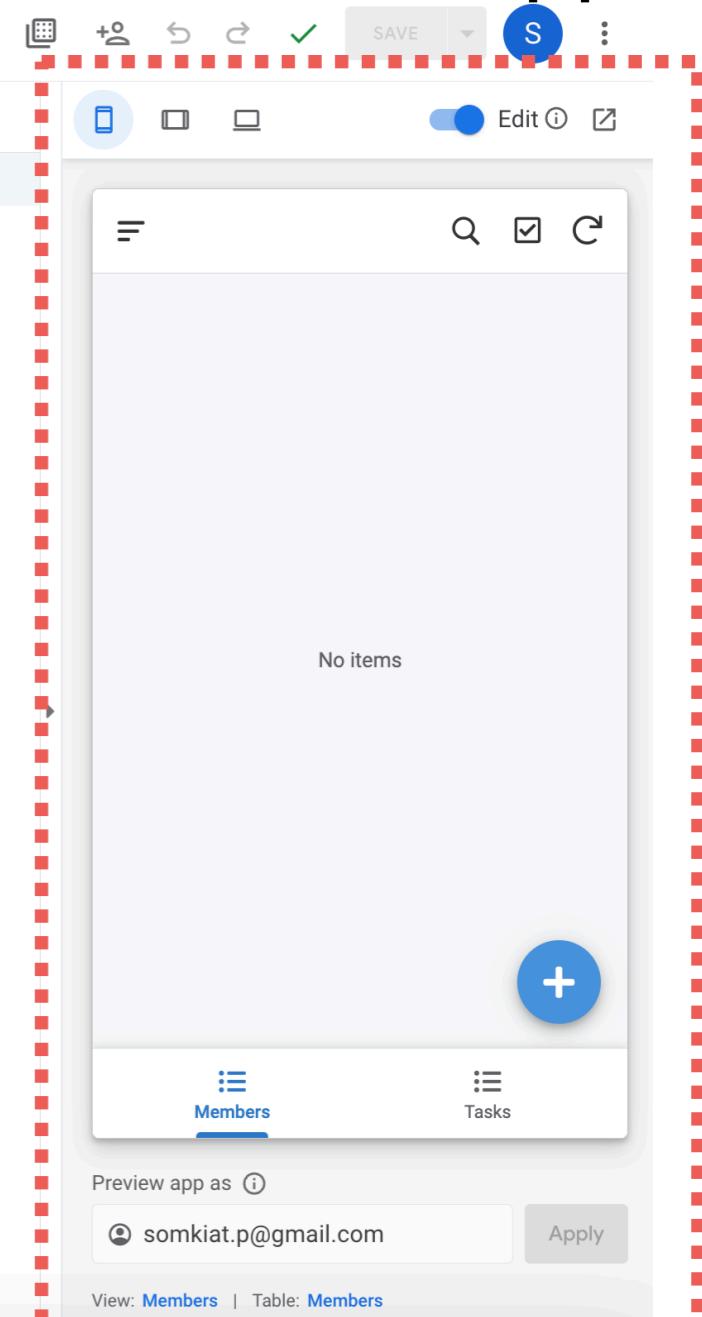
Edit

No items

Members Tasks

Preview app as somkiat.p@gmail.com

View: Members | Table: Members



Manage Data of Task

Reference to members table

Table: Tasks

Source: Data Qualifier: Tasks Data Source: google Source Type: Sheets Columns: 5

NAME	TYPE	KEY?	LABEL?	FORMULA
1 _RowNumber	Number	<input type="checkbox"/>	<input type="checkbox"/>	=
2 Task	Text	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	=
3 Members	Ref	<input type="checkbox"/>	<input type="checkbox"/>	=
4 time	Time	<input type="checkbox"/>	<input type="checkbox"/>	=
5 status	Enum	<input type="checkbox"/>	<input type="checkbox"/>	=

Manage Data of Task

Statuses of task (unassign, assign, done)

Table: Tasks

Source: Data Qualifier: Tasks Data Source: google Source Type: Sheets Columns: 5

	NAME	TYPE	KEY?	LABEL?	FORMULA
1	<input type="text"/> _RowNumber	Number	<input type="checkbox"/>	<input type="checkbox"/>	=
2	<input type="text"/> Task	Text	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	=
3	<input type="text"/> Members	Ref	<input type="checkbox"/>	<input type="checkbox"/>	=
4	<input type="text"/> time	Time	<input type="checkbox"/>	<input type="checkbox"/>	=
5	<input type="text"/> status	Enum	<input type="checkbox"/>	<input type="checkbox"/>	=

Manage Data of Task

Status of task (unassign, assign, done)

Tasks : status
type: Enum

Done ▾

Column name: status
Should match the column name in the data source

Go to display options ⓘ

Show?:
Is this column visible in the app?
You can also provide a 'Show_If' expression to decide.

Type: Column data type: Enum

Type Details

Values:

- Unassign
- Assigned
- Done

Add

Allow other values:

Auto-complete other values:

Custom Views

1. View

The screenshot shows the Zoho Creator interface for creating a new view named 'Members'. The left sidebar lists various view types: Task management, PRIMARY NAVIGATION (Members selected), MENU NAVIGATION, and REFERENCE VIEWS. The main area displays configuration options for the 'Members' view, including:

- View name:** Members
- For this data:** Members
- View type:** What kind of view this is. Options include calendar, deck, table, gallery, detail, map, chart, dashboard, form (selected), onboarding, and card.
- Position:** Where the button to access this view is located. Options include first, next, middle (selected), later, last, menu, and ref.
- View Options:**
 - Row key:** Only edit one specific row, identified by this key. Input field: =
 - Page style:** How form pages are displayed. Options: Automatic (selected), Simple, Page Count, Tabs.
 - Form style:** How form inputs are displayed. Options: Automatic (selected), Default, Side-by-side.
 - Column order:** Display columns in a different order. Options: Automatic (selected), Manual.

At the bottom right, there are 'Cancel' and 'Save' buttons, along with a preview app section for 'somkiat.p@gmail.com'.

2. View types

3. Preview app

The screenshot shows the preview app for the 'Members' view. It displays a form with fields for Email*, Firstname, Lastname, Mobile number, and Responsibility. The 'form' view type is highlighted. At the bottom, there are 'Cancel' and 'Save' buttons, along with a preview app section for 'somkiat.p@gmail.com'.

Flow of application

1. Home

The home screen features a light gray background with a top navigation bar containing a menu icon and a back arrow icon. At the bottom, there are two large, semi-transparent buttons: one labeled "Members" with a list icon, and another labeled "Tasks" with a list icon.

2. Add member

This screen is a form for adding a new member. It includes fields for "Email*" (with a placeholder " "), "Firstname", "Lastname", "Mobile number", and "Responsibility". Each field is enclosed in a blue-bordered input box. At the bottom, there are "Cancel" and "Save" buttons, with "Save" being blue and bold.

3. Add task

This screen is a form for adding a new task. It includes fields for "Task*", "Members" (a dropdown menu), "time" (a text input showing "21:20:04" with a clock icon), and "status" (a dropdown menu). At the bottom, there are "Cancel" and "Save" buttons, with "Save" being blue and bold.

Step 6

Deployment check

The screenshot shows a user interface for a deployment check. On the left, a sidebar titled "Manage" has a "Deploy" section selected, indicated by a blue background. Below it are "Versions", "Monitor", and "Collaborate & Publish". The main area is titled "Deploy" and contains a "Deployment Check" section with the message: "You should run and pass this check before you use the app in a non-prototype setting". It states: "Your app Task management is a **prototype**". A blue button labeled "Run deployment check" is present. Below this are three sections: "Branded Apps" (with the note: "You can convert your app into a custom branded mobile app in the iTunes and Google Play stores"), "Plan requirements" (with the note: "Understand why this app requires a specific subscription plan"), and "Broadcast Notifications" (with the note: "Broadcast notifications to your users"). At the bottom are two buttons: "Pause app" and "Switch to recovery mode".

Manage

Deploy

Deployment Check

You should run and pass this check before you use the app in a non-prototype setting

Your app Task management is a **prototype**.

Run deployment check

Branded Apps

You can convert your app into a custom branded mobile app in the iTunes and Google Play stores

Plan requirements

Understand why this app requires a specific subscription plan

Broadcast Notifications

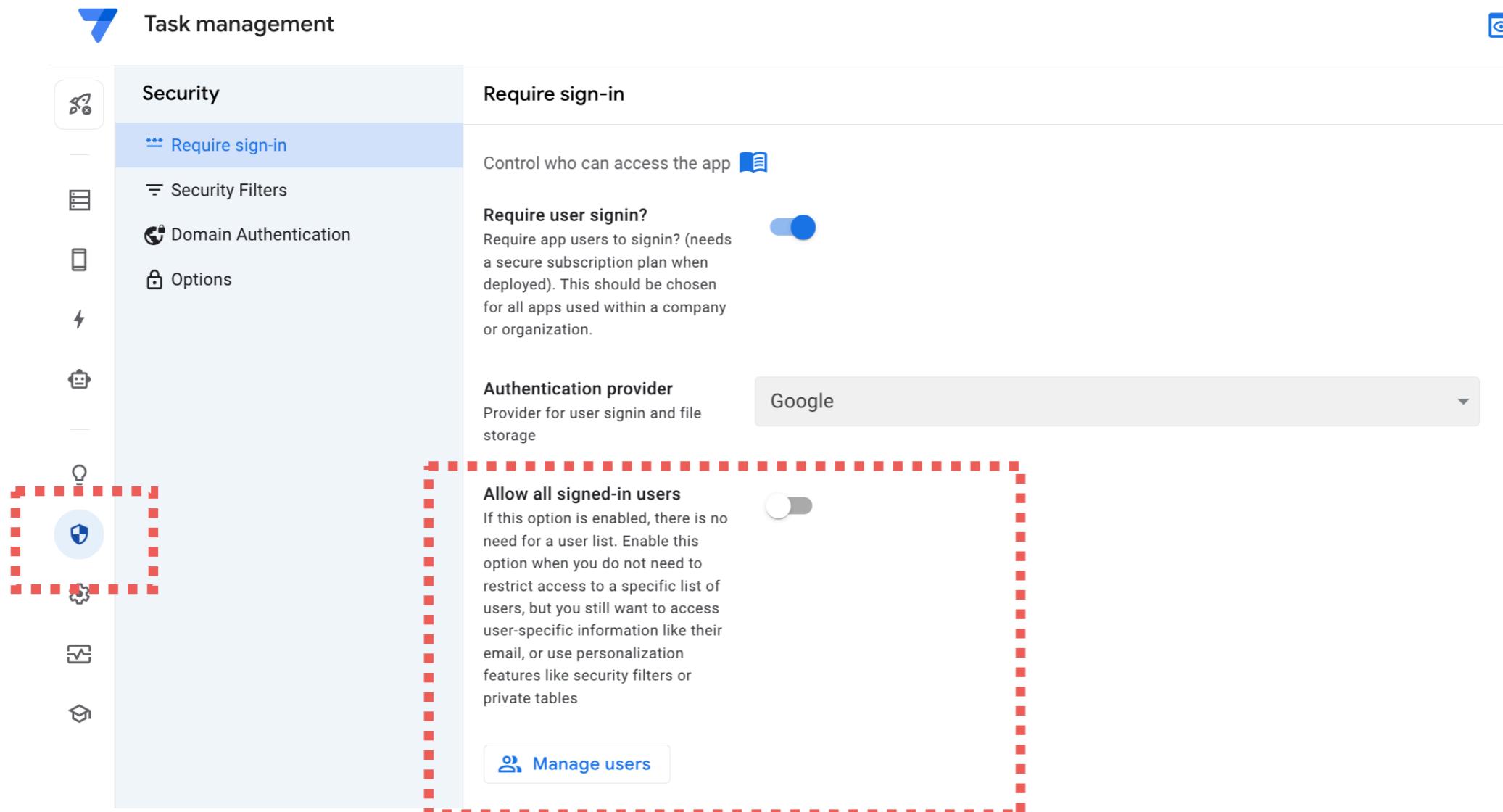
Broadcast notifications to your users

Pause app

Switch to recovery mode

Step 7

Add security to your app



The screenshot shows the 'Task management' app's security settings. On the left is a sidebar with icons for Task management, Security, Data, Automation, and Analytics. The 'Security' icon is selected and highlighted in blue. The main panel has a title 'Require sign-in' with a subtitle 'Control who can access the app'. It includes a 'Require user signin?' toggle switch (which is turned on), an 'Authentication provider' dropdown set to 'Google', and a 'Manage users' button. A red dashed box highlights the 'Allow all signed-in users' section, which contains a description and a toggle switch that is currently off.

Task management

Security

Require sign-in

** Require sign-in

Control who can access the app

Require user signin?

Require app users to signin? (needs a secure subscription plan when deployed). This should be chosen for all apps used within a company or organization.

Authentication provider

Provider for user signin and file storage

Google

Allow all signed-in users

If this option is enabled, there is no need for a user list. Enable this option when you do not need to restrict access to a specific list of users, but you still want to access user-specific information like their email, or use personalization features like security filters or private tables

Manage users

Enable signed-in users and manage users

Step 8

Shared app to others

Share app ⓘ
0 Users Invited / 0 Responded

Email address or domain...

Auth provider for app access: Google Advanced

s somkiat.p@gmail.com (you) Owner

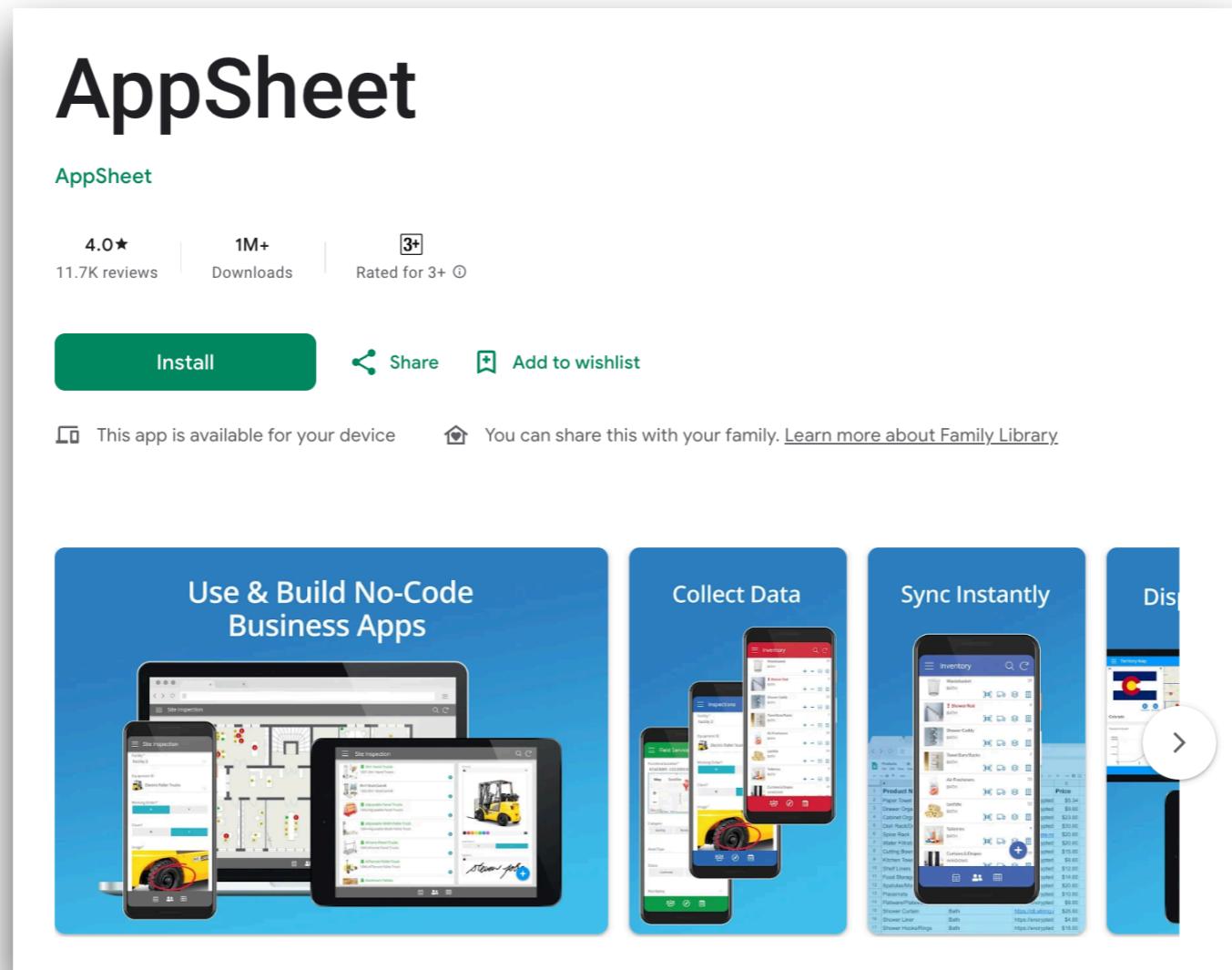
Editor Link
Allows users to access the editor
<https://www.appsheet.com/Template/AppDet>

Browser Link
Run the app directly in your browser
<https://www.appsheet.com/start/17594328-c>

Install Link
Allows mobile users to install the app on their device
<https://www.appsheet.com/newshortcut/175>

Step 9

Download AppSheet App



Working with Template

App templates

Explore a library of common app use cases that can be copied and customized, or referenced as inspiration for your specific project. Or [start with an idea](#).

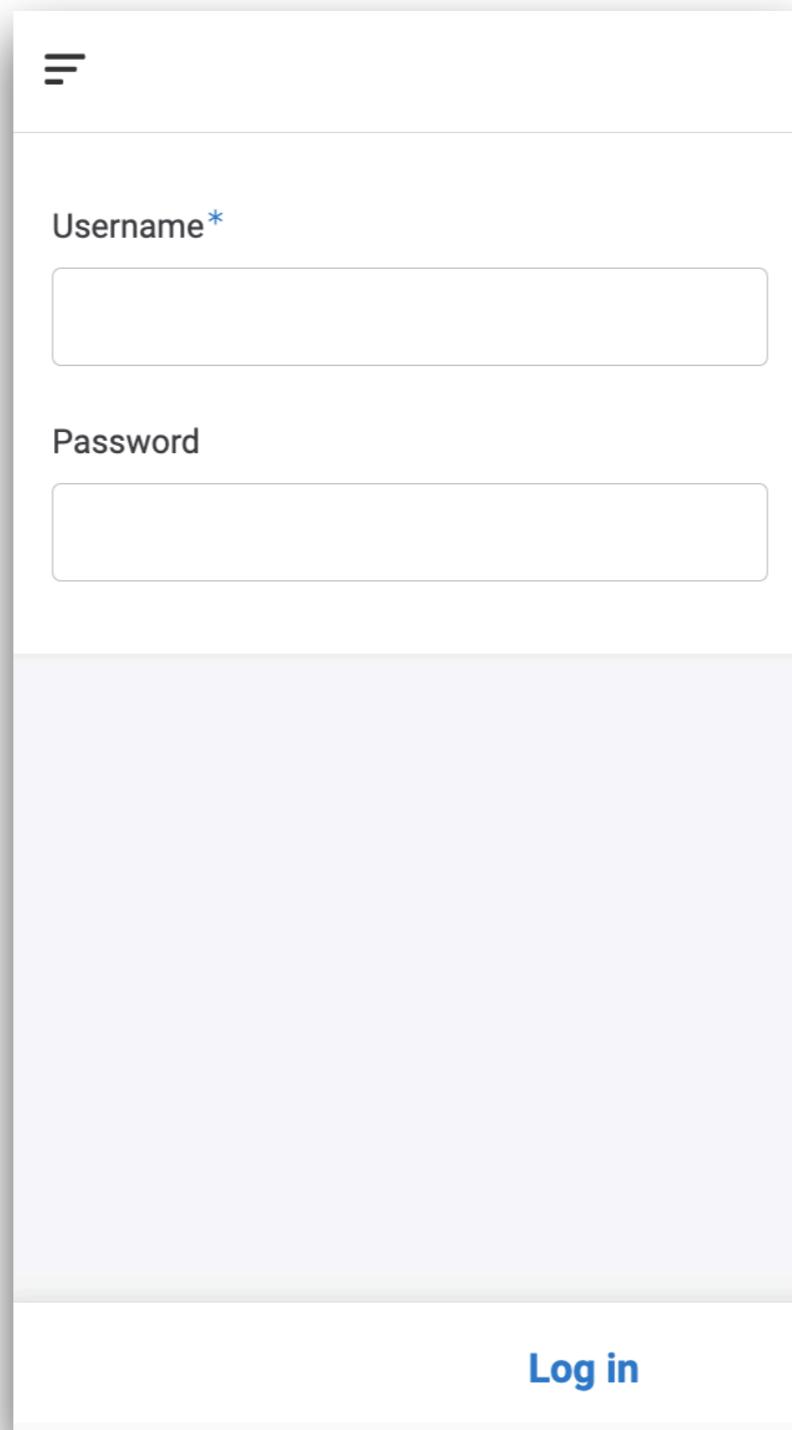
Industry Function Feature

 Simple Survey A basic app structure for creating surveys or forms	 Simple Inventory Update inventory and monitor levels
Copy Explore	Copy Explore
 Kanban Board Track projects and related tasks in a kanban dashboard	 Project Tracker Track project tasks or issues in a kanban dashboard
Copy Explore	Copy Explore
 Onboarding and Training Personalized Onboarding tool that helps manage training plan for employees	 Shift Management Shift Management Tool
Copy Explore	Copy Explore

<https://www.appsheet.com/templates>

Add login and register page ?

Login Screen ?



Step 1 :: Create DataSource

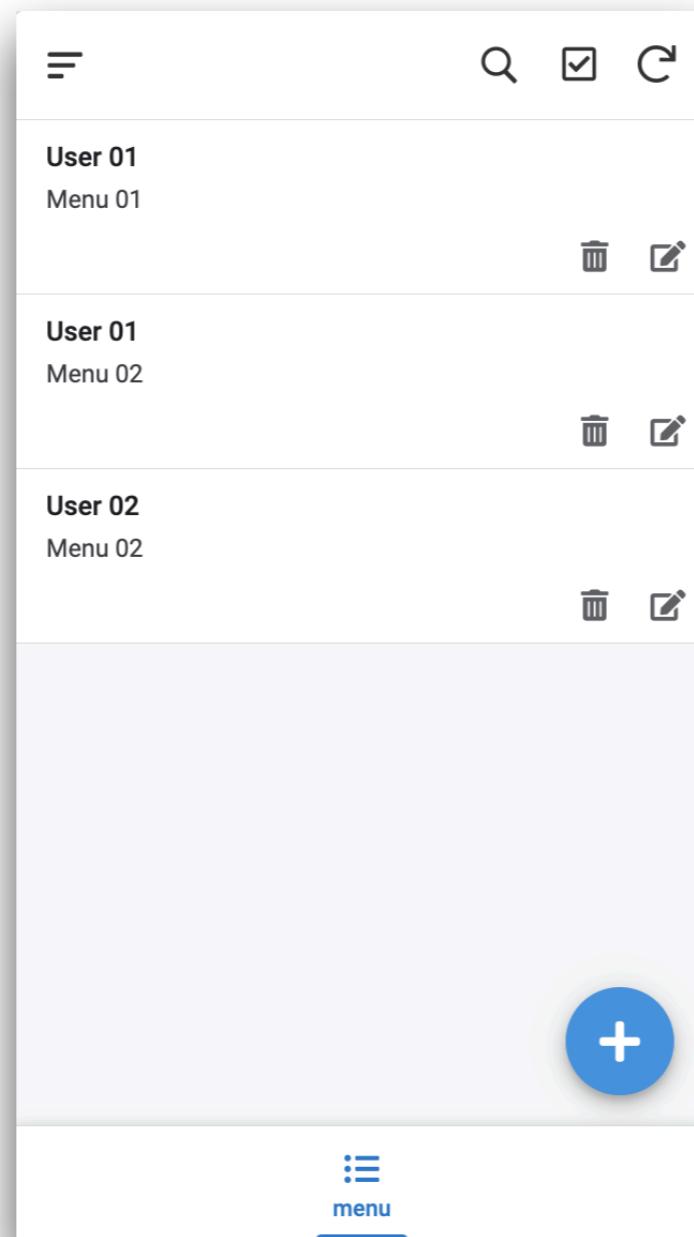
Working with Google Sheet

	A	B	C	D	E
1	Menu	UserId	Password	Name	Level
2	Menu 01	user01	pass01	User 01	Admin
3	Menu 02	user01	pass01	User 01	Admin
4	Menu 02	user02	pass02	User 02	Modulator
5					

Below the table is a navigation bar with icons for '+', '=', and 'menu' with a dropdown arrow.

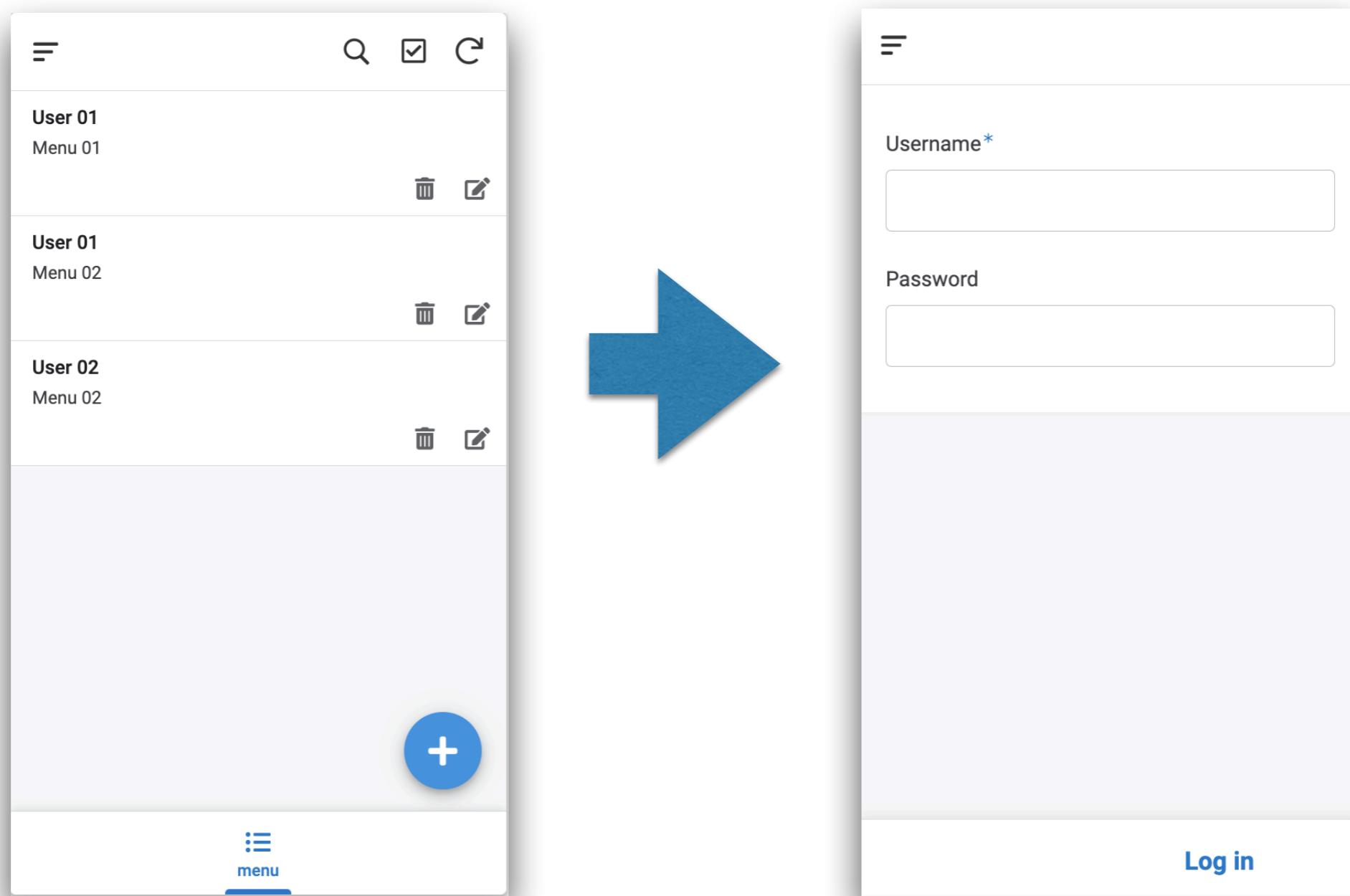
Step 2 :: Create project

Choose existing data from step 1



Step 3 :: Customize page

Show login page



Edit Data -> User Settings

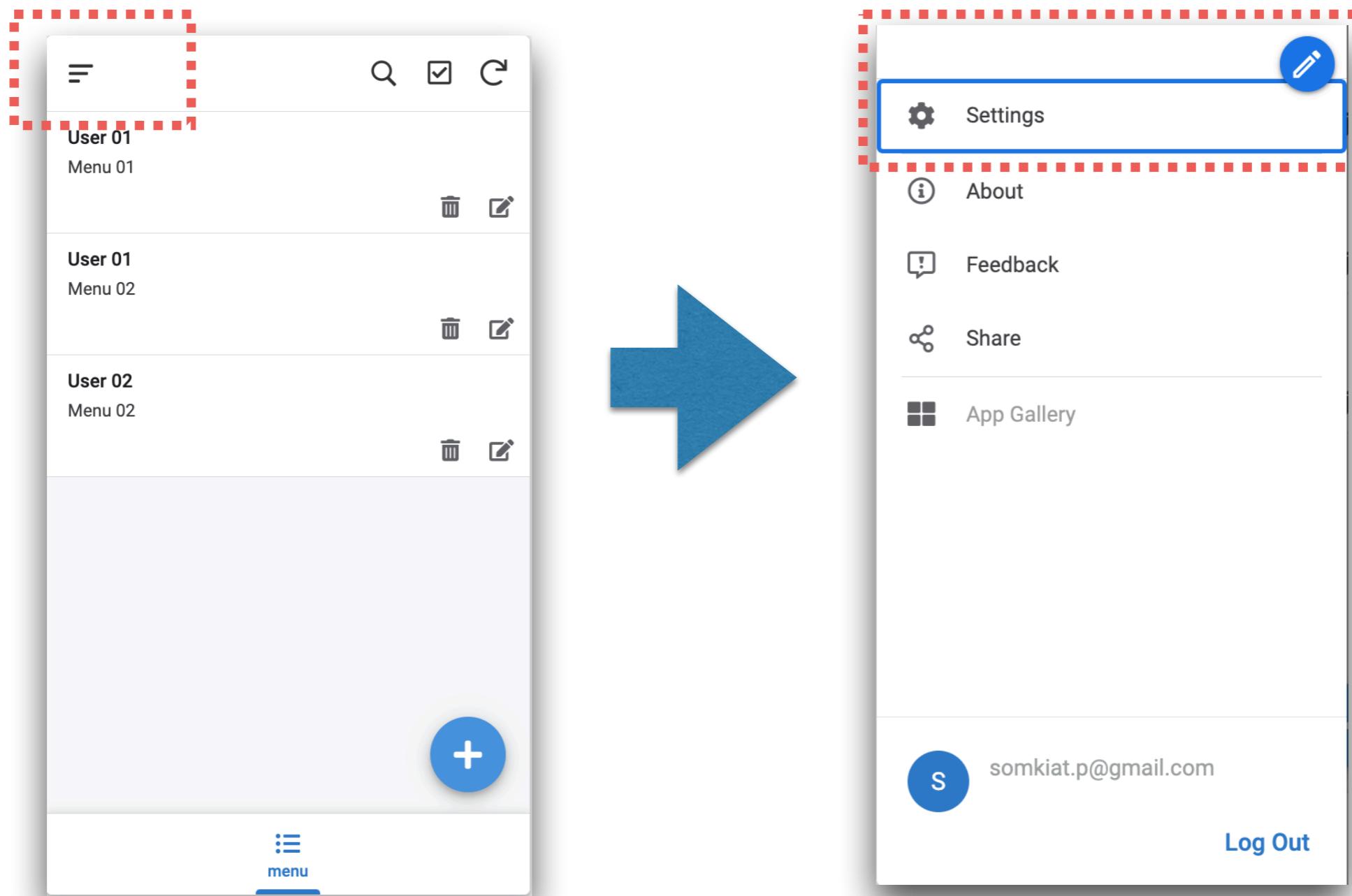
The screenshot shows the 'Data' editor interface with a sidebar containing various icons. The main area is titled 'User settings' and displays a table of 10 rows. The table has columns for NAME, TYPE, FORMULA, SHOW?, and EDITABLE?. A red dashed border highlights the entire table.

	NAME	TYPE	FORMULA	SHOW?	EDITABLE?
1	Options Heading	Show	=	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	Username	Text	=	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	Password	Text	=	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4	Name	Text	=	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Level	Text	=	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Option 5	Text	=	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	Option 6	Number	=	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8	Option 7	Text	=	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9	Option 8	Text	=	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	Option 9	Text	=	<input type="checkbox"/>	<input checked="" type="checkbox"/>

At the bottom left, there is a 'OPTIONS' section with a dropdown menu containing 'User settings'.

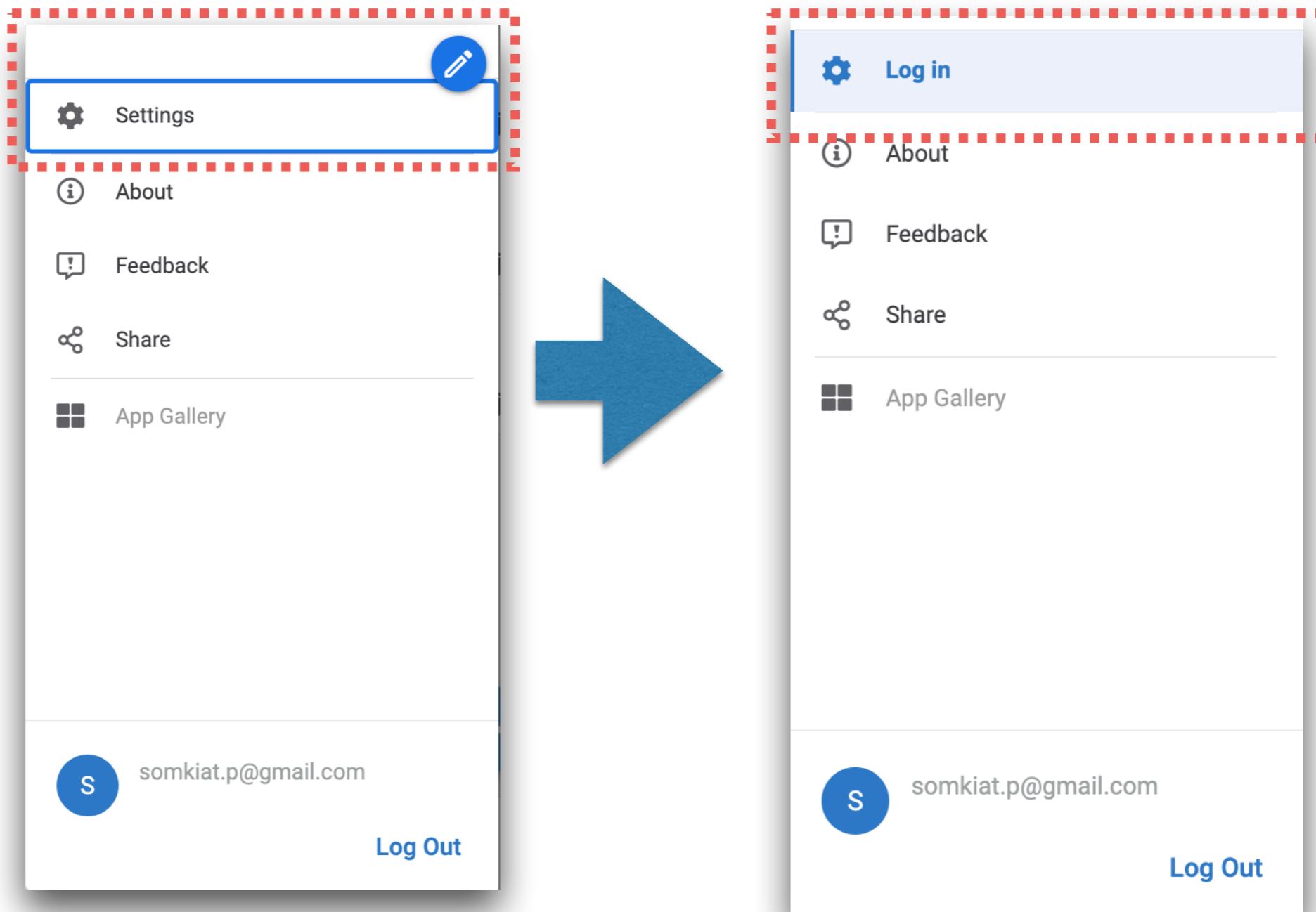
See Login page

Choose settings menu



Change label of menu

From **Settings** to **Login**



Change label of menu

Go to Views -> Settings

The screenshot shows the Zoho Creator interface for managing views. On the left, there's a sidebar with various icons and sections: Views (selected), PRIMARY NAVIGATION, MENU NAVIGATION (with 'Settings' selected), and REFERENCE VIEWS. The main area shows a view configuration for 'Settings'. It includes fields for 'Display name' (containing a formula: `= if(isnotblank(usersettings(level)), "Log out", "Log in")`), 'Icon' (a gear icon), and 'Finish view' (set to '**Automatic**'). A red dashed box highlights the 'Display name' field and its formula.

Views ⓘ

PRIMARY NAVIGATION

menu

MENU NAVIGATION

Settings

REFERENCE VIEWS

Display name

The name shown for this view in the app. Leave this empty to just use the view name. Or give it a text value (double-quoted) or a formula

= `if(isnotblank(usersettings(level)), "Log out", "Log in")`

Icon

The icon to use for this view.

gear

All Solid Regular Light

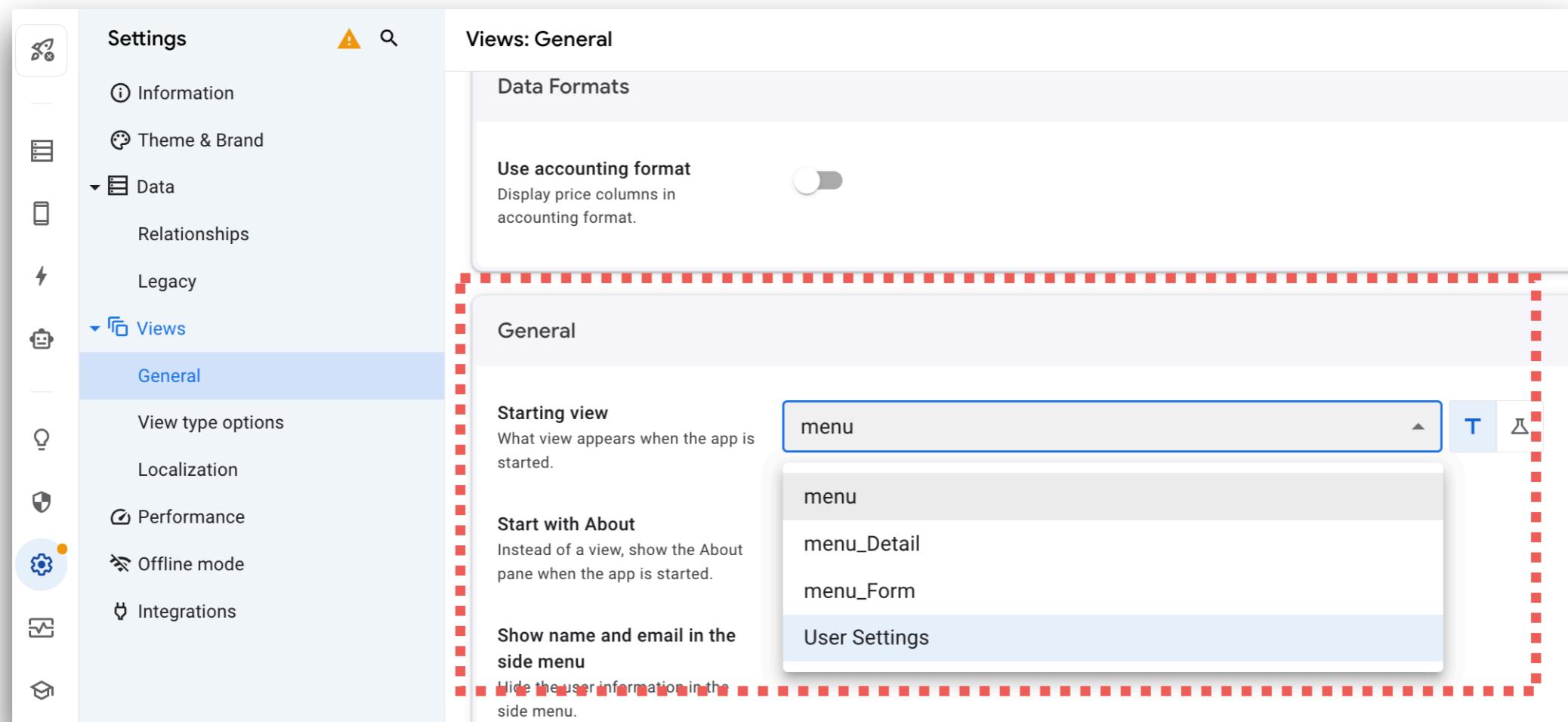
Finish view

Navigate to this view after creating a new entry.

Automatic

Set login in first page

Choose settings -> Views -> General



Change UI to login form

Views -> Settings

The screenshot shows the Zoho Creator interface for configuring a view. On the left, there's a sidebar with various icons and a list of navigation sections: Views (selected), PRIMARY NAVIGATION (menu), MENU NAVIGATION (Settings selected), and REFERENCE VIEWS. The main area is titled "Settings". It contains a "Display name" field with the formula `if(isnotblank(usersettings(level)),"Log out", "Log in")`. Below it is an "Icon" section with a gear icon and a selection dropdown showing "gear". A large grid of icons is available for selection. At the bottom, there's a "Finish view" section with the note "Navigate to this view after creating a new entry." and a dropdown set to "Automatic".

Views i

PRIMARY NAVIGATION

menu

MENU NAVIGATION

Settings

REFERENCE VIEWS

Display name

The name shown for this view in the app. Leave this empty to just use the view name. Or give it a text value (double-quoted) or a formula

Icon

The icon to use for this view.

gear

All Solid Regular Light

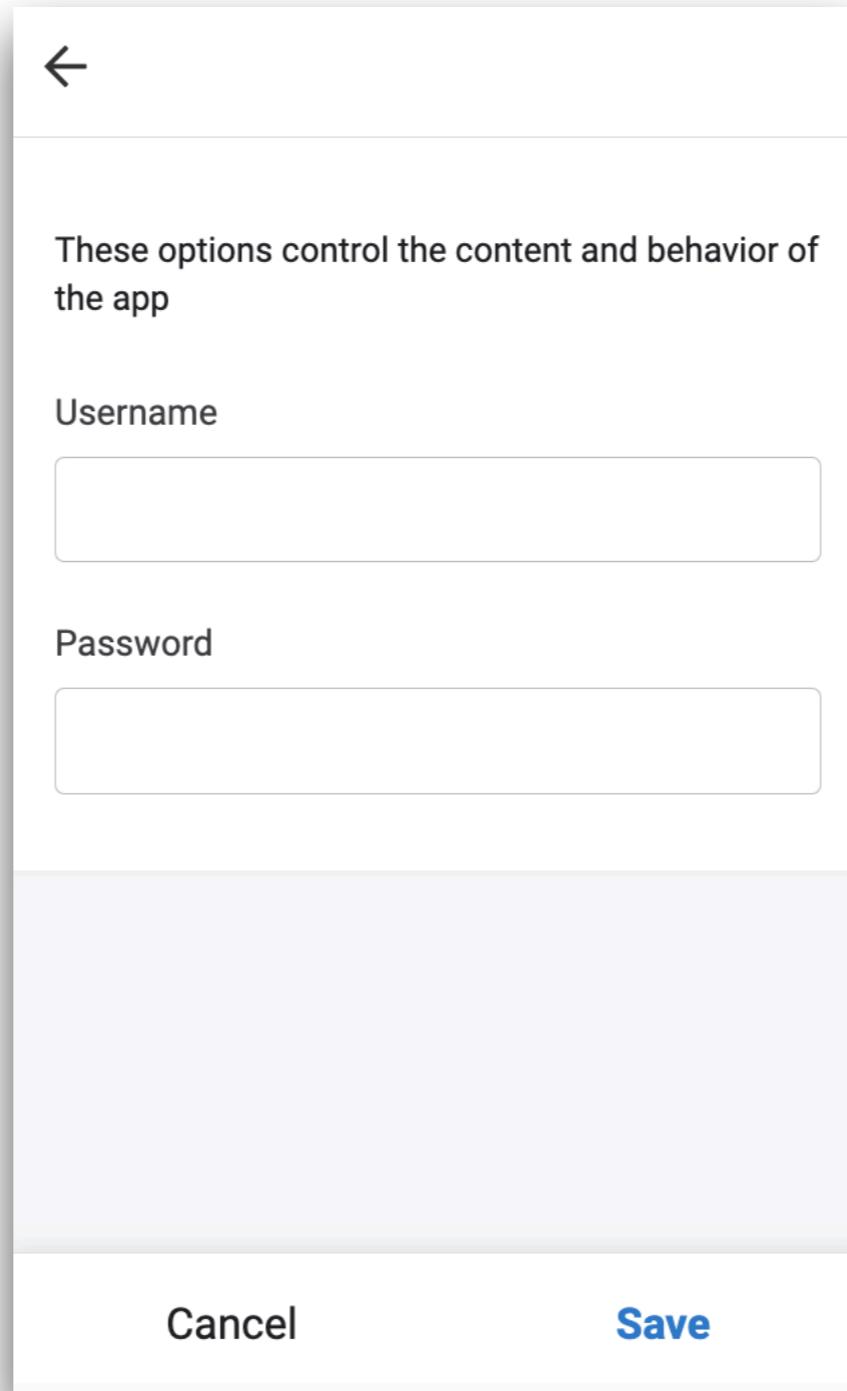
Finish view

Navigate to this view after creating a new entry.

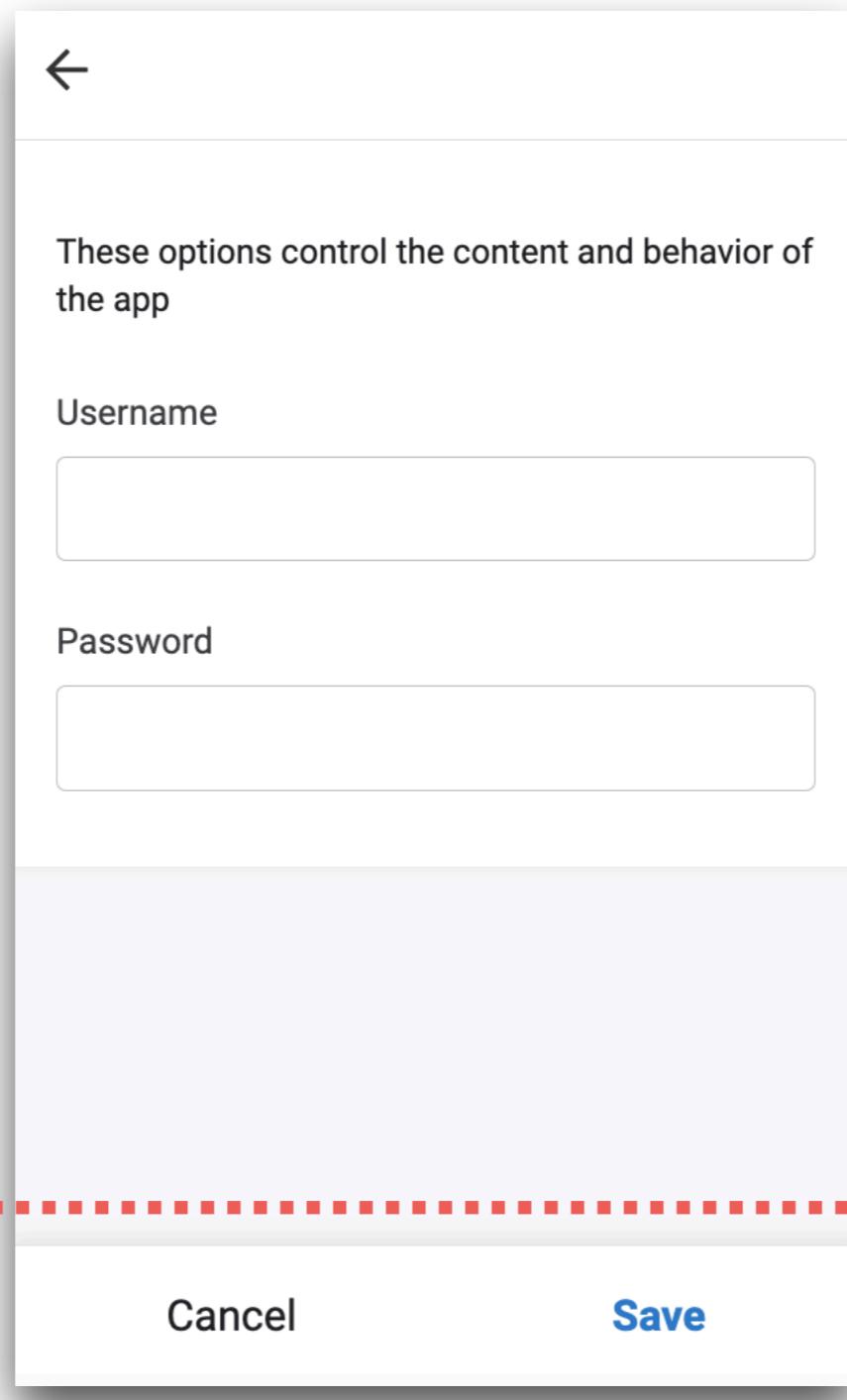
Automatic

`if(isnotblank(usersettings(level)),"Log out", "Log in")`

Result



Manage label of buttons !!



Settings -> Views -> Localization

The screenshot shows the Zoho Creator interface with the following details:

- Left Sidebar (Settings):** Includes icons for Home, Settings, Information, Theme & Brand, Data (with Relationships and Legacy), Views (selected), General, View type options, Localization (selected), Performance, Offline mode, and Integrations.
- Top Bar:** Shows the title "Views: Localization" and search/filter icons.
- Main Content Area:** Displays a list of localization entries for various view components:
 - View:** Labels "View" and "Save".
 - Submit:** Labels "Submit".
 - Reset:** Labels "Reset".
 - Cancel:** Labels "Cancel".
 - Discard:** Labels "Discard".
 - Done:** Labels "Done".
 - Clear:** Labels "Clear".
- Right Side (Actions):** For each entry, there is a blue button labeled "T" and a small triangle icon.

Change Save to Login

The screenshot shows the 'Localization' tab selected in the left sidebar under the 'Views' category. The main area displays a table titled 'Views: Localization' with two columns: 'View' and 'Text'. The 'Text' column contains conditional logic and placeholder text for various buttons and links.

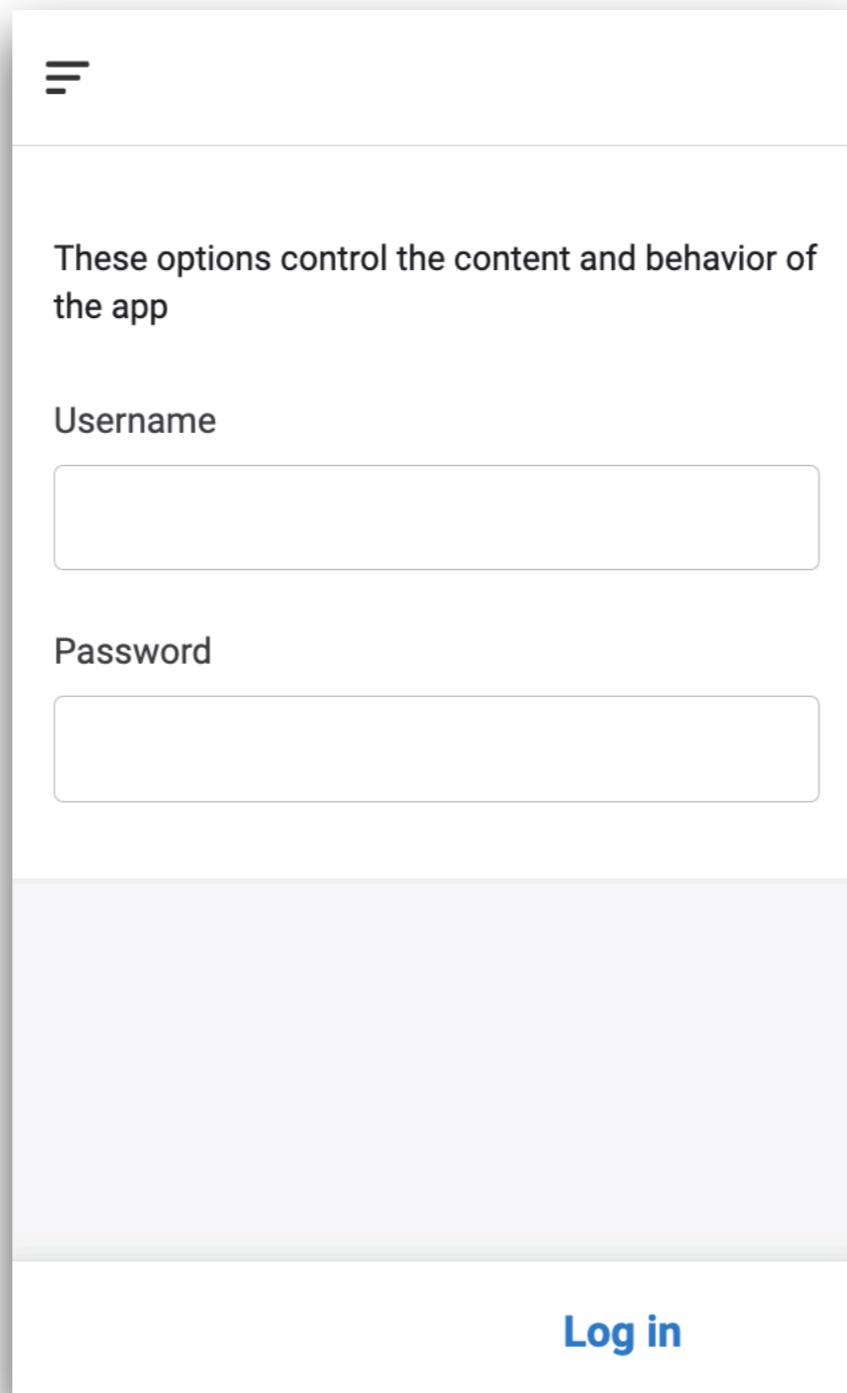
View	Text
View	If(and(context("view")="settings",isnotblank(usersettings(username))), "Log out", if(and(context("view")="settings",isblank(usersettings(username))), "Log in","Save"))
Save	Save
Submit	Submit
Reset	Reset
Cancel	Cancel
Discard	Discard
Done	Done
Clear	Clear

Hide Cancel button

The screenshot shows the Zego Low-Code Platform's Settings section. The left sidebar contains various icons and navigation items, with 'Localization' selected under the 'Views' category. The main area is titled 'Views: Localization' and lists several buttons with their localization keys and conditionals:

- View: View
- Save: Save
- Submit: Submit
- Reset: If(and(context("view")="settings",isnotblank(usersettings(username))), " ", if(and(context("view")="settings",isblank(usersettings(username))), " ","Cancel"))
- Cancel: Cancel
- Discard: Discard
- Done: Done
- Clear: Clear

Result



Step 4 :: Validate data

Username and password

Username*

Password

Log in

Edit User Settings -> Username

_Per User Settings : Username
type: Text

Done ^

Type Details

Maximum length - +

Minimum length - +

Data Validity

Valid If
Does the column contain valid data? = ✖

Invalid value error
Error message when the value is not valid. = ✖

Require?
Are users required to fill in this column before saving a row? You can also provide a 'Required_If' expression to decide. ✖

Edit User Settings -> Username

_Per User Settings : Username
type: Text

Done ^

Type Details

Maximum length - +

Minimum length - +

Data Validity

Valid If
Does the column contain valid data? = ✖

Invalid value error
Error message when the value is not valid. = ✖

Require?
Are users required to fill in this column before saving a row? You can also provide a 'Required_If' expression to decide. ✖

Data Validity of Username

Topics	Value
Valid if	AND(ISNOTBLANK([username]), IN({_thisrow_after}.[username],menu[Userid]), ISNOTBLANK([password]))
Invalid value error	IFS(NOT(IN({_thisrow_after}.[username],menu[Userid])),"username not found", isblank([password])," ")
Required	Yes

Data Validity of Password

Topics	Value
Valid if	[password]=lookup([username],"menu","Userid","Password")
Invalid value error	"Wrong Password"
Required	Yes

Result with Username

Required fields

This screenshot shows a login interface with two required fields. At the top, a message reads: "These options control the content and behavior of the app". Below it, there is a "Username*" field with a red placeholder "This entry is required". Below that is a "Password*" field with a red placeholder "This entry is required". At the bottom is a blue "Log in" button.

These options control the content and behavior of the app

Username*

This entry is required

Password*

This entry is required

Log in

User not found

This screenshot shows the same login interface as the first one, but with an error message. The "Username*" field contains "user" and the message "username not found" is displayed below it. The "Password*" field contains "1". At the bottom is a blue "Log in" button.

These options control the content and behavior of the app

Username*

user

username not found

Password*

1

Log in

Result with Password

Wrong password

These options control the content and behavior of the app

Username*

Password*

Wrong Password

Log in

More Workshop

Google Looker

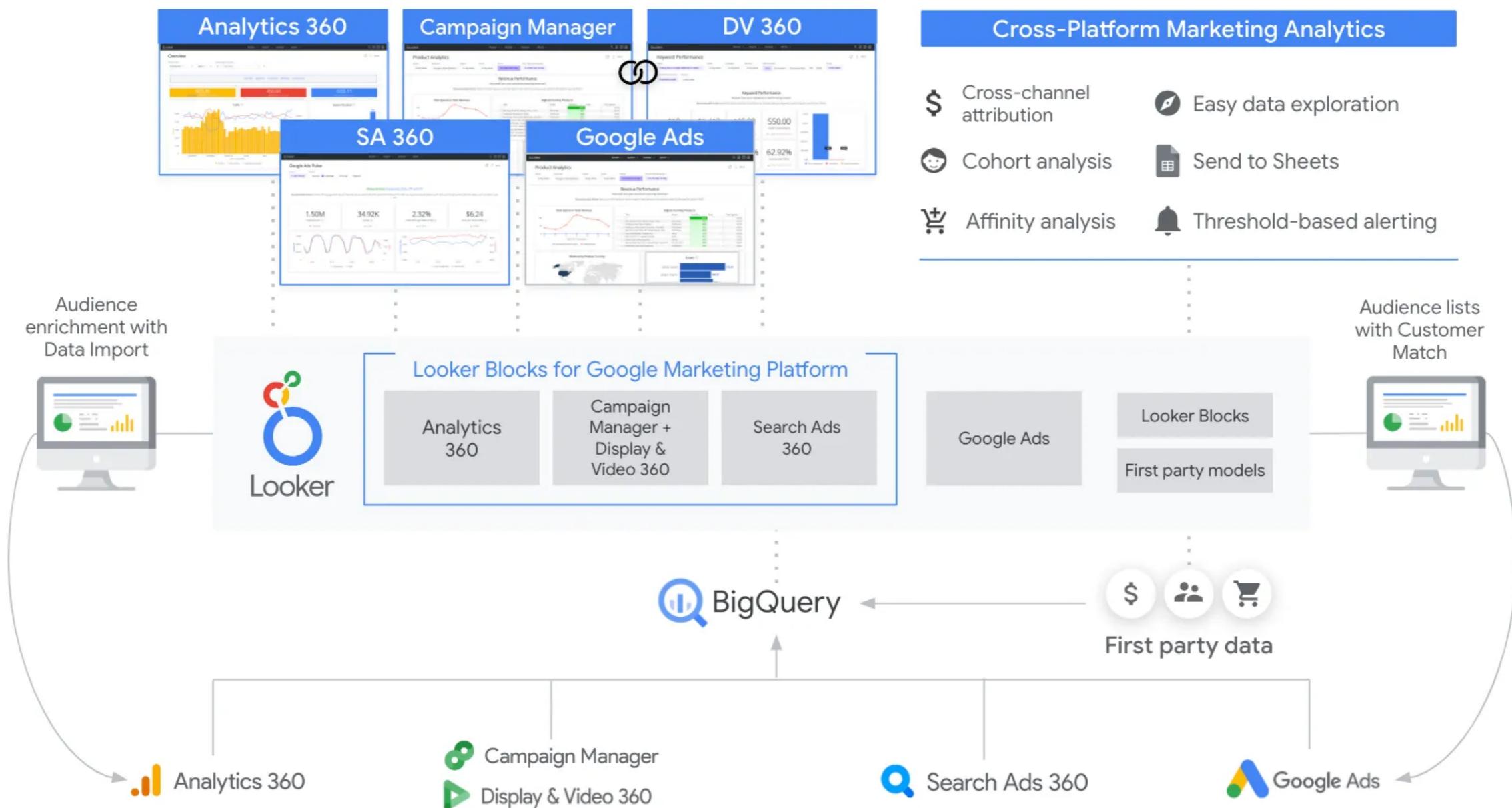
Analyze data, deliver business insight and AI



<https://cloud.google.com/looker>

Google Looker

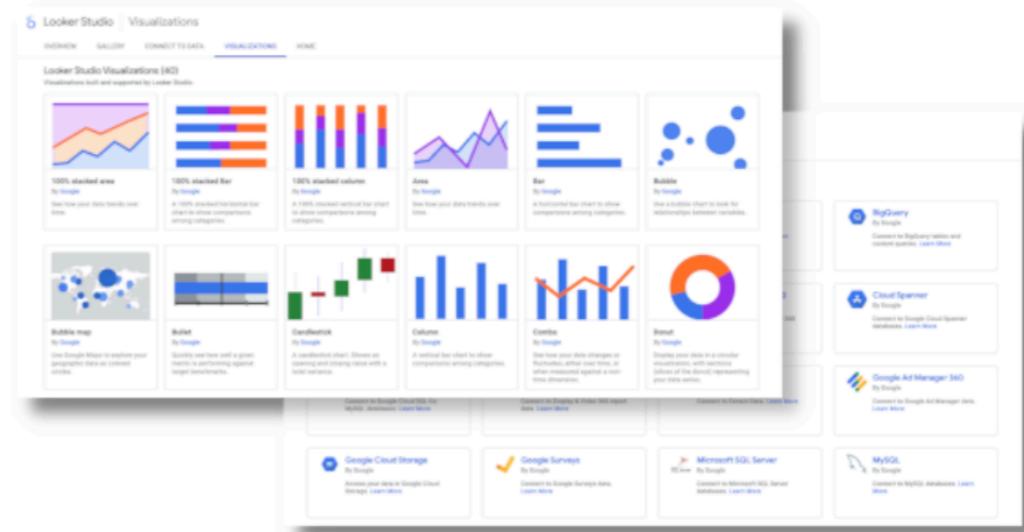
Analyze data, deliver business insight and AI



Start with Looker Studio

Connect and visualize your data

Bring the power of Looker Studio to your data.



Connect

Build a connector to enable new connections from any internet accessible data source. Browse all of the data you can already connect to.



Visualize

Create custom visualizations to tailor reports to your data. Explore new ways to visualize your data.



Integrate

Build beautiful report templates to allow users to see their data in your report. Distribute your work to customers.

[Preconfigure reports](#) [Publish your work](#)

<https://developers.google.com/looker-studio>

Connect to Data Sources

Looker Studio | Connect to Data

OVERVIEW GALLERY CONNECT TO DATA VISUALIZATIONS HOME

Access your data from 1000+ data sets from over 980 connectors.

Search connectors...

Looker Studio Connectors (21)
Connectors built and supported by Looker Studio. [Learn more](#)

 **Looker**
By Google
Connect to your Looker semantic models. [Learn More](#)

 **Google Analytics**
By Google
Connect to Google Analytics reporting views. [Learn More](#)

 **Google Ads**
By Google
Connect to Google Ads performance report data. [Learn More](#)

 **Google Sheets**
By Google
Connect to Google Sheets. [Learn More](#)

 **BigQuery**
By Google
Connect to BigQuery tables and custom queries. [Learn More](#)

 **AppSheet**
By Google
Connect to AppSheet app data. [Learn More](#)

 **File Upload**
By Google
Connect to CSV (comma-separated values) files. [Learn More](#)

 **Amazon Redshift**
By Google
Connect to Amazon Redshift. [Learn More](#)

 **Campaign Manager 360**
By Google
Connect to Campaign Manager 360 data. [Learn More](#)

<https://lookerstudio.google.com/data>

Create Visualization

Looker Studio | Visualizations

OVERVIEW GALLERY CONNECT TO DATA VISUALIZATIONS HOME

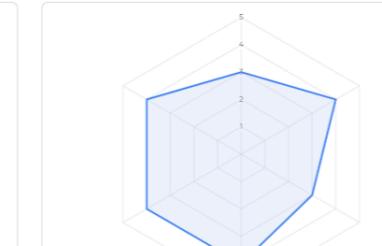
Featured Visualizations (4)
New and interesting visualizations for Looker Studio.



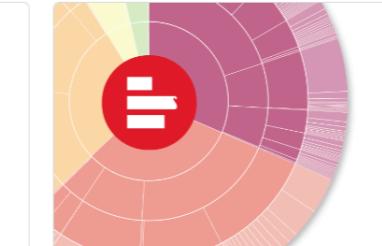
Gauge
By [Google](#)
A gauge with a dial.



Metric Funnel
By [PowerMyAnalytics](#)
Easy to configure funnel that uses up to 8 metrics.



Radar Chart
By [ClickInsight](#)
A radar chart built with Chart.js

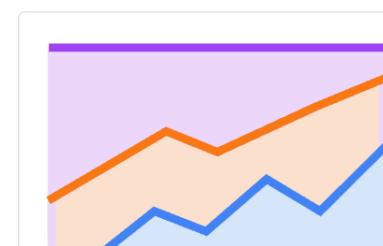


Sunburst Chart
By [Supermetrics](#)
Sunburst Visualization with drill-down option



Create your own

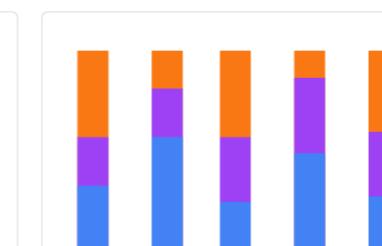
Looker Studio Visualizations (40)
Visualizations built and supported by Looker Studio.



100% stacked area
By [Google](#)
See how your data trends over time.



100% stacked Bar
By [Google](#)
A 100% stacked horizontal bar chart to show comparisons among categories.



100% stacked column
By [Google](#)
A 100% stacked vertical bar chart to show comparisons among categories.



Area
By [Google](#)
See how your data trends over time.



Bar
By [Google](#)
A horizontal bar chart to show comparisons among categories.

<https://lookerstudio.google.com/visualization>

More Tools

Airtable



Platform > Solutions > Resources > Pricing

Contact Sales

Sign up for free

Sign in

The fastest way to build apps

Empower your team to work faster and more confidently than ever before.

Watch an AI demo +

Sign up for free Contact Sales

Project Tracker / Directory

Marketing

Assets / Gallery

Onboarding

Product Ops

Sprints / Timeline

Operations

Stores / Store locations

#SKU-001

<https://www.airtable.com/>

Create from Template

What kind of app do you need?



Marketing & Creative



Product Development



Project Management



IT & Support



UX Research

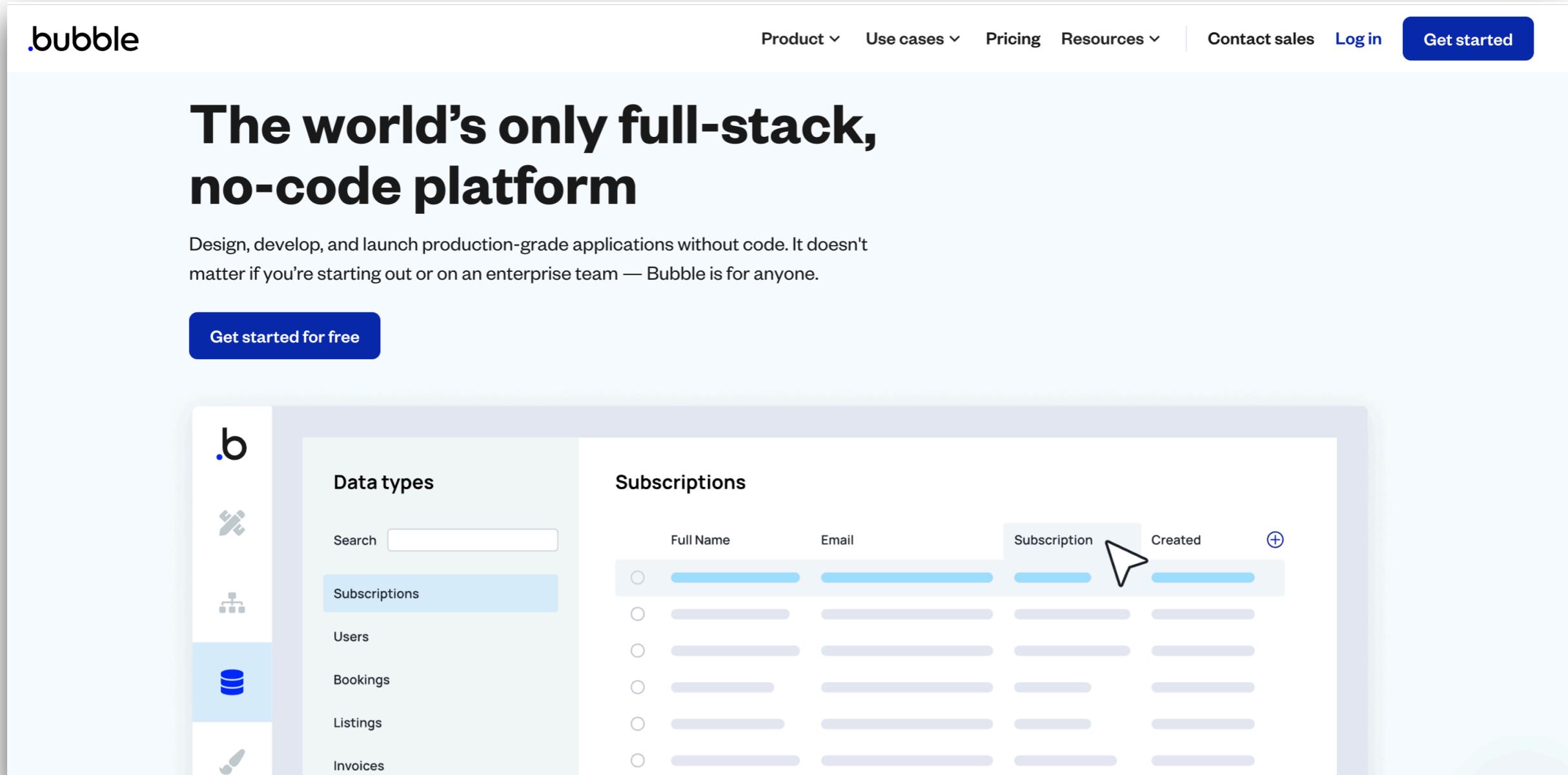
Task management app

Try by yourself

The screenshot shows a task management application interface. On the left, there is a sidebar with a title 'Task management' and a navigation menu. The menu items include 'Projects' (which is selected), 'Tasks', 'Latest Updates', 'Needs an Update', and 'Risks'. Below the menu is a button '+ Add project'. The main area is titled 'Projects / Projects' and contains a table with the following data:

Project name	Description	Start date	End date	Status	Assigned to
Project Delta	This project is for updati...	4/1/2022	7/31/2022	In Progress	-
Project Beta	This project aims to optimi...	2/1/2022	4/30/2022	Not Started	Somkiat Puisur
Project Gamma	This is a project for dev...	3/1/2022	6/30/2022	Not Started	-
Project Alpha	This is a high priority pr...	1/1/2022	3/31/2022	In Progress	Somkiat Puisur

Bubble.io



The screenshot shows the Bubble.io homepage. At the top, there's a navigation bar with links for Product, Use cases, Pricing, Resources, Contact sales, Log in, and Get started. The main headline reads "The world's only full-stack, no-code platform". Below it, a sub-headline says "Design, develop, and launch production-grade applications without code. It doesn't matter if you're starting out or on an enterprise team — Bubble is for anyone." A "Get started for free" button is visible. The central part of the page features a "Data types" sidebar with icons for .b, %, ⚡, and a database. It lists "Subscriptions" (which is highlighted in blue), "Users", "Bookings", "Listings", and "Invoices". To the right is a "Subscriptions" table with columns for Full Name, Email, Subscription (with a cursor icon pointing to it), and Created. There's also a plus sign (+) icon.

<https://bubble.io/>

Webflow



Product ▾ Solutions ▾ Resources ▾ Enterprise Pricing

Log in Contact sales

Get started — it's free

Build with the power of code — without writing any

Take control of HTML, CSS, and JavaScript in a visual canvas. Webflow generates clean, semantic code that's ready to publish or hand to developers.

Start building

<https://webflow.com/>

Start with template

Choose a template

Category ▾ Free & paid ▾

Portfolio Starter | Free
Portfolio

Business Starter | Free
Business

Store Starter | Free
Business

Momentum | Free
Marketing

Velocity

Acme Outdoors

Spoon

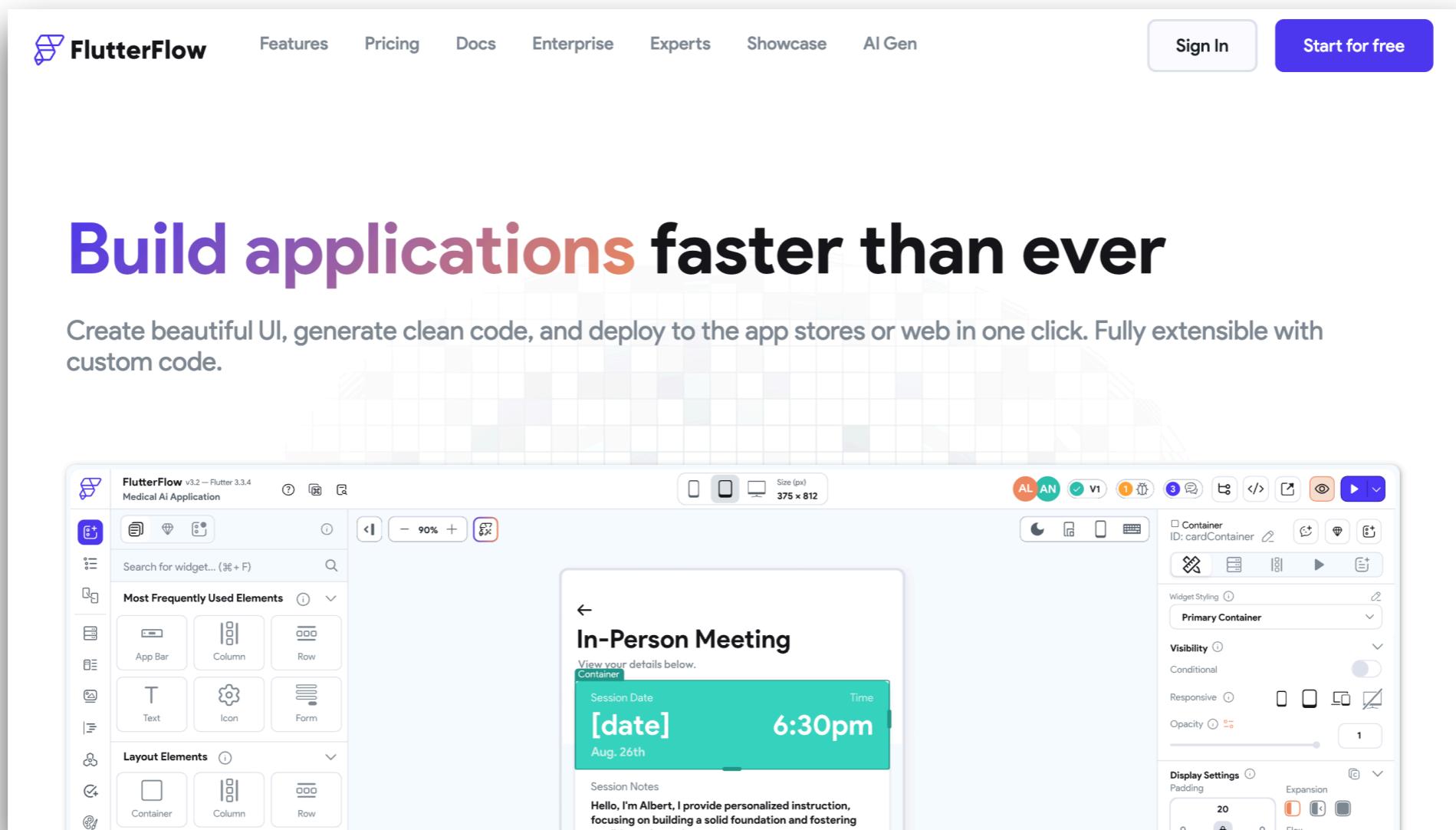
flux

See more templates in Marketplace ↗

<https://webflow.com/>

Flutter Flow

Develop mobile app with Flutter



<https://flutterflow.io/>

Notion

Notion Docs Wikis Projects AI Calendar Download Pricing Request a demo Log in Get Notion free

Write, plan, organize, play

Turn ideas into action with Notion's AI-powered workspace.

[Get Notion free](#) [Request a demo →](#)

The screenshot displays the Notion AI workspace. On the left, there's a large illustration of a brain with various icons like a gear, a checkmark, and a star inside it. To the right of the brain is a desktop computer interface showing a 'Acme Labs' page. This page includes sections for 'Company' (Mission, vision, values; Office manual; Employee directory), 'Locations' (London, New York, Paris), and 'Teams' (Engineering, Design). An 'Ask AI' feature is also present. To the right of the desktop is a mobile phone interface showing the same 'Acme Labs' page. A large black circle on the far right contains icons for a document, a paper airplane, and a moon, symbolizing productivity and play.

<https://www.notion.so/>

Canva

Easy to create presentation

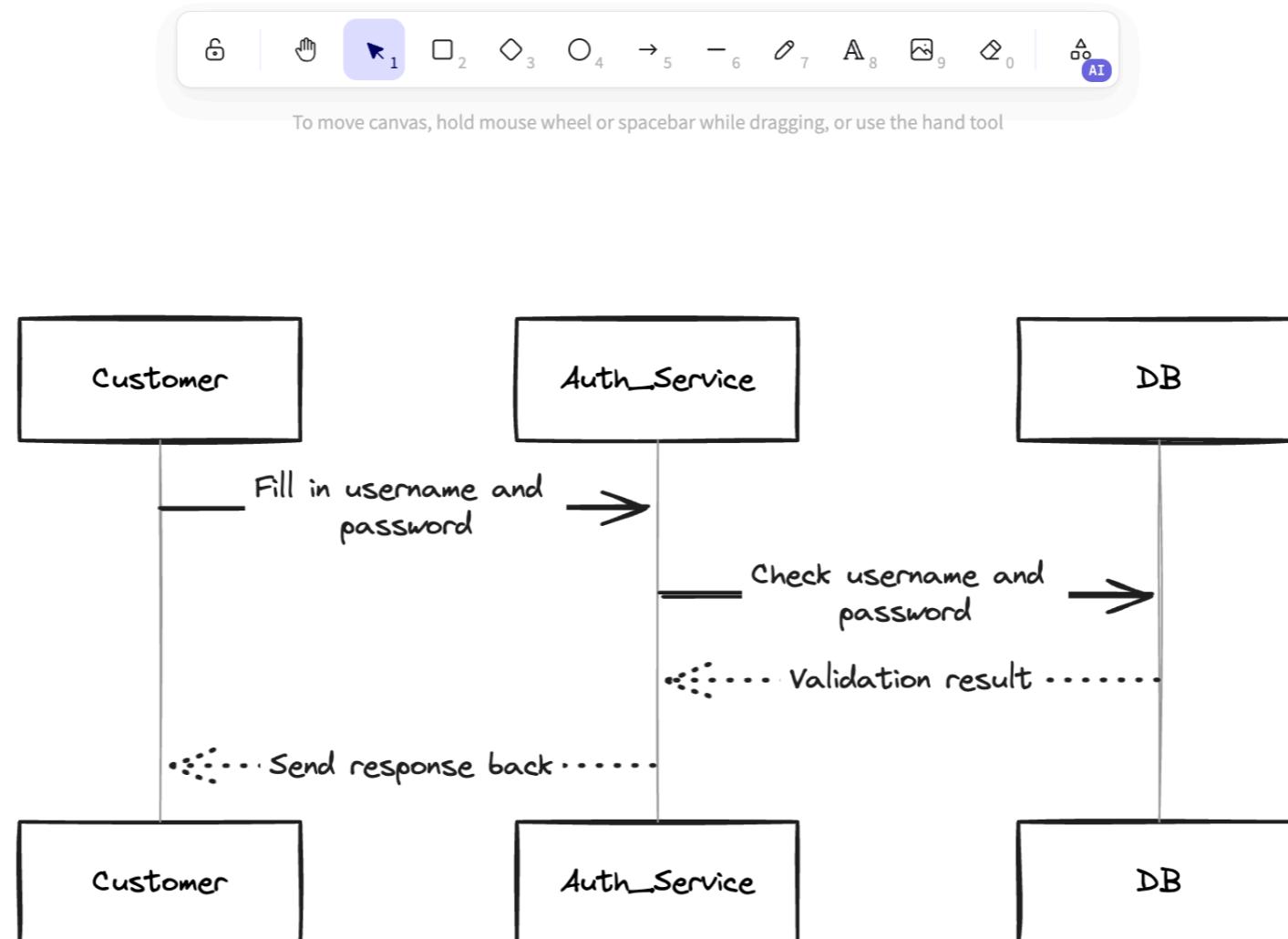
The image displays a grid of 15 different Canva design templates. The templates are arranged in three rows: the first row has four items, the second row has five items, and the third row has six items. The designs include:

- Pitch Deck: A dark blue template featuring a person presenting on a laptop.
- REAL ESTATE FOR SALE: A purple template showing a modern house with interior room counts (Living Room, Dining Room, 2 BedRooms, Kitchen).
- Annual Report: A purple template with a circular image of a city skyline and text for the years 2025-2030.
- INTERIOR DESIGN: An orange template showing a living room interior.
- MINIMALIST PHOTOGRAPHY: A white template featuring a minimalist photograph of a vase with dried flowers.
- INTERNATIONAL MOUNTAIN DAY: A teal template with a photograph of a mountain landscape.
- Time moves AND OPPORTUNITIES PASS: An orange template featuring a clock face.
- JUST LISTED: An orange template showing a house exterior and contact information for Jade Hooligan.
- Valla: A blue template featuring a person speaking on a phone.
- Creative MANAGEMENT FOR SMALL BUSINESSES: A dark blue template featuring a person working at a desk.
- season ender sale: A blue template featuring a woman's face and a pink circle.
- WEBINAR: A teal template featuring a coffee cup icon.
- This Week's NEW DRINKS: An orange template featuring a cocktail with a lime wedge.

<https://www.canva.com/>

Excalidraw

Easy to create diagram



<https://excalidraw.com/>

Make

Create automated workflow

[Product](#)[Solutions](#)[Pricing](#)[Resources](#)[Partners](#)[Log in](#)[Get started free](#)

Align teams #withMake

From tasks and workflows to apps and systems, build and automate anything in one powerful visual platform.

[Get started free](#)

- ✓ No credit card required
- ✓ No time limit on Free plan

<https://www.make.com/en>

Low code for Testing

Low code for Testing

Challenges in Traditional Automation Testing



Traditional automation tools like Selenium are difficult to use

40-60%

of the total automation effort goes into script maintenance.

50%

nearly 50% of test automation projects fail due to inadequate planning and a lack of skilled resources.

30%

About 30% of automation issues arise from the complexities in managing and maintaining test data.

8/10

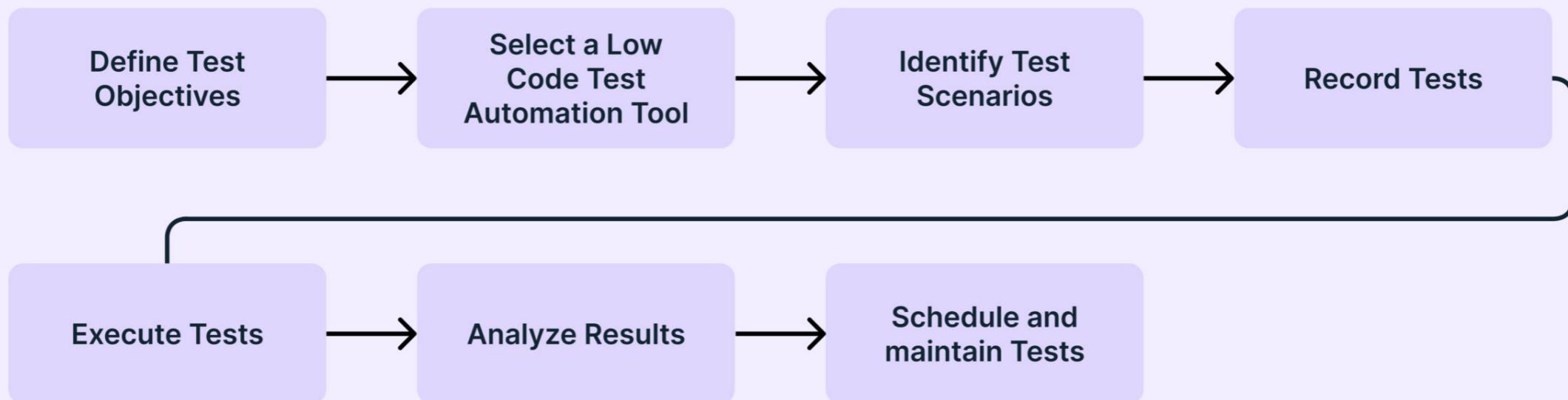
8/10 manual testers cannot code, leading to a requirement to hire skilled automation testers.

Who should perform ?

Manuel Tester and QA
Developer
Non-technical

Process

Low Code Automation Testing Process



Tools



CHROME RECORDER
RECORD, REPLAY AND MEASURE
USER FLOWS



POSTMAN



Selenium IDE
Open Source record and playback test
automation for the web.

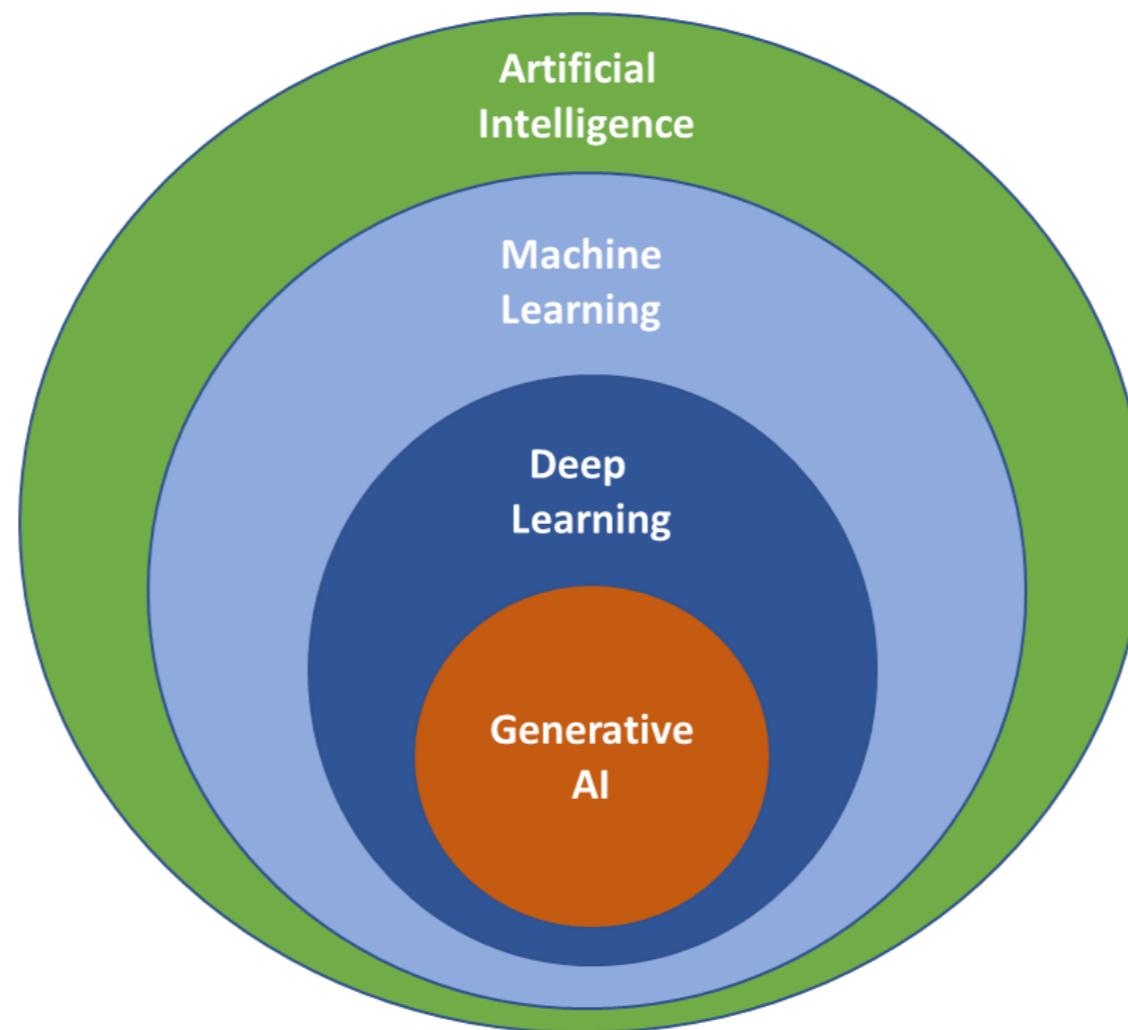


Katalon

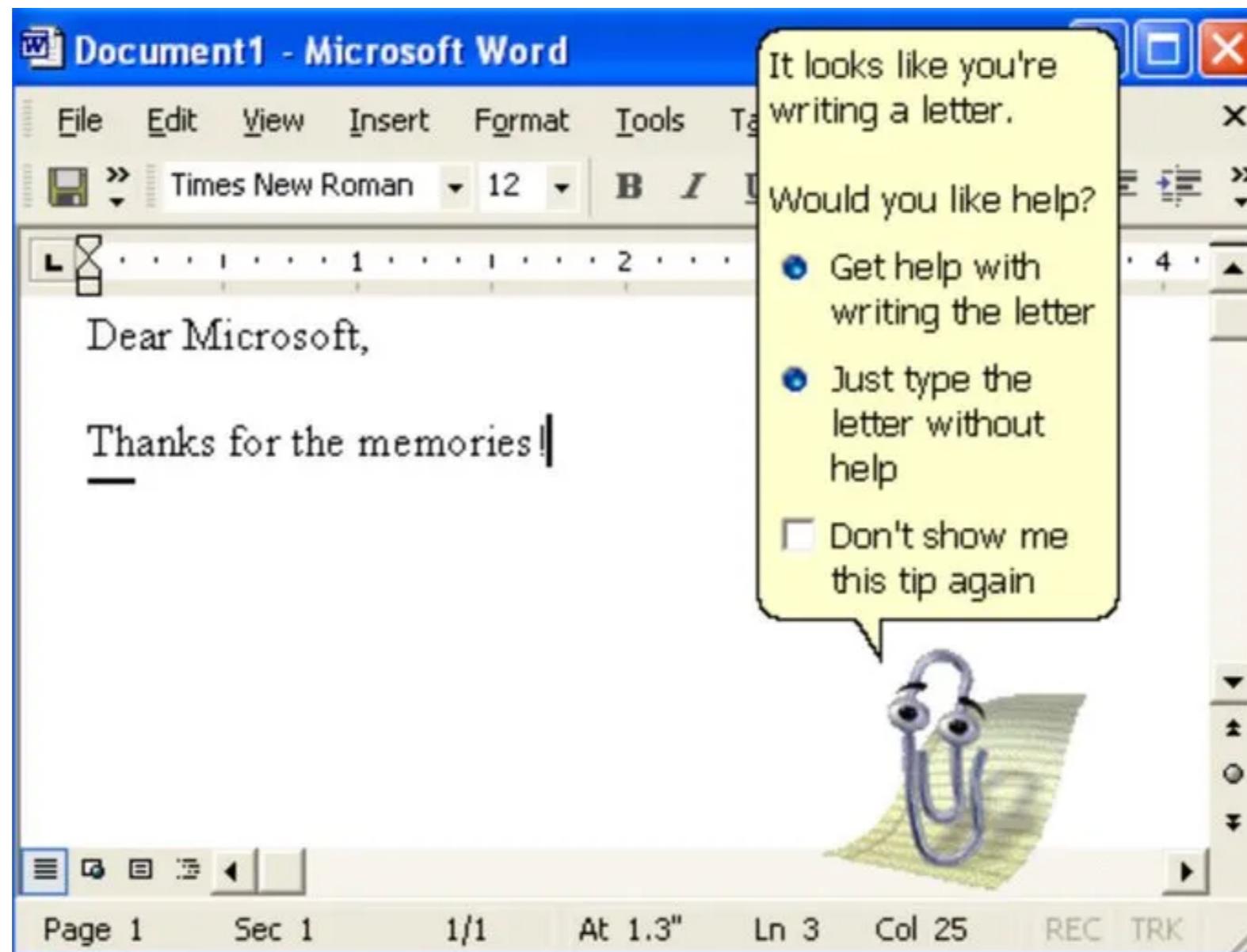


Playwright

Generative AI



Generative AI (GenAI)



Generative AI (GenAI)

Days before OpenAI



Days after OpenAI



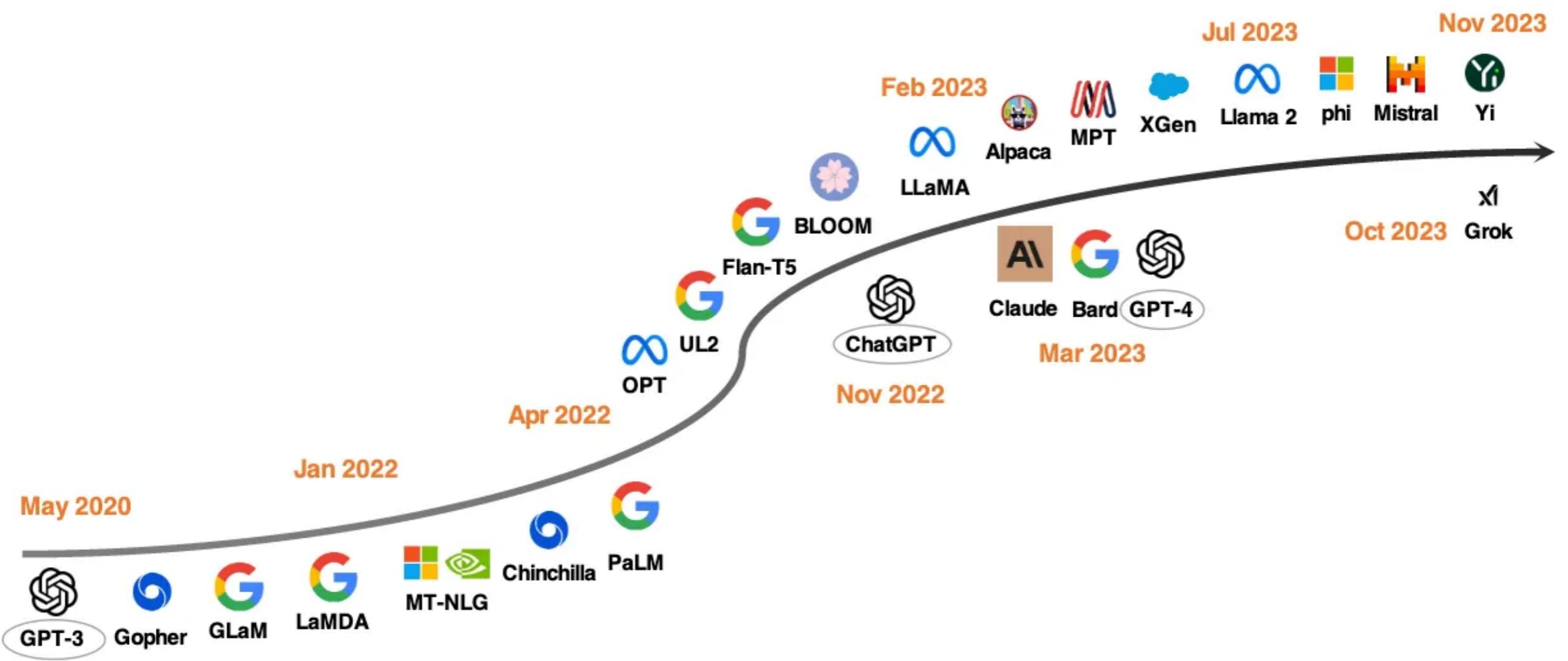
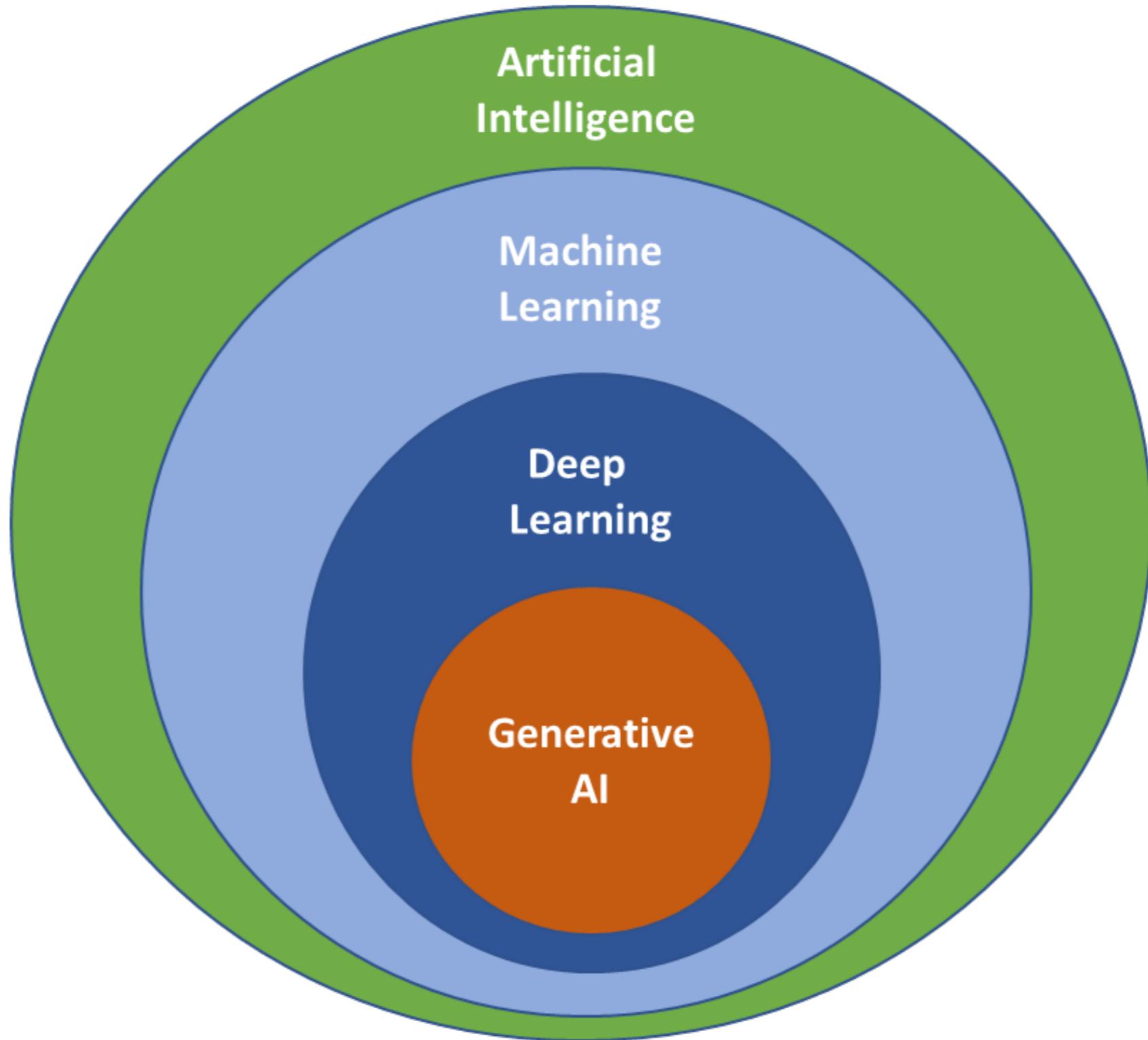
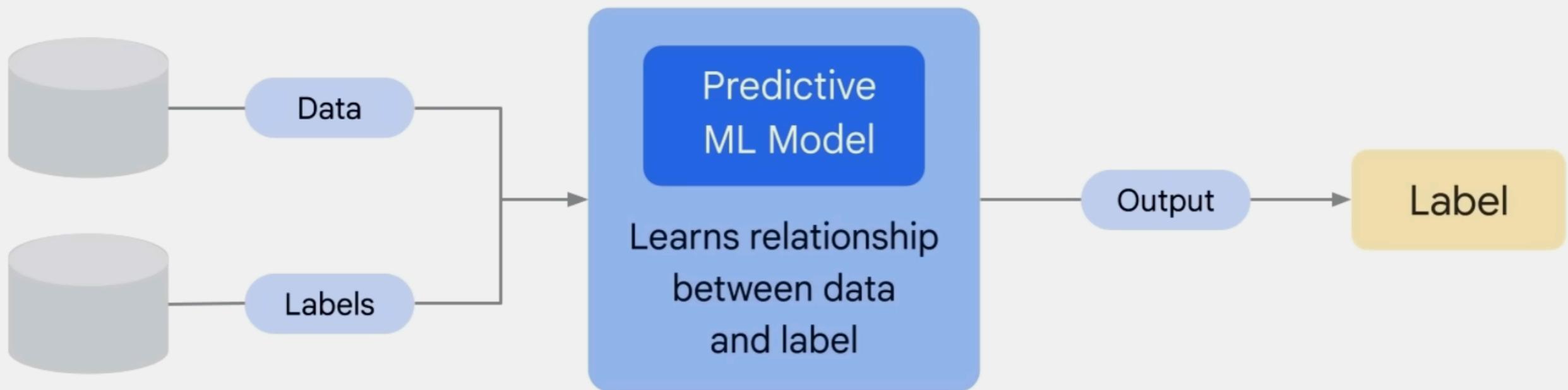
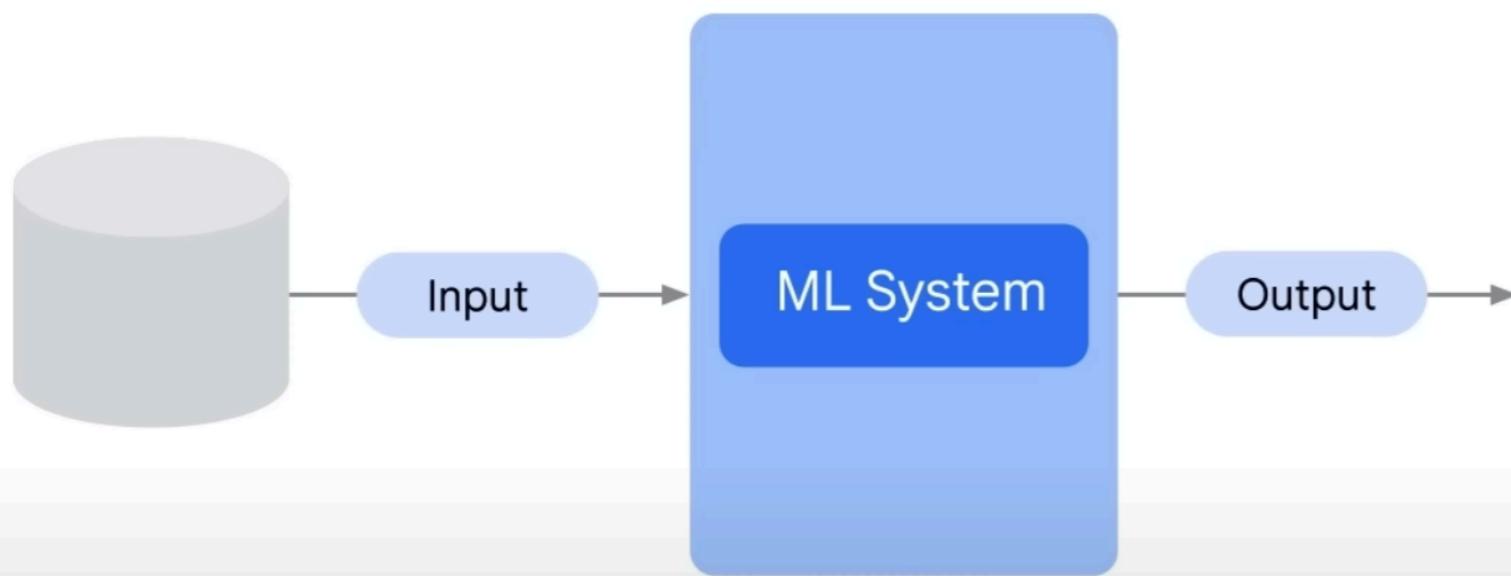


Figure 3: LLM development timeline. The models below the arrow are closed-source while those above the arrow are open-source.

<https://arxiv.org/abs/2311.16989>







Not GenAI when `y` is a:

- Number
- Discrete
- Class
- Probability

Is GenAI when `y` is:

- Natural language
- Image
- Audio

Application

Infrastructure

Model

Application Tool chains

Global Generative AI Landscape

The Global Generative AI Landscape 2024

AIport

North America

MULTIMODAL	CHATBOTS
Adobe Firefly, Gemini, Meta, perplexity	Anthropic, glean, character.ai, YandexART, frame.ai, deepgenomics, OBSERVE-AI, Meta
TEXT	IMAGE
NVIDIA, AssemblyAI, intuit, ImageFX	OpenAI SORA, Rephrase.ai
AUDIO	VIDEO
Suno, soundful, ElevenLabs	Speechify, PlayHT, USICO, VOICEMOD
GAMES	RUBLOX
CODE	BUSINESS INTELLIGENCE
mosaicML, codemaker AI	LEVELAI, layer6

South America

IMAGE
MUTT DATA

Europe

MULTIMODAL	CHATBOTS	TEXT
runway, YandexART	MISTRAL AI, LightOn, YandexGPT	ultimate.ai, ALEPH ALPHA, Kafkai, AdCreative, lang.ai, contents.com, clearword, SMARTLY.IO
IMAGE	stability.ai	stability.ai
READY TO USE	stability.ai	stability.ai, blackshark.ai
CODE	AUDIO	BUSINESS INTELLIGENCE
stability.ai	ACCELERAT.AI, USICO	COLUCINITY, lizard, DeepMind, SYNTHO

Africa

CHATBOTS	AUDIO	BUSINESS INTELLIGENCE
AI21 studio, CHAI, Tymely, Tencent	VinBase	SAMSUNG

Asia

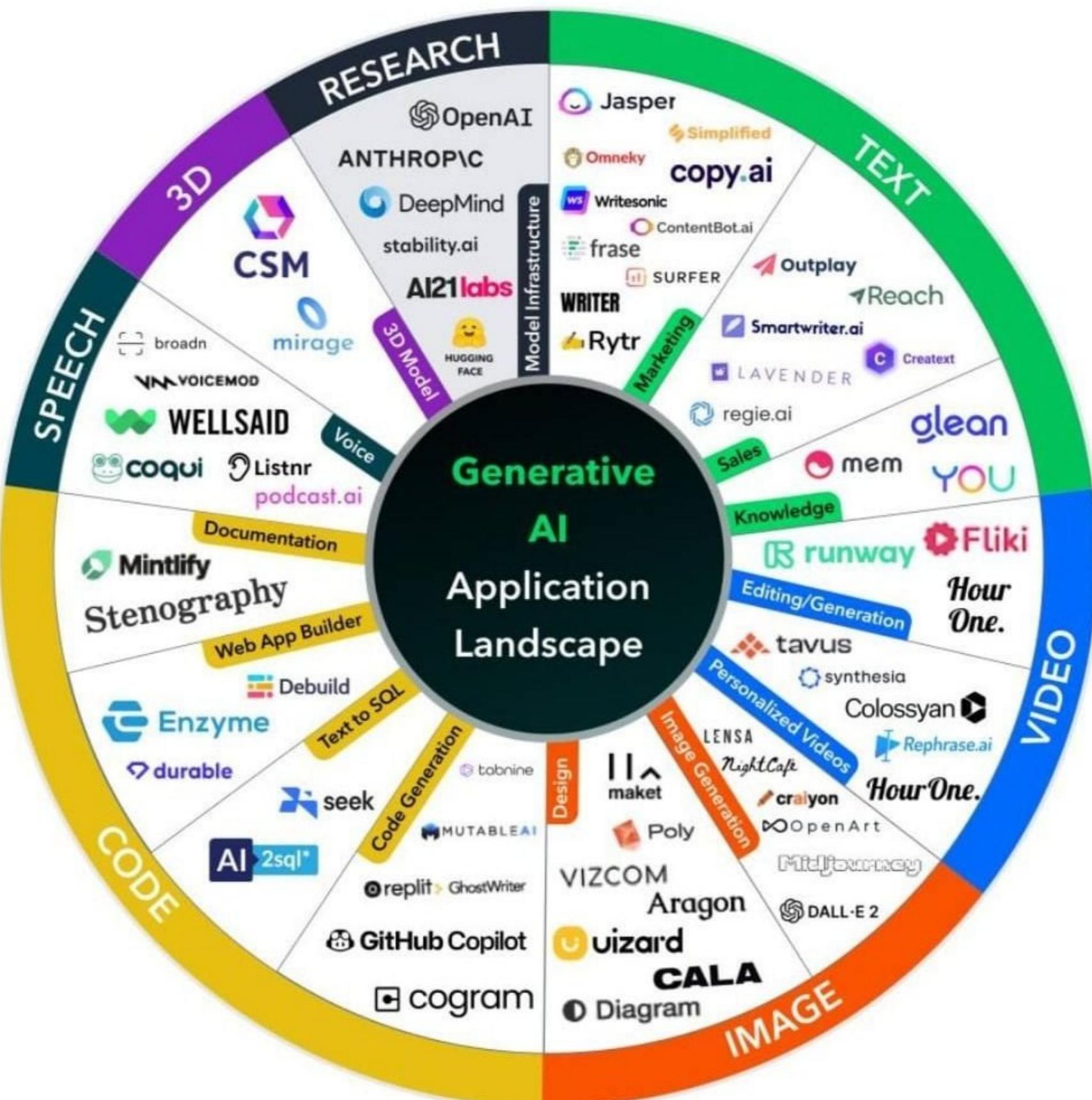
CHATBOTS			
MetaDialog, HUA ZANG, gnani.ai, Tymely, NAVER, SAMSUNG			
Tencent			
TEXT			
VinBase, SAMSUNG			
IMAGE			
du, BRA, synonym, DID, Tencent, SAMSUNG			
MULTIMODAL	VIDEO	AUDIO	GAMES
Dübverse, Hour One	tabnine, du	TAIGER	SYNFESYS Game Beyond Game
CODE	BUSINESS INTELLIGENCE		
codium, tabnine, du	taiger		

Oceania

IMAGE	VIDEO	AUDIO
NightCafe, soul machines		splash

 COMPANIES DEVELOPING TWO OR MORE TYPES OF MODELS

<https://www.blog.aiport.tech/p/the-first-truly-global-generative>



Tool chains category

Assist
tasks

Interaction
modes

Prompt
composition

Properties of
model

Assist tasks

Finding information faster in context

Generating code

Reasoning about code

Transforming code into something ..

Requirement

Design

Develop

Testing

Deploy

Software Delivery Lifecycle

Interaction modes

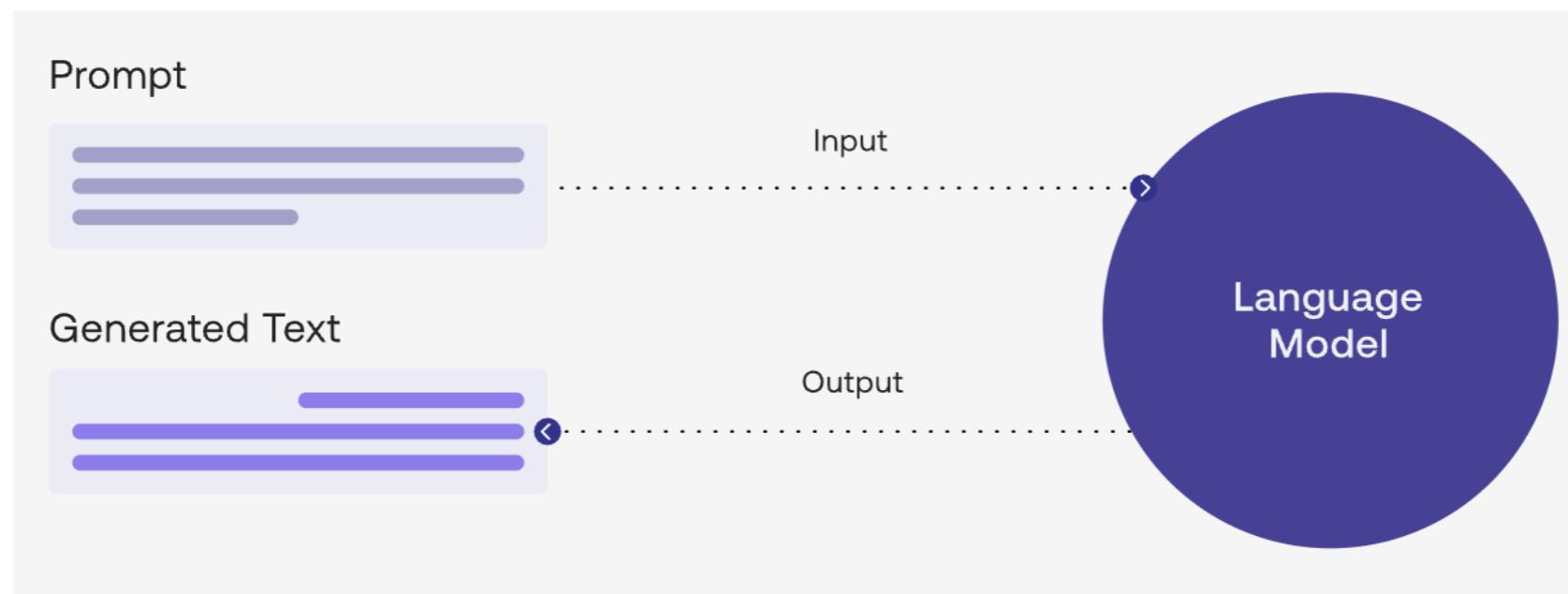
Chat interfaces

In-line assistance (typing in code editor)

CLI

Prompt composition

Prompt engineering
Compose prompt from user input and context



<https://platform.openai.com/docs/guides/prompt-engineering>

Better Prompt

Write clear instructions

Provide reference text

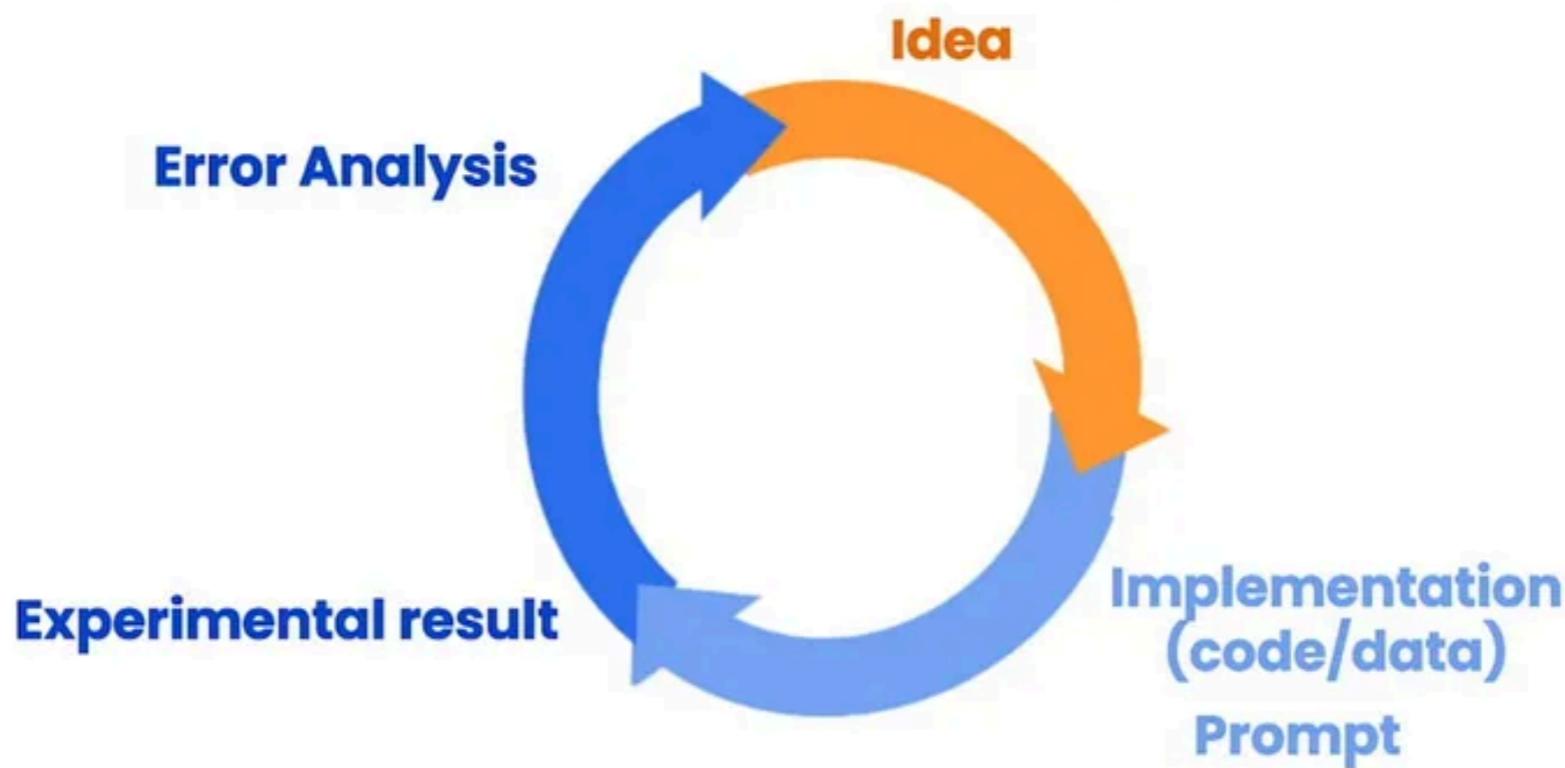
Split complex tasks into simpler subtasks

Give the model time to think

Testing and improve ...

<https://platform.openai.com/docs/guides/prompt-engineering>

Iterative Prompt Development



Iterative Process

- Try something
- Analyze where the result does not give what you want
- Clarify instructions, give more time to think
- Refine prompts with a batch of examples

<https://www.deeplearning.ai/short-courses/chatgpt-prompt-engineering-for-developers/>

List of tools

Tool	Task	Interaction
ChatGPT/Gemini/Bing	All	Chat
GitHub Copilot	Code generation	In-line assistance
GitHub Copilot Chat	All	Chat
GPT Engineer	Code generation	CLI
WireGen	Wireframe generation	Chat
Make real	UI generation	UI
V0.dev	UI generation	Chat

Chat and Search



Chat and Search

Gemini

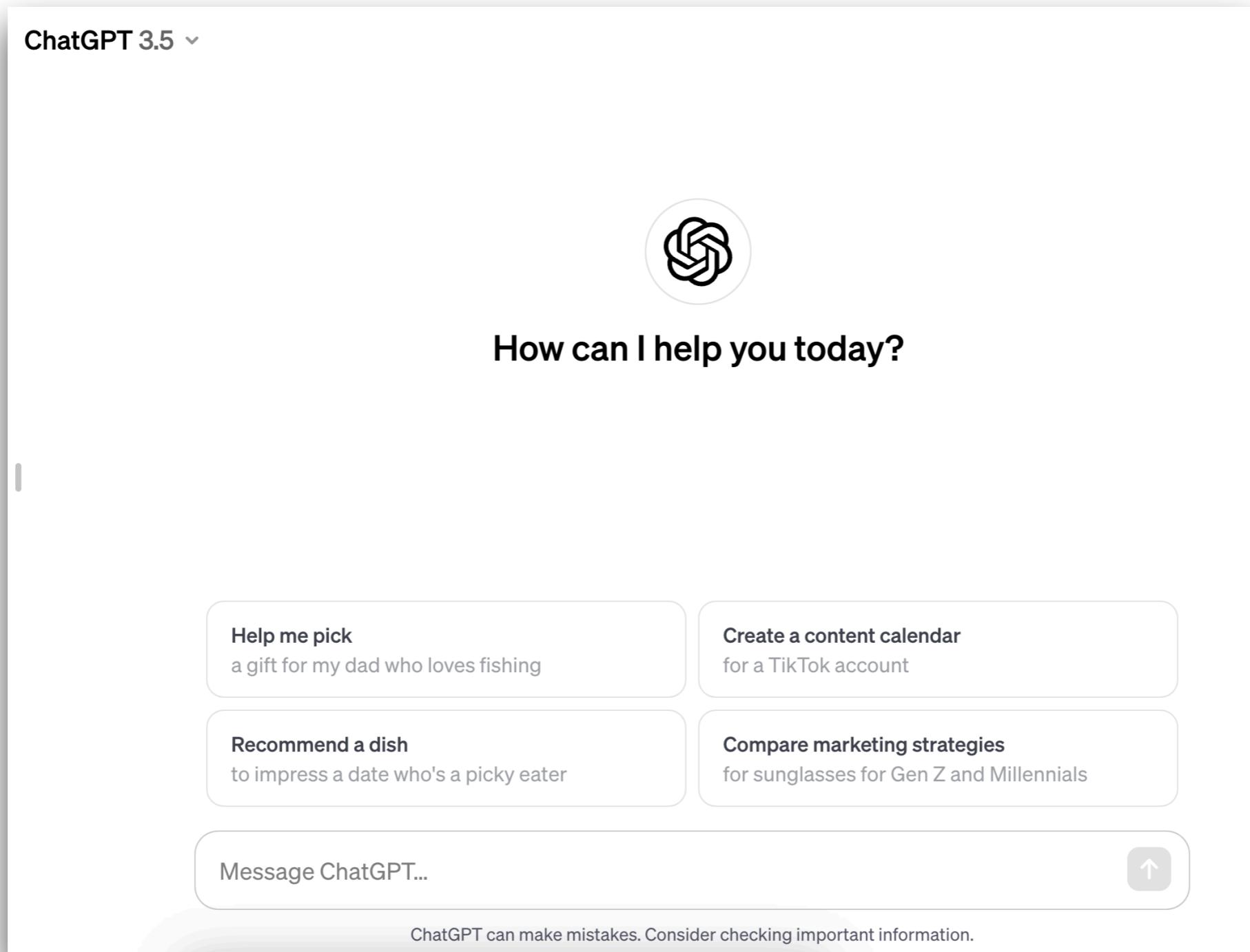


ChatGPT



ChatGPT from OpenAI

ChatGPT 3.5 ▾



The image shows the ChatGPT interface. At the top left is the text "ChatGPT 3.5 ▾". In the center is a circular icon containing a stylized AI logo. Below it is the question "How can I help you today?". There are four suggested prompts in boxes: "Help me pick a gift for my dad who loves fishing", "Create a content calendar for a TikTok account", "Recommend a dish to impress a date who's a picky eater", and "Compare marketing strategies for sunglasses for Gen Z and Millennials". At the bottom is a message input field with the placeholder "Message ChatGPT..." and an upward arrow icon. A note at the bottom states "ChatGPT can make mistakes. Consider checking important information."

Help me pick
a gift for my dad who loves fishing

Create a content calendar
for a TikTok account

Recommend a dish
to impress a date who's a picky eater

Compare marketing strategies
for sunglasses for Gen Z and Millennials

Message ChatGPT... 

ChatGPT can make mistakes. Consider checking important information.

<https://chat.openai.com/>

Google Gemini

Hello, somkiat

How can I help you today?

Help create a weekly
meal plan for two



Settle a debate: how
should you store
bread?



Improve the readability
of the following code



Revise my writing and
fix my grammar



Your conversations are processed by human reviewers to improve the technologies powering Gemini

Enter a prompt here



Gemini may display inaccurate info, including about people, so double-check its responses. [Your privacy & Gemini Apps](#)

<https://gemini.google.com/app>

Microsoft Bing

Microsoft Bing

SEARCH

CHAT

ไทย somkiat



Bing is your AI-powered copilot for the web



What's the next trend in fashion and where should I shop to find it?



Create a table that helps me plan meals for the next two weeks



What are the top three vehicles for a family of six on a budget?



Create a slogan for a new social media platform that specializes in sarcasm



What's the best-reviewed coffee grinder?



Write a joke that my coworkers would find funny



Write an original fable about a fish and a frog finding love

Bing is powered by AI, so surprises and mistakes are possible. Please share feedback so we can improve! [Terms](#) | [Privacy](#)

<https://www.bing.com/search?q=Bing+AI&showconv=1&FORM=hpcodx>

Design

Canva

The screenshot shows the Canva interface with two main sections: 'Magic Media' on the left and 'Storyboard' on the right.

Magic Media (Left Side):

- Design:** Shows a placeholder for an image with the text "Blue and green space rover lost in a strange planet".
- Brand:** Placeholder text: "Describe the image you want and we'll generate it for you."
- Elements:** Placeholder text: "Blue and green space rover lost in a strange planet".
- Text:** Placeholder text: "Blue and green space rover lost in a strange planet".
- Uploads:** Placeholder text: "Blue and green space rover lost in a strange planet".
- Apps:** Placeholder text: "Blue and green space rover lost in a strange planet".
- Magic Media:** Placeholder text: "Blue and green space rover lost in a strange planet".

Storyboard (Right Side):

- Storyboard Title:** CO Storyboard
- Panel 1:** A landscape scene with clouds and green hills. It includes annotations: "Add sandstorm CGI in post prod" (Sam), "APPROVED BY DIRECTOR" (Vin), and "1".
- Description:** Day • Establishing Shot • Pan
Action: Opening shot of the barren, red Martian landscape.
We hear the sound of a rover approaching. Cut to the inside
- Generate AI Images:** A purple button at the bottom of the interface.

<https://www.canva.com/ai-image-generator/>

FigJam AI



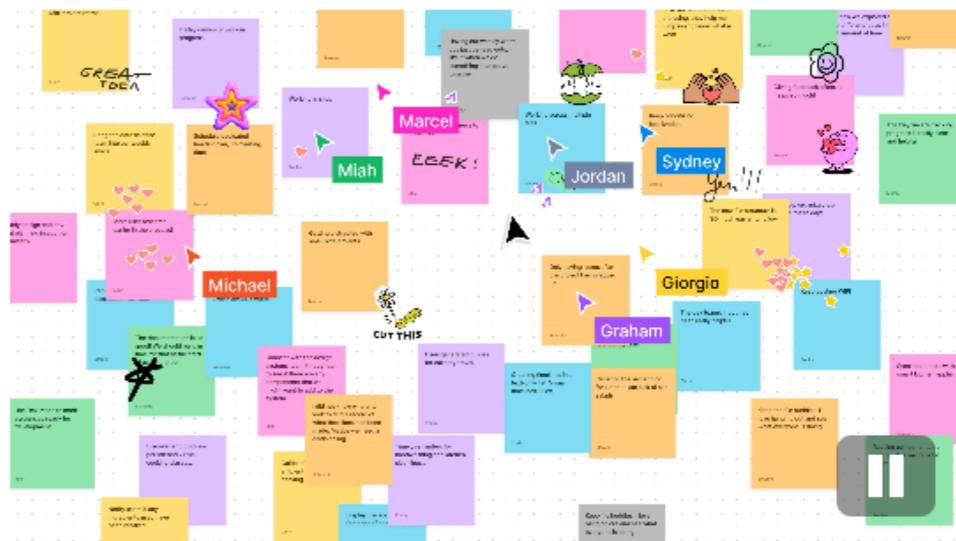
Products ▾ Enterprise ▾ Pricing Resources ▾ Community ▾ Contact sales Log in

Get started for free

Redesign the way you jam with FigJam AI

FigJam AI helps you instantly visualize ideas, suggest best practices, and automate tedious tasks.

Try it out



<https://www.figma.com/figjam/ai/>

Notion AI

Novel Ideas

Write me 5 novel ideas

1. A world where people's dreams are connected and used to create a utopia.
2. A society where everyone has a unique superpower, but using it comes at a cost.
3. A time-traveling detective must solve a series of murders that have ripple effects throughout history.
4. A group of survivors must navigate a post-apocalyptic world where the sun has vanished.
5. A person discovers they have the ability to enter and manipulate memories, but using this power comes with unforeseen consequences.

✨ Tell AI what to do next...



⚠️ AI responses can be inaccurate or misleading. Learn more



✓ Replace selection

☰ Insert below

✍ Continue writing

☰ Make longer

↶ Try again

🗑 Discard

<https://www.notion.so/product/ai>

Image/VDO/3D

Mid Journey

<https://www.midjourney.com/>

Hugging Face

The AI community building the future.

The platform where the machine learning community collaborates on models, datasets, and applications.

Models 469,541 Filter by name

meta-llama/Llama-2-70b
Text Generation • Updated 4 days ago • 25.2k • 64

stabilityai/stable-diffusion-xl-base-0.9
Updated 6 days ago • 2.01k • 393

openchat/openchat
Text Generation • Updated 2 days ago • 1.3k • 136

illyasviel/ControlNet-v1-1
Updated Apr 26 • 1.87k

cerspense/zeroscope_v2_XL
Updated 3 days ago • 2.66k • 334

meta-llama/Llama-2-13b
Text Generation • Updated 4 days ago • 328 • 64

tiiuae/falcon-40b-instruct
Text Generation • Updated 27 days ago • 288k • 899

WizardLM/WizardCoder-15B-V1.0
Text Generation • Updated 3 days ago • 12.5k • 332

CompVis/stable-diffusion-v1-4
Text-to-Image • Updated about 17 hours ago • 448k • 5.72k

stabilityai/stable-diffusion-2-1
Text-to-Image • Updated about 17 hours ago • 782k • 2.81k

<https://huggingface.co/>

DALL.E 2 from OpenAI



Research ▾ Product ▾ Safety Company ▾

DALL·E 2

DALL·E 2 is an AI system that can create realistic images and art from a description in natural language.

[Try DALL·E ↗](#)

[Follow on Instagram ↗](#)

<https://openai.com/dall-e-2>

AI DeepFake !!



Celebrity Deepfakes AI Image Generator Premium Sign up Log in 日本語 English



Online Deepfake Maker

オンラインフェイススワップツール

動画を作成する

<https://deepfakesweb.com/>

Working in SDLC

GenAI Impact developer productivity ?

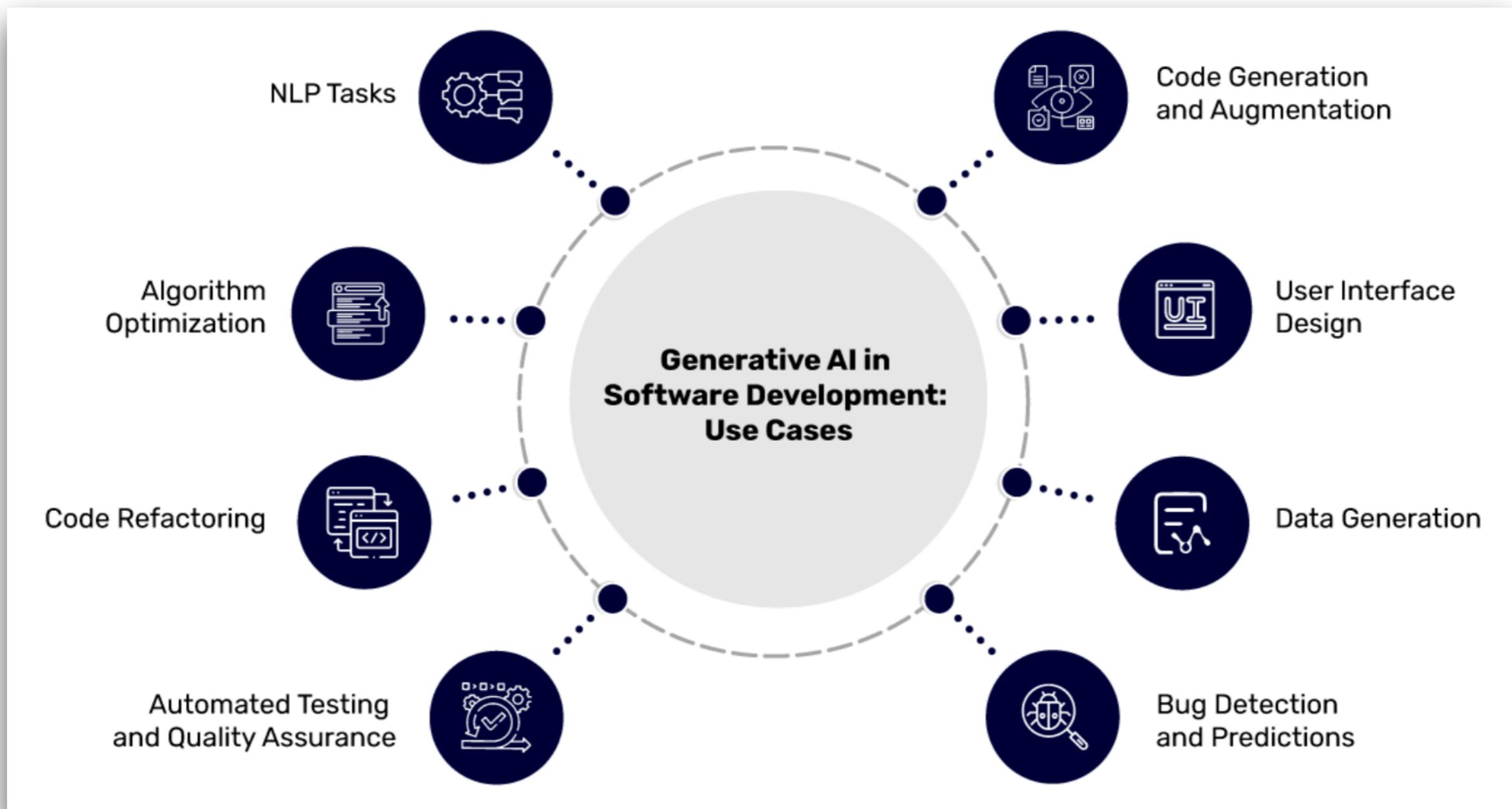
Automated
simple tasks

Improve quality
and reliability

Improve
communication

Faster
prototype

SDLC



SDLC

Requirement

Design

Develop

Testing

Deploy

Requirement and Analysis

Requirement

Design

Develop

Testing

Deploy

Requirements writing and analysis

User story generation

User Story Generator



Product ▾ Solutions ▾ Learn ▾ Tools ▾ Pricing

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Sign up for free

Improve your Agile development process with our AI-powered user story generator – create user stories quickly and easily for successful project outcomes.

🤖 Generate AI Agile User Story

✨ Start with AI

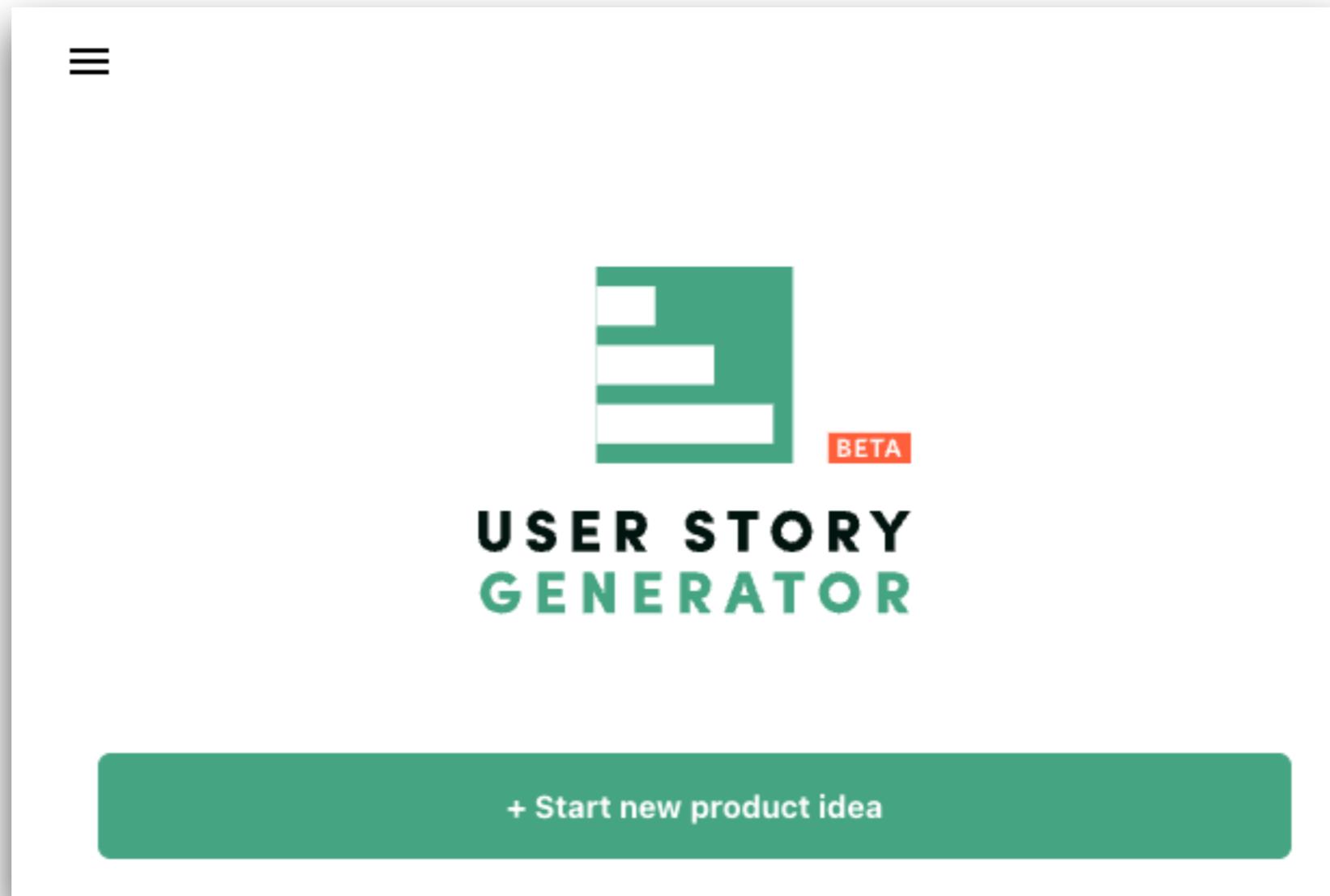
✨ Dynamic AI builders 🎨 100% fully customizable ✅ Edit & download on-the-go 🚀 Generate, publish, & share everywhere

The screenshot shows a dark-themed user interface for generating user stories. At the top, there's a navigation bar with icons for file operations (New, Open, Save, etc.) and a toolbar with various project management and design tools. Below this is a list of user stories:

- Wishlist Addition**
 - As a registered user,
 - I want to be able to add items to my wishlist,
 - So that I can save items I'm interested in for later purchase.
- Acceptance Criteria**
 - Given that I am a registered user, when I view a product, then I should see an "Add to Wishlist" button.
 - Given that I click the "Add to Wishlist" button, the product should be added to my wishlist.
 - Given that a product is in my wishlist, when I visit my wishlist page, then I should see all the products I've added.
 - Given that a product is in my wishlist, when I click on the product, then I should be taken to that product's page.
 - Given that a product is in my wishlist, I should have an option to remove it from my wishlist.

<https://www.taskade.com/generate/project-management/agile-user-story>

User Story Generator



<https://userstorygenerator.ai/>

Notion AI Template

The screenshot shows a Notion template titled "User Story Writer [AI Powered Notion Template]". The interface includes a header with three colored dots (red, yellow, green), a background image of a courtroom, and a pen icon. Below the header, there are tabs for "Writer" and "User Stories", and a "View template" button. The main section is titled "User Story Writer" and contains a table with columns for "Title", "User Story", "Acceptance Criteria", "Notes", "Business Value", "Priority", and "Story Points". One row is visible in the table:

Title	User Story	Acceptance Criteria	Notes	Business Value	Priority	Story Points
Password Reset Feature	As a user, I want to be able to reset my password using my registered email address or username associated with my account, so that I can regain access to my account in case I forget my password or suspect my account has been compromised.	- The user can reset their password using their registered email address or username associated with their account. - The password reset feature is accessible on all devices, including mobile and desktop. - The password reset email does not contain the user's password or other sensitive information. - The password reset link expires after a specified time period to prevent unauthorized access. - The password reset feature is not available if the user's account is locked or suspended.	- The password reset feature must be accessible to all users, including those with disabilities. - The password reset process must be secure and protect user data from potential threats. - The password reset feature must have a time limit for completion to prevent abuse. - The password reset feature must be logged for audit and security purposes. - The password reset feature must be tested thoroughly before deployment to ensure reliability and functionality.	High	High	3

<https://www.notion.so/templates/user-story-writer-ai-powered-notion-template>

Design

Requirement

Design

Develop

Testing

Deploy

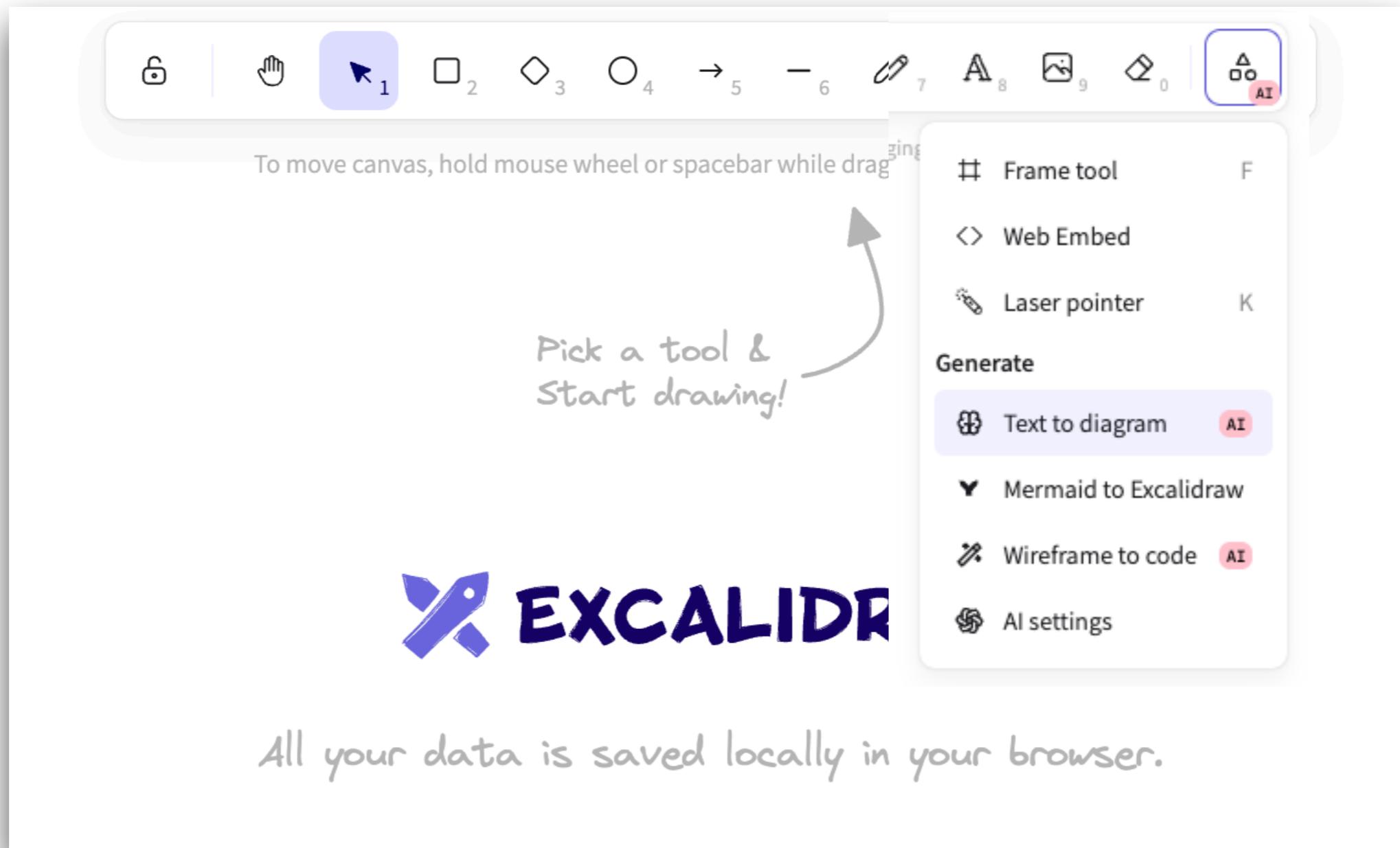
Architecture writing assistance

Sequence flow diagram generation

Data modeling

UX/UI design assistance

Excalidraw with AI



<https://excalidraw.com/>

Demo

[Text to diagram](#) AI Beta [Mermaid](#)

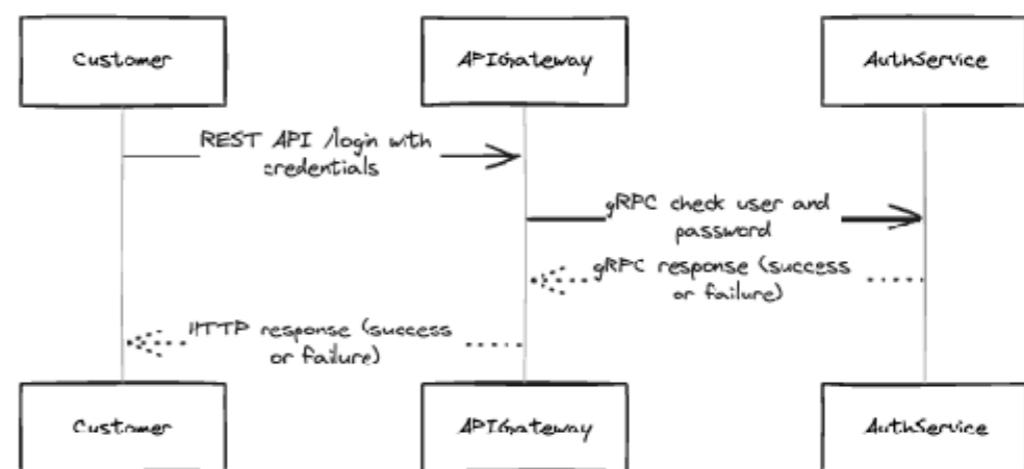
Currently we use Mermaid as a middle step, so you'll get best results if you describe a diagram, workflow, flow chart, and similar.

Prompt

9 requests left today

Try to generate authentication service from below
1. Customer call api gateway with REST API /login
2. Api gateway check user and password from auth service via gRPC
3. API gateway send response to client

Preview



[Generate →](#)

[Cmd](#) [Enter](#)

[View as Mermaid →](#)

[Insert →](#)

Develop

Requirement

Design

Develop

Testing

Deploy

Code generation

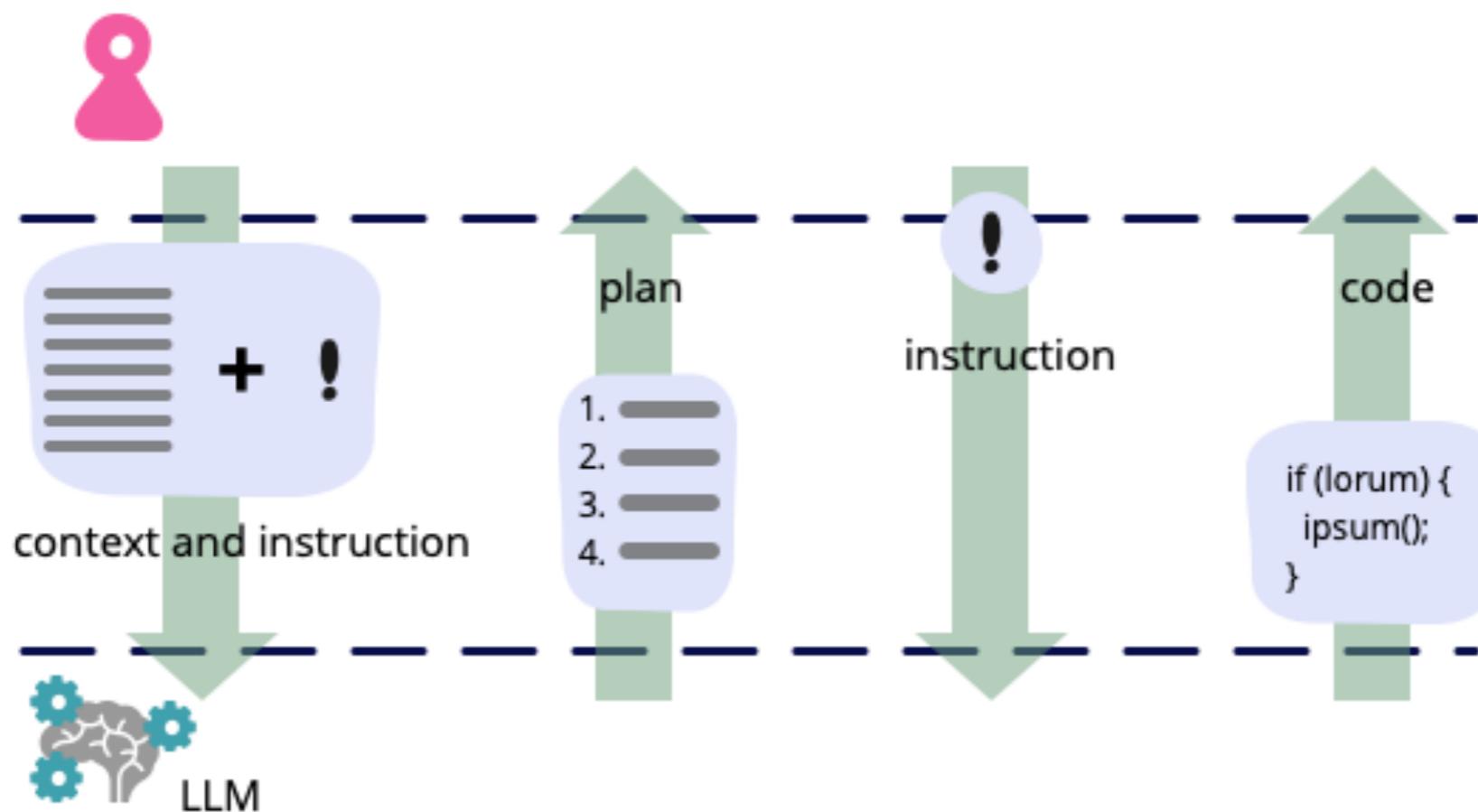
Review and explain code

Debugging code

Improve consistency

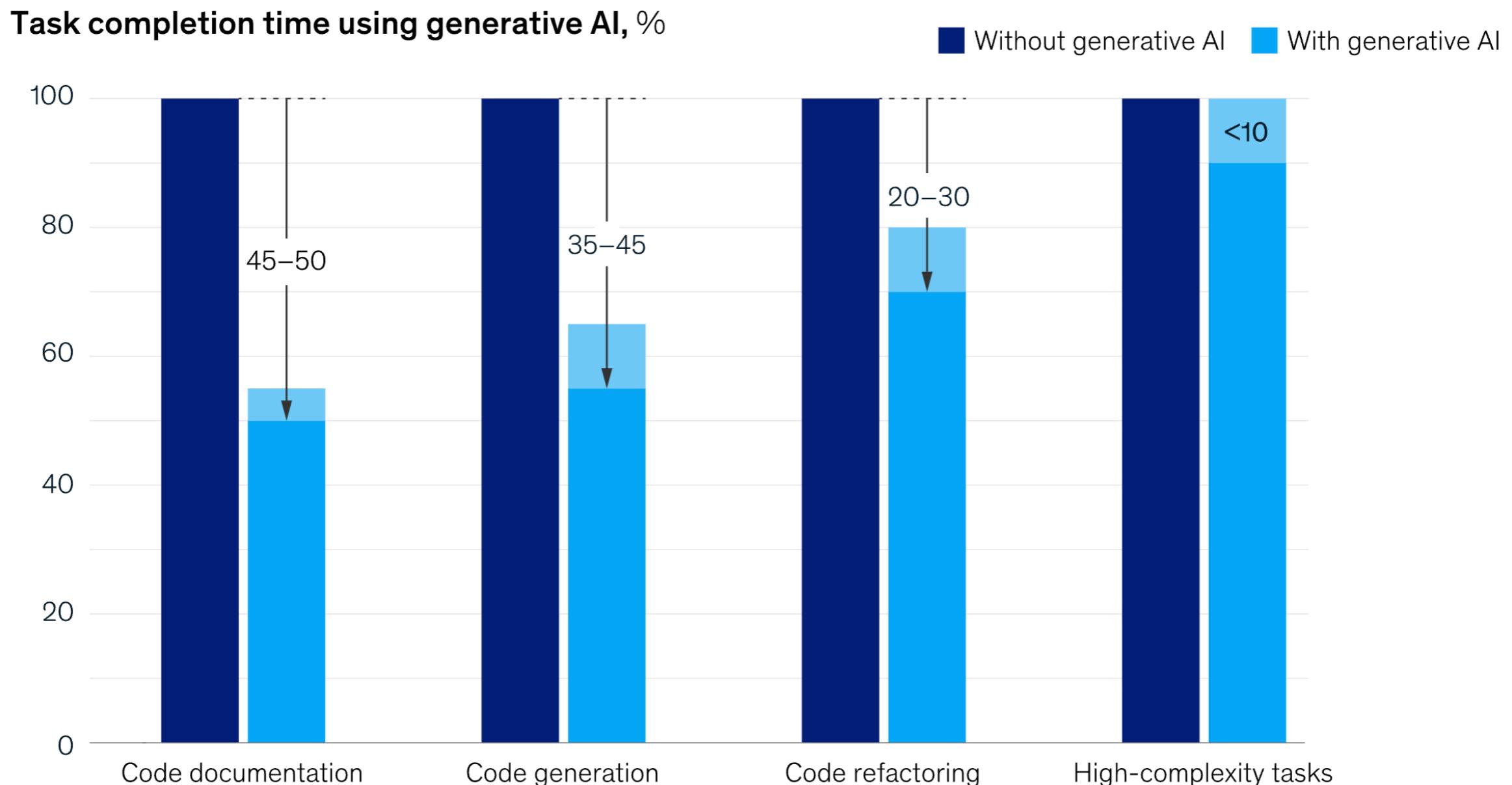
Code translation

Development



Development

Generative AI can increase developer speed, but less so for complex tasks.



<https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/unleashing-developer-productivity-with-generative-ai>

Tools

GitHub Copilot

Codium AI

aider

Continue

Bito

Using GitHub Copilot Chat correlates with better code quality

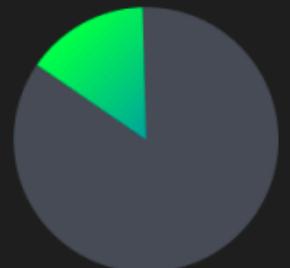
85% of developers felt more confident in their code quality when authoring code with GitHub Copilot and GitHub Copilot Chat

85%



Code reviews were more actionable and completed 15% faster than without GitHub Copilot Chat

15%



88% of developers reported maintaining flow state with GitHub Copilot Chat

88%



Code Review

The screenshot shows the homepage of the Codium AI website. The header features the Codium AI logo and navigation links for Products, Pricing, Blog, Contact, and About. The main title "Generating meaningful tests for busy devs" is displayed prominently in large white text against a dark blue background. Below the title, a descriptive paragraph explains the product's purpose: "With CodiumAI, you get non-trivial tests (and trivial, too!) suggested right inside your IDE or Git platform, so you can code smart and stay confident when you push. **Code, as you meant it.**" Two call-to-action buttons at the bottom offer integration with VS Code and JetBrains platforms.

Codium ai

Products ▾ Pricing Blog Contact About ▾

Generating meaningful tests for busy devs

With CodiumAI, you get non-trivial tests (and trivial, too!) suggested right inside your IDE or Git platform, so you can code smart and stay confident when you push.
Code, as you meant it.

Get your FREE Codiumate now:

VS Code > JetBrains >

<https://www.codium.ai/>

Code Review

Introducing **Codeium Teams** →

The modern coding
superpower

AI assistan|

[Get Extension >](#)

[Try in browser](#)

<https://codeium.com/>

AI Pair Programming



```
macbook$ aider demo.py  
Added demo.py to the chat  
Using git repo: .git
```

```
demo.py> add a name param to the `greeting` function. add all the types.
```

```
I will update the greeting function to accept a name parameter and include type  
hints for the parameter and the return type.
```

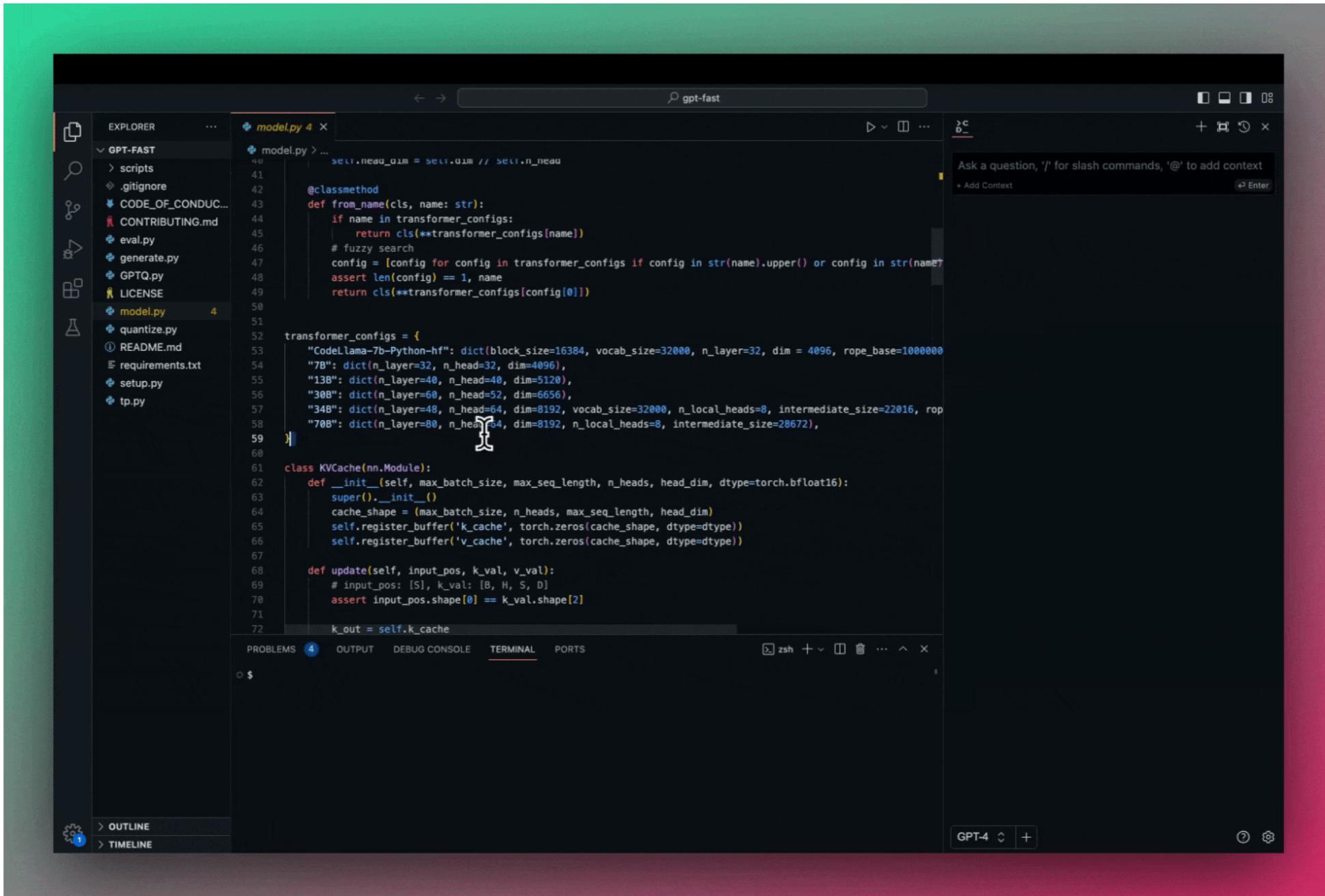
```
demo.py  
<<<<< ORIGINAL  
def greeting():  
    print("Hello, world!")  
=====  
def greeting(name: str) -> None:  
    print(f"Hello, {name}!")  
>>>>> UPDATED
```

```
Applied edit to demo.py  
Commit 9237455 aider: Updated greeting function to accept a name parameter and  
include type hints.
```

```
demo.py> █
```

<https://github.com/paul-gauthier/aider>

Auto pilot with Code



```
model.py 4
40     self.nhead_dim = self.dim // self.n_head
41
42     @classmethod
43     def from_name(cls, name: str):
44         if name in transformer_configs:
45             return cls(**transformer_configs[name])
46         # fuzzy search
47         config = [config for config in transformer_configs if config in str(name).upper() or config in str(name)]
48         assert len(config) == 1, name
49         return cls(**transformer_configs[config[0]])
50
51
52     transformer_configs = {
53         "CodeLlama-7b-Python-hf": dict(block_size=16384, vocab_size=32000, n_layer=32, dim = 4096, rope_base=1000000
54         "7B": dict(n_layer=32, n_head=32, dim=4096),
55         "13B": dict(n_layer=40, n_head=40, dim=5120),
56         "30B": dict(n_layer=60, n_head=52, dim=6656),
57         "34B": dict(n_layer=48, n_head=64, dim=8192, vocab_size=32000, n_local_heads=8, intermediate_size=22016, rope_base=10000000),
58         "70B": dict(n_layer=80, n_head=64, dim=8192, n_local_heads=8, intermediate_size=28672),
59     }
60
61     class KVCache(nn.Module):
62         def __init__(self, max_batch_size, max_seq_length, n_heads, head_dim, dtype=torch.bfloat16):
63             super().__init__()
64             cache_shape = (max_batch_size, n_heads, max_seq_length, head_dim)
65             self.register_buffer('k_cache', torch.zeros(cache_shape, dtype=dtype))
66             self.register_buffer('v_cache', torch.zeros(cache_shape, dtype=dtype))
67
68         def update(self, input_pos, k_val, v_val):
69             # input_pos: [S], k_val: [B, H, S, D]
70             assert input_pos.shape[0] == k_val.shape[2]
71
72             k_out = self.k_cache
```

<https://github.com/continuedev/continue>

AI Code Review



Product ▾ Enterprise ▾ Resources ▾ Pricing Docs Sign in Get Started for Free

Cut review time by 50%

High quality AI code reviews

[Get Started →](#)

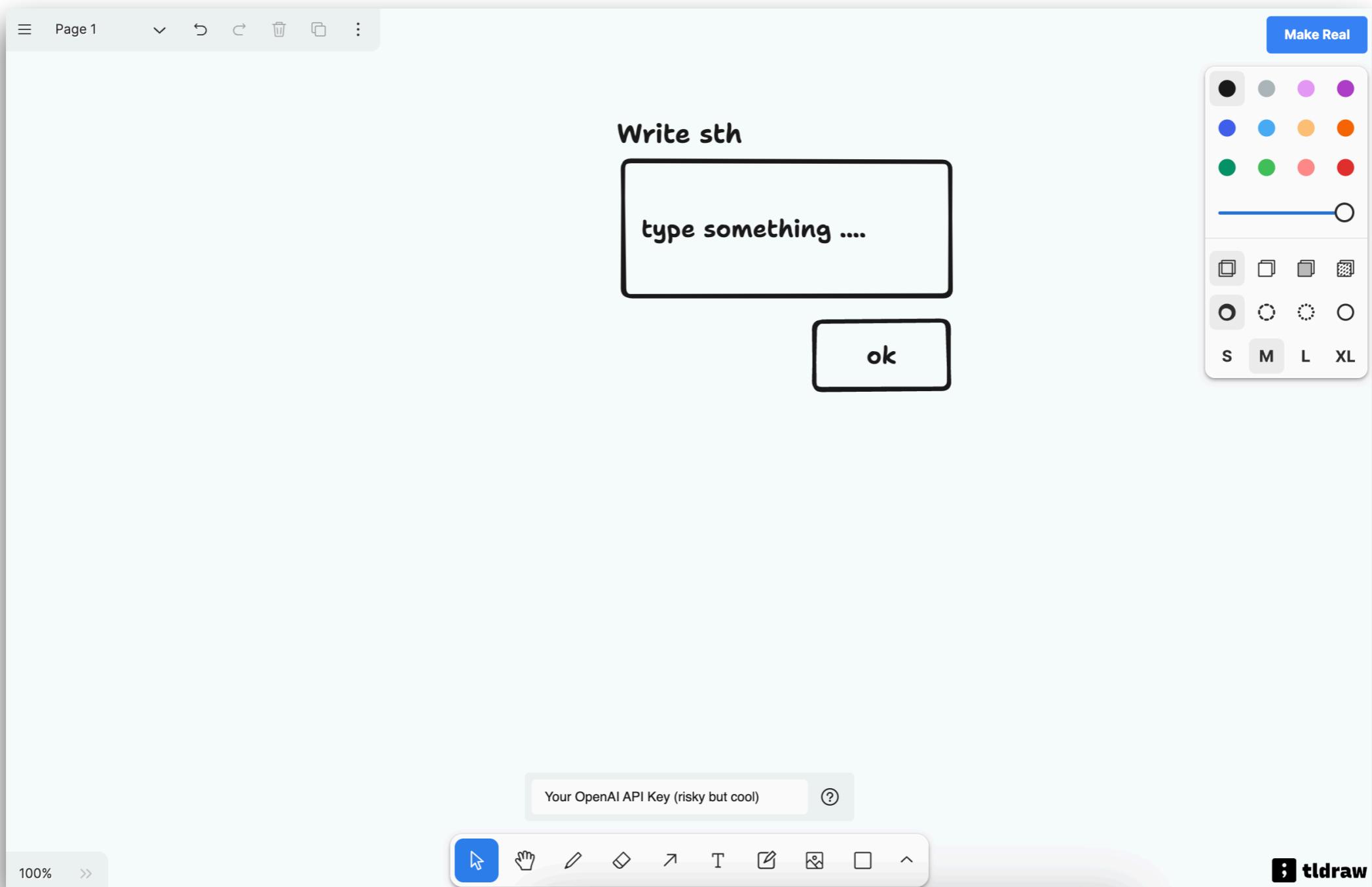
[Get a demo](#)

The screenshot shows a GitLab-like interface for managing merge requests. On the left, there's a sidebar with navigation links like 'services', 'Merge requests' (which has 11 items), and 'Code'. The main area displays a merge request from 'bitoco / services / Merge requests / !264'. The status bar indicates it's 'Merged' with 'Code completion' and 'code-completion' into 'sprint45_build'. Below this, the 'Overview' section shows 22 commits, 3 pipelines, and 15 changes. A prominent feature is a large callout box titled 'Watch demo' containing a video thumbnail of a man speaking. The box also lists the AI-based review status: 'Successful' for AI-based Review, Static Analysis, and Security Check Analysis. The 'Code Review' section provides a detailed summary of the changes, mentioning features and SQL scripts for database updates, and notes about code change type, unit tests added, and estimated effort to review.

Accessible, accurate AI tools trusted by developers across the world.

<https://bito.ai/>

Make Real



<https://github.com/tldraw/make-real>

v0.dev

Private Beta

A "report an issue" modal

Product categories ↗ Hero section ↗ Contact form ↗ Ecommerce dashboard ↗

New Generations Featured

page for a soccer game,...

A hero section for a...

A website in a black and...

product tour like appcues

<https://v0.dev/>

Screenshot to Code

Screenshot to Code

Sign in Get started

Build User Interfaces 10x Faster

Convert any screenshot or design to clean code (with support for most frameworks)

Get started GitHub 46,018 stars

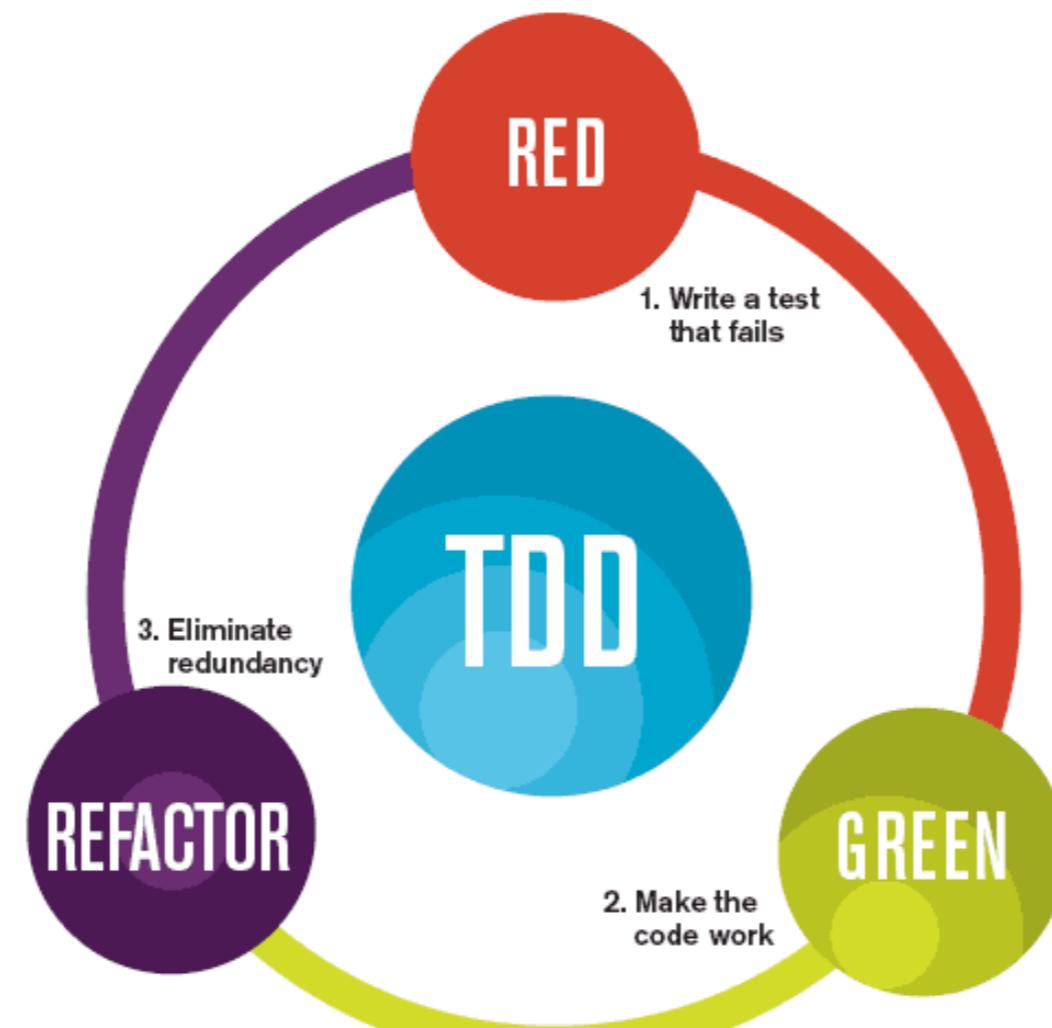
#1 tool used by developers and designers from leading companies. Fully open source with 46,000+ stars on GitHub.

Microsoft Amazon MIT

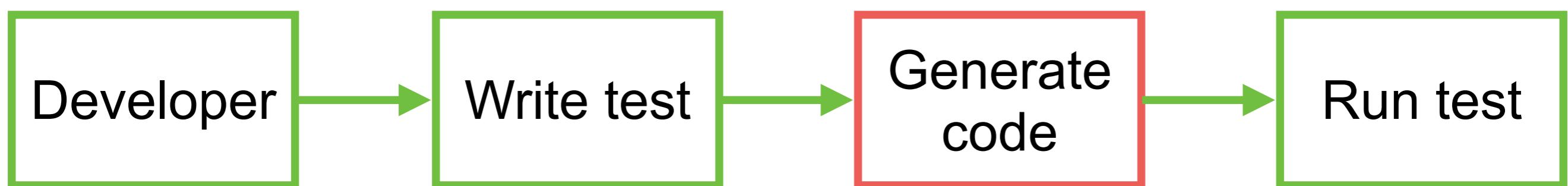
Stanford ByteDance Baidu 百度

<https://screenshottocode.com/>

Test-Driven-Development



Test-Driven-Development



Testing

Requirement

Design

Develop

Testing

Deploy

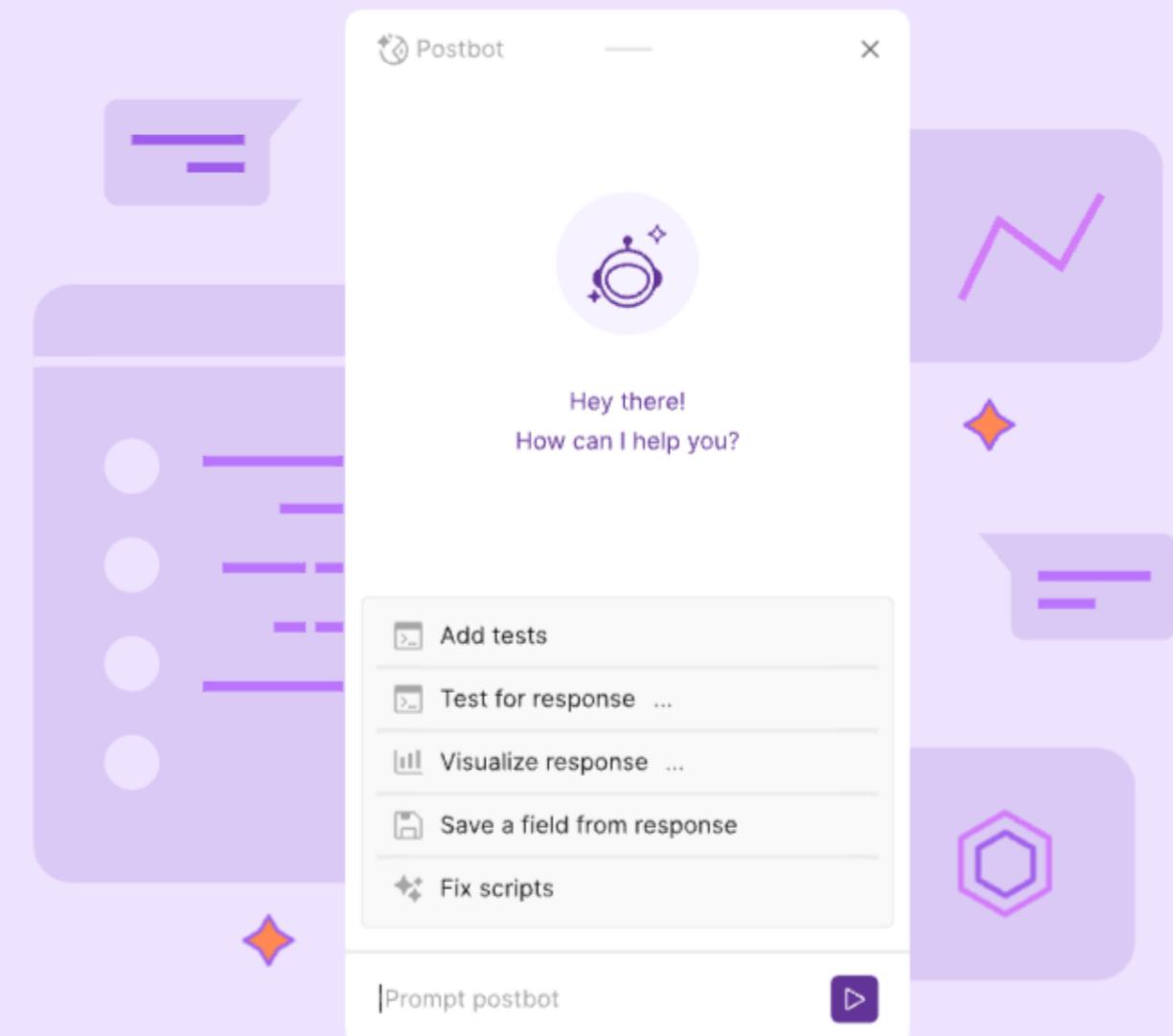
Test cases writing
Test code generation
Bug detection

Testing with Postman

Postbot, our AI-powered assistant, will supercharge your API development.

Speed up your most common API development workflows with natural-language input, conversational interactions, and contextual suggestions.

[Get Started](#)



<https://www.postman.com/product/postbot/>

PostBot

The screenshot shows the Postman application interface. On the left, a request is being built with a method of **GET** and a URL of <https://jsonplaceholder.typicode.com/users/1>. The **Tests** tab is selected. Below the request, the response body is displayed in **Pretty** format:

```
1 {  
2   "id": 1,  
3   "name": "Leanne Graham",  
4   "username": "Bret",  
5   "email": "Sincere@april.biz",  
6   "address": {  
7     "street": "Kulas Light",  
8     "suite": "Apt. 556".  
9   }  
10 }  
11 
```

The response status is **200 OK**. On the right, a floating sidebar titled **Postbot** contains a message about auto-completion and a list of actions:

- New on Postbot
- I can auto-complete tests to help you work faster!
- If you have a response available and type `pm.test()`, I'll suggest important tests that you might be looking for. Once you've entered the test name, I'll also provide the code to validate what you need.
- Add tests to this request
- Test for response...
- Visualize response...
- Save a field from response
- Add documentation

A message at the bottom of the sidebar says **Hi! How can I help?** with a purple button.

<https://www.postman.com/product/postbot/>

6 Keys software quality

Defect density

Code duplication

Hardcode token/key

Security
vulnerabilities

Outdated package

Non-permissive
opensource libraries

Deploy and manage

Requirement

Design

Develop

Testing

Deploy

CI/CD pipeline

Infrastructure as a code

Automated script

Performance and monitoring suggestion

Document generation

AI-assist support

ChatOps, AIOps

PromptOps



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ChatGPT for your DevOps Teams

Turn DevOps tasks into automated workflows with a single prompt straight from Slack

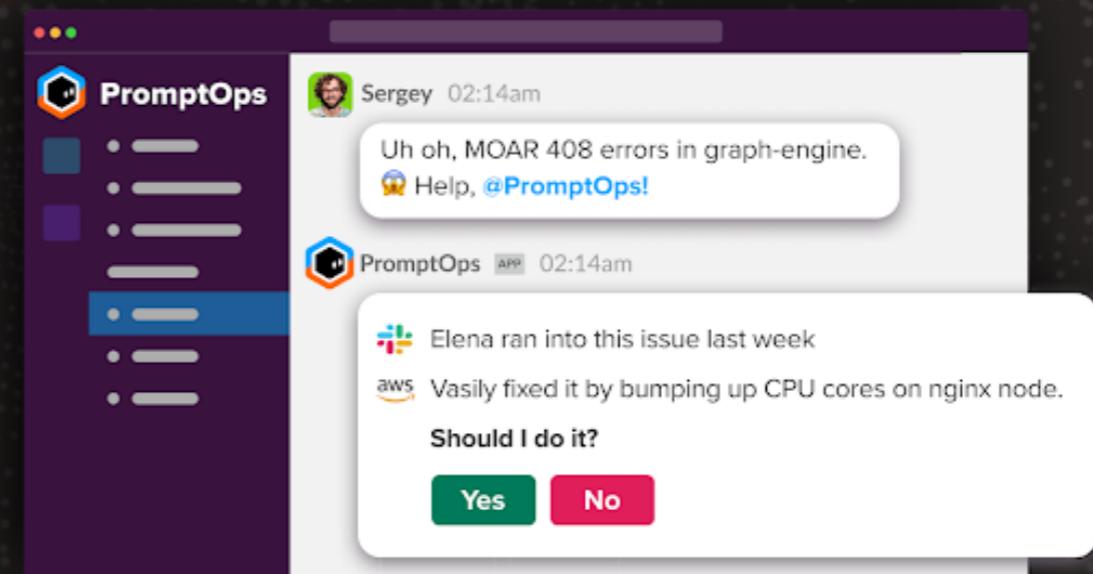
Get started

Learn More



PromptOps APP

Hello, I'm PromptOps, your DevOps virtual assistant for managing, troubleshooting, and running DevOps tasks directly from Slack!



Acknowledge

Resolve

Run a play ▾

Edit code

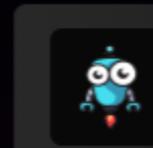
<https://www.promptops.com/devops/>

ChatOps for DevOps

[Product](#) ▾[How it Works](#)[Learn](#) ▾[Company](#) ▾[Uptime](#)[Sign In](#)[Book a demo](#) [Sign Up](#)

> ChatGPT for DevOps

Converse with your engineering platforms, powered by LLM.
A virtual teammate to handle DevOps requests so you can handle the rest.

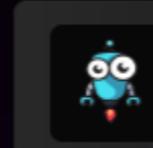
 [Add Kubi to Slack](#)

Kubi (DevOps)

@Alerts I got an alert from Prometheus:



Deployment 'alert-manager' on namespace 'Openfaas' is experiencing high traffic



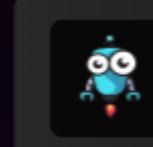
Kubi (DevOps)

@Alerts Should I increase the number of replicas on 'alert-manager'?



Jeff (R&D)

Yes



Kubi (DevOps)



✓ The following deployment has been updated:

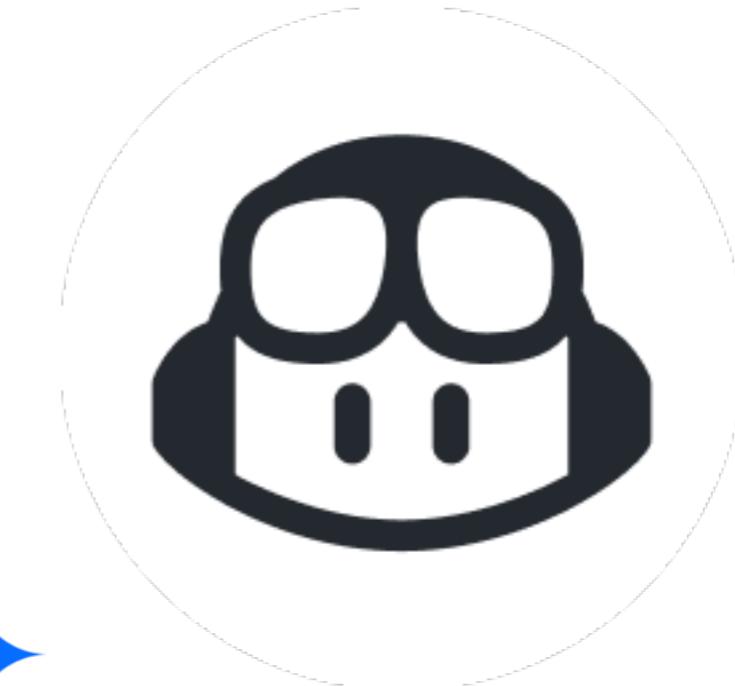
Deployment: alert-manager

Namespace: Openfaas

Replicas: 3

<https://www.kubiya.ai/>

Demo



Gemini

<https://github.com/up1/workshop-ai-with-technical-team>



Risks when using Generative AI

Risks

Quality of output generated
Explainability of decisions
Security policy !!
Sensitive data !!

Tips

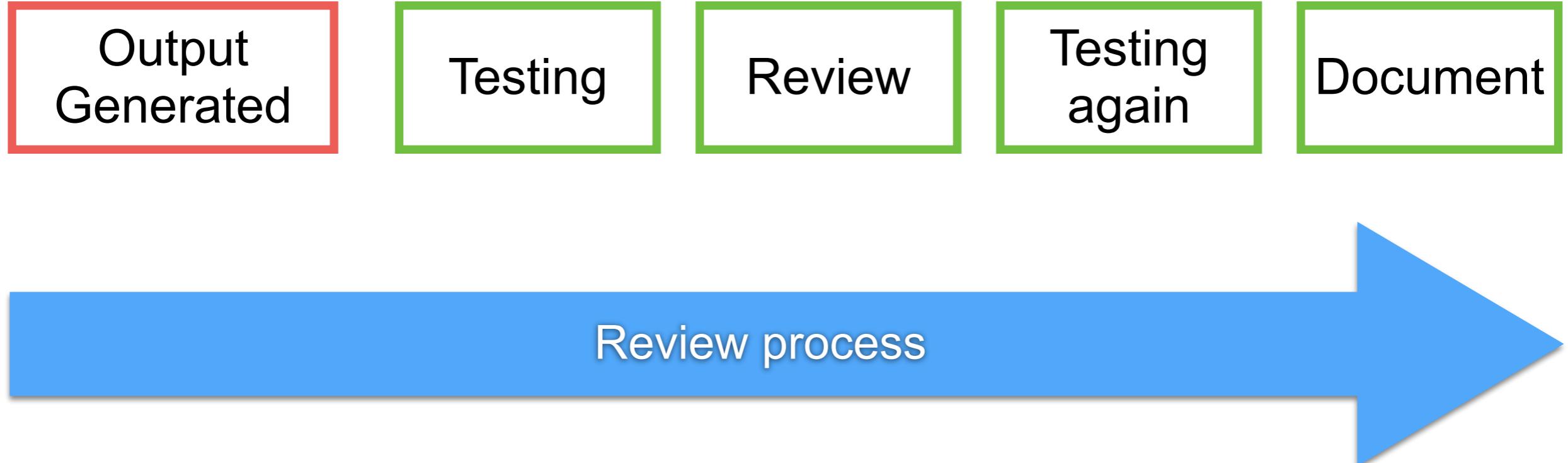
Understand what you want

Modular approach

Clear and Precise inputs

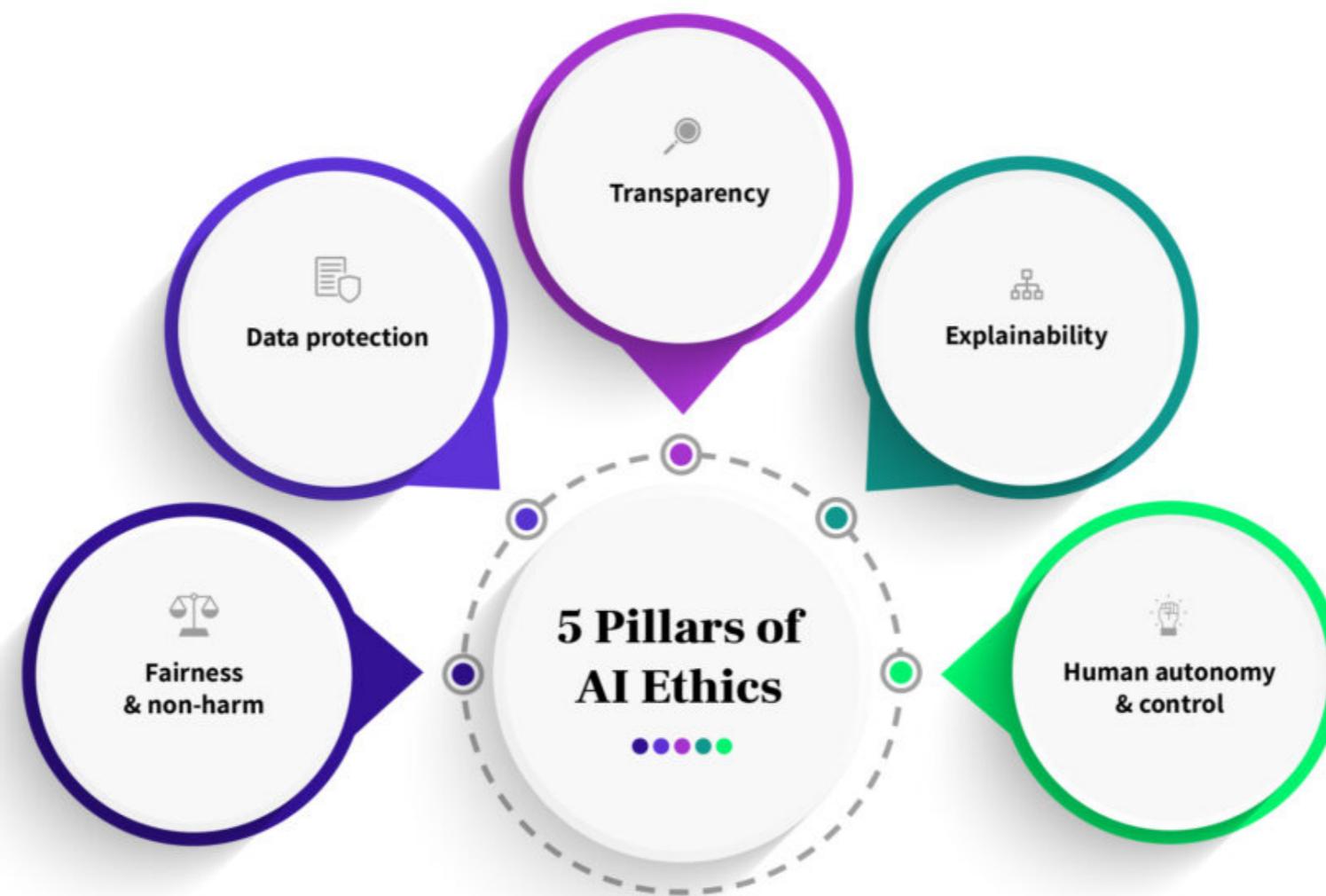
Make sure you understand the code

Quality process ?



Skill Required

Knowledge of ethical AI principles, legal and regulatory compliance, stakeholder management



Thank you