


Von der Idee zur Realität

Generative KI im Softwareentwicklungsprozess

Thorsten Maier



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Accenture DACH



Hochschule Mannheim

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Thorsten Maier  gerne per DU

Fullstack Tech, der nur noch GenAI macht



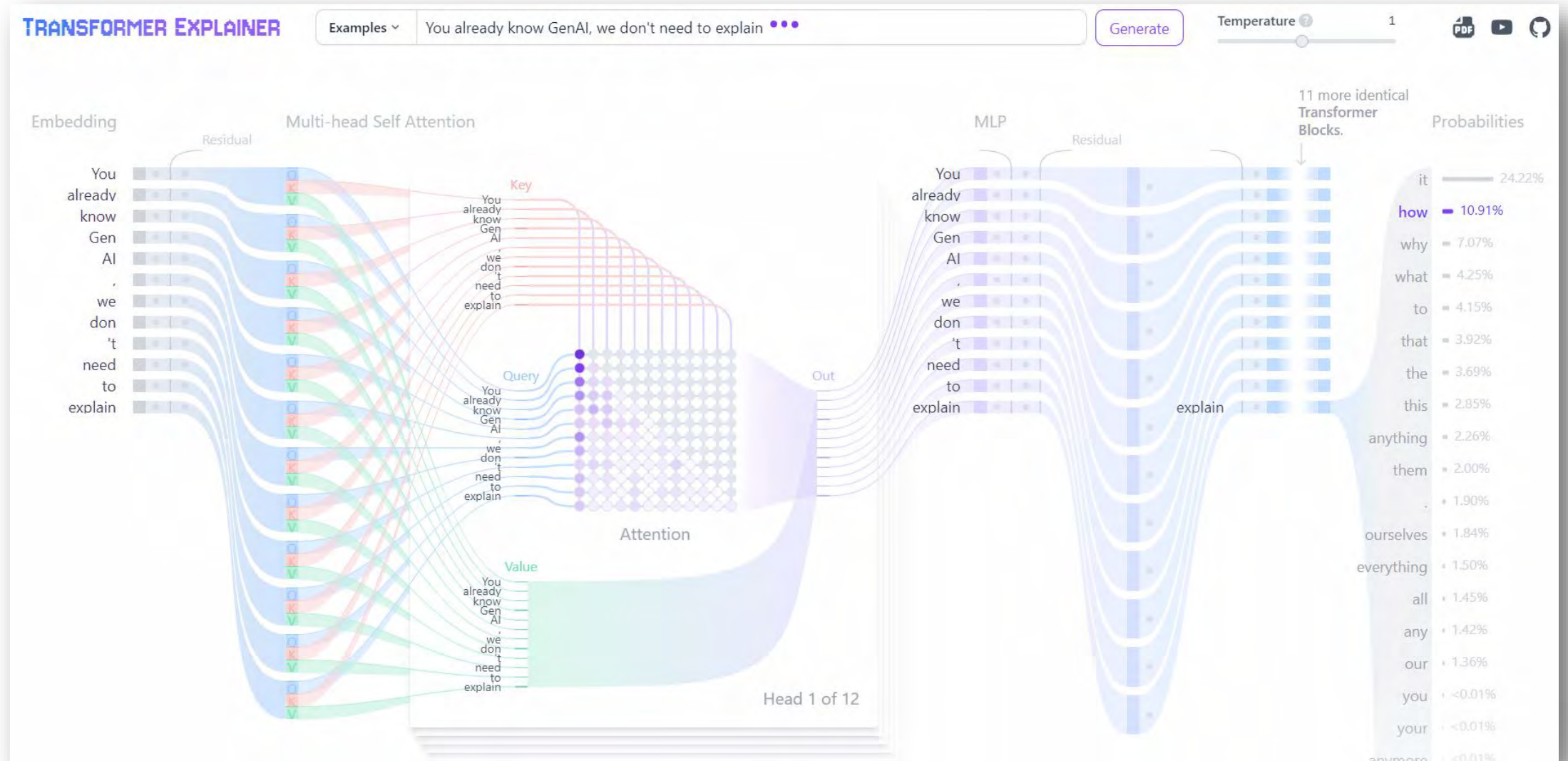
Accenture DACH



Hochschule Mannheim

<https://www.linkedin.com/in/maier-thorsten/>





You already know GenAI, we don't need to explain ...



Year 2023





**GenAI is here,
let's do something with it**

Expected ROI and Business Impact of Agentic AI

	Humans augmented by machines		Machines Self Aware supported by Humans	
				
Value Delivered	Information	Automation	Coordination	Optimization
Business Impact	Enable human workers & agents to find enterprise information faster	AI integrated closely into a process augmenting human workers	Enable long range automations for complex workflows augmenting human workers capabilities	Fully automated execution of complex service operations tasks
Productivity Increase	<p>~ 5-15%</p> <p>Faster, data-driven decision-making that improves planning and resource allocation</p>	<p>~ 10-40%</p> <p>Lower labor costs and reduce manual deployment efforts</p>	<p>~ 1-2 x</p> <p>Rapid adaptation across business units with the ability to scale from digital to physical realms</p>	<p>~ 2-10X</p> <p>Future proof operations that deliver measurable productivity and sales growth</p>
Anticipated Technology readiness in the market	Classic (2023+)	Advanced (2024+)	Current (2025+)	Future (2026+)



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Expected ROI and Business Impact of Agentic AI



Information

Value Delivered

Business Impact

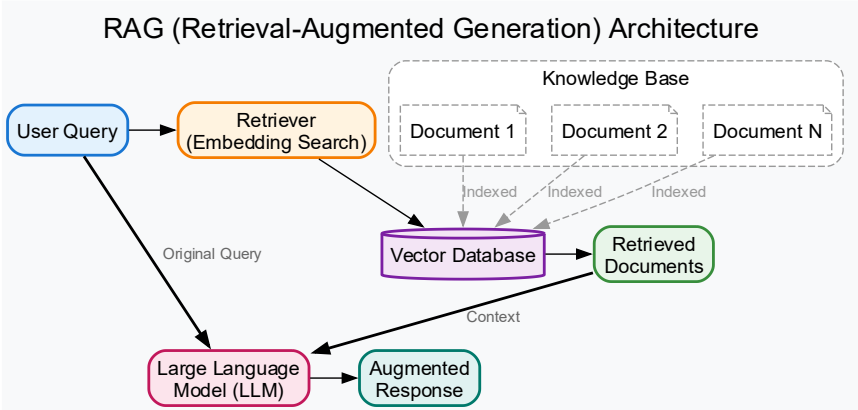
Enable human workers & agents to find enterprise information faster

Productivity Increase

~ 5-15%
Faster, data-driven decision-making that improves planning and resource allocation

Anticipated Technology readiness in the market





Classic (2023+)



Generated with Claude



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Improve User Story

The screenshot displays the Jira Software interface for a project named 'Hackathon - Claudia'. The main content area shows a user story titled 'Challenge Selection (Frontend)' with a description: 'As a user, I want to view and participate in monthly energy-saving challenges so that I can reduce my energy consumption and compete with friends.' The story includes a notice, a precondition, and acceptance criteria. The right sidebar shows the 'Details' tab with fields for Assignee (Sara Khalifa), Labels (Frontend, QA_Check), Sprint (None), Story point estimate (None), and Reporter (Sara Khalifa). The bottom of the story shows a comment input field and a 'Pro tip' message.

Projects / Hackathon - Claudia / SCRUM-4 / SCRUM-24

Challenge Selection (Frontend)

[Attach](#) [Add a child issue](#) [Link issue](#) [Zephyr Scale](#)

Description
As a user, I want to view and participate in monthly energy-saving challenges so that I can reduce my energy consumption and compete with friends.

Notice: During implementation, it should be noted that the challenges should be able to be expanded as efficiently as possible in the future.

Precondition:

1. The user has successfully logged in

Acceptance Criteria:

1. On the dashboard and in the navigation menu i should see "Challenges" Link that directs me to the Challenge Selection page.
 - a. Once on the Challenge Selection page, user should see a list of available challenges for the month.
 - b. Each challenge should be presented in a card or box format with a brief summary.
 - c. Each challenge card should have:
 - i. Challenge Title: Clearly describing the nature of the challenge
 - ii. Challenge Description: A brief summary of the challenge objectives and requirements
 1. "Cut down your heating consumption by 10% compared to the previous month"
 2. "Cut down your over all electricity consumption by 5% compared to the previous month"
 - iii. Duration: The start and end date of the challenge
 - iv. Reward: A description of what the participant stands to gain upon successful completion (e.g., "Earn 50 Eco Points").
 - v. At the bottom of the challenge card user should see a button labeled "Join Challenge" that users can click to participate in the challenge.
2. Challenge selection page filtering and sorting
 - a. When i as a user on the challenge selection page i should see above the list of challenge cards a drop down menu labeled "Filter by Category."
 - i. When clicked, it should expand to show the available categories: "Other Electricity", "Heating", "Cooling"
 - ii. Users can select one or multiple categories from the drop down.
 - iii. Once the desired categories are selected, the page should automatically update to display only challenges that fall under those categories.
 - b. Next to the "Filter by Category" drop down, i see another drop down menu labeled "Sort by."



Generate Test Cases

Newest first ⌵

user's goal to view and participate in monthly energy-saving challenges.

In Review

⚡ Actions

Transition to → TO DO

Refinement → READY4DEVELOPMENT

View workflow

Labels Frontend QA_Check

Sprint None

Story point estimate None

Reporter SK Sara Khalifa







Let's collect more cool (aka valuable) Use Cases

1	Write user stories for backlogs	Very useful for converting outlines to first drafts of user stories.	Planning
2	Create boiler plate code	Can be usefull for a junior developer or for a timeboxed PoC.	Design
3	Write documentation	Extremly helpful enhance code documentation and make parts better understandable.	Implementation
4	Find usage of code	Not that much useful, a good editor should provide this function already.	Implementation
5	Create simple code	Convinient feature, but you need to test and controll the results. But will most likely be one of the best features in the future.	Implementation
6	Create mock data	Excellent positive demonstration of the power of GenAI.	Testing
7	Convert pipelines from GitHub actions to Jenkins	Good enough for experimantation.	Deployment
8	Enhance build steps	A context aware helper like is very practical.	Deployment
9	Explain code	Very powerful to breakdown complex pieces of code.	Maintenance & Support



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AI-based bug ticket resolution

Log entries are missing #1

🕒 Open



thorstenmaier opened last week

We've noticed some strange behavior with the user management system. Sometimes when we create new users, they don't show up in the audit logs even though the users appear in the system. Other times, we see log entries for users that don't seem to exist.

When It Happens

This doesn't happen all the time, which makes it hard to predict. We've noticed it more when the system is busy.

Why This Matters

Our compliance team is concerned because they rely on these logs for their quarterly audits. They've flagged this as a potential issue for our upcoming security review.

Additional Notes

- The issue seems more frequent on Monday mornings when everyone is creating accounts
- Sometimes refreshing the page makes the missing users appear
- We've tried using different browsers but the problem still occurs

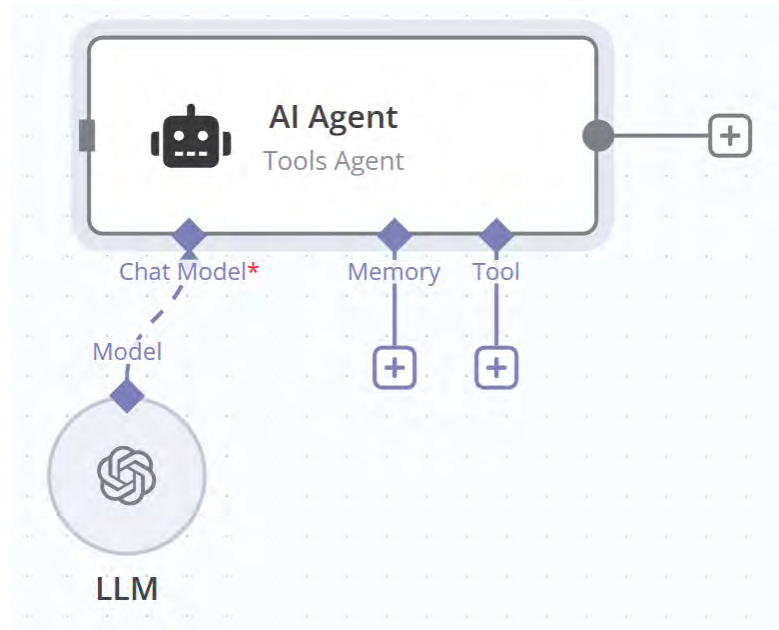
Create sub-issue



<https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug/issues/1>



AI-based bug ticket resolution



Fix this issue <https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug/issues/1>

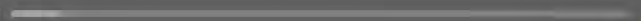
^ Code ^ default



Task

Fix this issue <https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug/issues/1> [See more](#)

Tokens: ↑ 0 ↓ 0

Context Window: 0  200.0k

API Cost: \$0.0000   1.32 kB

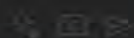
API Request...

☐ Auto-approve: None

Cancel

Type a message...
(@ to add context, / to switch modes, hold shift to drag modes)

Code



Show All Commands **Ctrl + Shift + P**

Go to File **Ctrl + P**

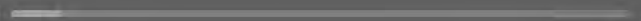
Open Chat **Ctrl + Alt + I**

Start Debugging **F5**

Task

Fix this issue <https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug/issues/1> [See more](#)

Tokens: ↑ 0 ↓ 0

Context Window: 0  200.0k

API Cost: \$0.0000   1.32 kB

API Request...

Auto-approve: None

Cancel

Type a message...

(@ to add context, / to switch modes, hold shift to drag links)

Code



Show All Commands **Ctrl + Shift + P**

Go to File **Ctrl + P**

Open Chat **Ctrl + Alt + I**

Start Debugging **F5**

> **Task:** Fix this issue [https://github.com/thorstenmaier/2025-03-07-us...](https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug/issues/1) \$0.0627 X

✓ **API Request** \$0.0627

🔗 **Initial Checkpoint** Current

I need to fix an issue from a GitHub repository. The user has provided a GitHub issue URL: <https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug/issues/1>

First, I should understand what the issue is by examining the GitHub repository and the specific issue. Since I don't have direct access to GitHub through the tools, I'll need to clone the repository to the local machine to examine the code and fix the issue.

Let's start by cloning the repository to the current working directory:

I'll help you fix the issue from the GitHub repository. Let's start by cloning the repository to examine the code.

🔍 **Roo wants to execute this command:**

```
git clone https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug.git
```

> Command Output

🔍 **API Request...**

Auto-approve: None

Cancel

Type a message...

(@) to add context / to switch modes, hold shift to drag (in files)



Code

Default

PROBLEMS OUTPUT DEBUG CONSOLE **TERMINAL** PORTS COMMENTS Roo Code + - [Icons]

```
PS C:\Users\thorsten.a.maier\roo-demo> git clone https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug.git
```

```
• Cloning into '2025-03-07-usermanagement-with-bug'...
```

```
remote: Enumerating objects: 106, done.
```

```
remote: Counting objects: 100% (106/106), done.
```

```
remote: Compressing objects: 100% (65/65), done.
```

```
remote: Total 106 (delta 27), reused 90 (delta 11), pack-reused 0 (from 0)
```

```
Receiving objects: 100% (106/106), 17.45 KiB | 1.94 MiB/s, done.
```

```
Resolving deltas: 100% (27/27), done.
```

```
• PS C:\Users\thorsten.a.maier\roo-demo>
```


> **Task:** Fix this issue [https://github.com/thorstenmaier/2025-03-07-us...](https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug) \$0.0717 X

ent-with-bug.git

> Command Output

✓ **API Request** \$0.0090

🔗 **Checkpoint** Current

Great, I've successfully cloned the repository. Now I need to:

- Examine the GitHub issue to understand what needs to be fixed
- Look at the repository structure to understand the codebase
- Identify and fix the issue

Let's first look at the repository structure to get a better understanding of the codebase:

Now that I've cloned the repository, let's examine its structure to understand the codebase better.

📁 **Roo wants to recursively view all files in this directory:**

usermanagement-with-bug-2025-03-07

API Request...

Auto-approve: None

Cancel

Type a message...

(@ to add context / to switch modes, hold shift to drag in files)

Code default

PROBLEMS OUTPUT DEBUG CONSOLE **TERMINAL** PORTS COMMENTS Roo Code + [Icons]

```
PS C:\Users\thorsten.a.maier\roo-demo> git clone https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug.git
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```

```
PS C:\Users\thorsten.a.maier\roo-demo> 
```


> **Task:** Fix this issue [https://github.com/thorstenmaier/2025-03-07-us...](https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug/issues/1) \$0.0820 ✕

<https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug/issues/1>



Sign in

thorstenmaier /

Notifications

Fork 0

Star 0

2025-03-07-usermanagement-with-bug Public

<> Code Issues 1 Pull requests Actions Projects Security Insights

Log entries are missing #1

New issue

Open



thorstenmaier opened 5 days ago

...

Assignees

No one assigned

Labels

No labels

Projects

No projects

Milestone

We've noticed some strange behavior with the user management system. Sometimes when we create new users, they don't show up in the audit logs even though the users appear in the system. Other times, we see log entries for users that don't seem to exist.

When It Happens

This doesn't happen all the time, which makes it hard to predict. We've noticed it more when the system is busy.

Why This Matters

> Console Logs

Auto-approve: None

Approve

Revert

Type a message...

(@ to add context, / to switch modes, hold shift to drag in files)

Code default

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

COMMENTS



Roo Code



```
PS C:\Users\thorsten.a.maier\roo-demo> git clone https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug.git
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• Cloning into '2025-03-07-usermanagement-with-bug'...

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PS C:\Users\thorsten.a.maier\roo-demo> 
```


> **Task:** Fix this issue [https://github.com/thorstenmaier/2025-03-07-us...](https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug) \$0.0820 ✕

thorstenmaier / 2025-03-07-usermanagement-with-bug Public

<> Code Issues 1 Pull requests Actions Projects Security Insights

Log entries are missing #1

New Issue

Open

thorstenmaier opened 5 days ago

We've noticed some strange behavior with the user management system. Sometimes when we create new users, they don't show up in the audit logs even though the users appear in the system. Other times, we see log entries for users that don't seem to exist.

When It Happens
This doesn't happen all the time, which makes it hard to predict. We've noticed it more when the system is busy.

Why This Matters

Assignees
No one assigned

Labels
No labels

Projects
No projects

Milestone

> Console Logs

API Request...

Step 2 of 2

Previous

Next

Auto-approve: None

Cancel

Type a message...

(@ to add context / to switch modes, hold shift to drag in files)

Code default

PROBLEMS OUTPUT DEBUG CONSOLE **TERMINAL** PORTS COMMENTS Roo Code

```
PS C:\Users\thorsten.a.maier\roo-demo> git clone https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug.git
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```
Resolving deltas: 100% (27/27), done.
```

PS C:\Users\thorsten.a.maier\roo-demo>

> **Task:** Fix this issue <https://github.com/thorstenmaier/2025-03-07-us...> \$0.1224 ✕

Any code that handles the creation of log entries when users are created

Now I have a good understanding of the issue. Let's close the browser and examine the relevant code files to identify the root cause.

Browse Action: Close browser

Step 3 of 3

Previous


Next


✓ **API Request** \$0.0094

Now let's examine the relevant code files to understand how user creation and logging work in this application. Let's start by looking at the User domain class, the UserService implementation, and the LogEntry class.

First, let's look at the User domain class:

Let's examine the relevant code files to understand how user creation and logging work in this application. I'll start by looking at the User domain class:

 **Roo wants to read this file:**

...with-bug/src/main/java/com/accenture/spring/user/domain/User.java-2025-03-07 

Auto-approve: None

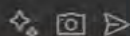
Approve

Reject

Type a message...

(@ to add context, / to switch modes, hold shift to drag in files/images)

Code default



PROBLEMS


OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

COMMENTS

 Roo Code

+ v





...

^

✕

```
PS C:\Users\thorsten.a.maier\roo-demo> git clone https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug.git
```

```
• Cloning into '2025-03-07-usermanagement-with-bug'...
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```
PS C:\Users\thorsten.a.maier\roo-demo>
```


> **Task:** Fix this issue <https://github.com/thorstenmaier/2025-03-07-us...> \$0.1328 ✕

✓ **API Request** \$0.0094

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Roo wants to read this file:

...with-bug/src/main/java/com/accenture/spring/user/domain/User.java-2025-03-07

✓ **API Request** \$0.0104

Now let's look at the LogEntry domain class:

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Roo wants to read this file:

...-bug/src/main/java/com/accenture/spring/user/domain/LogEntry.java-2025-03-07

☐ Auto-approve: None

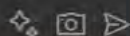
Approve

Reject

Type a message...

(@ to add context, / to switch modes, hold shift to drag in files/images)

Code default



PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

COMMENTS



Roo Code



```
PS C:\Users\thorsten.a.maier\roo-demo> git clone https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug.git
```

● Cloning into '2025-03-07-usermanagement-with-bug'...

```
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```

```
Resolving deltas: 100% (27/27), done.
```

▣ PS C:\Users\thorsten.a.maier\roo-demo>


> **Task:** Fix this issue <https://github.com/thorstenmaier/2025-03-07-us...> \$0.1328 X


✓ **API Request** \$0.0094

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✓ **API Request** \$0.0104

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 **Roo wants to read this file:**

...-bug/src/main/java/com/accenture/spring/user/domain/LogEntry.java-2025-03-07 

Auto-approve: None

Cancel

Type a message...

(@ to add context / to switch modes: hold shift to drag in files)

ONE TWO

PROBLEMS OUTPUT DEBUG CONSOLE **TERMINAL** PORTS COMMENTS  Roo Code + - [window icon] [trash icon] ... ^ X

```
PS C:\Users\thorsten.a.maier\roo-demo> git clone https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug.git
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```

```
Resolving deltas: 100% (27/27), done.
```


```
PS C:\Users\thorsten.a.maier\roo-demo> 
```



> **Task:** Fix this issue <https://github.com/thorstenmaier/2025-03-07-us...> \$0.1749 X

✓ **API Request** \$0.0096

Let's also look at the UserController to understand how user creation is handled at the controller level:

Let's examine the UserController to understand how user creation is handled at the controller level:


 **Roo wants to read this file:**


...c/main/java/com/accenture/spring/user/controller/UserController.java-2025-03-07 

✓ **API Request** \$0.0109

Let's also check if there are any transaction-related configurations or settings in the application properties:

Let's check the application properties for any transaction-related configurations:

 **Roo wants to read this file:**

usermanagement-with-bug/src/main/resources/application.properties-2025-03-07 

🔄 **API Request...**

✓ Auto-approve: Read

Cancel

Type a message...

(@ to add context, / to switch modes, hold shift to drag in files)

Code default

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

COMMENTS



Roo Code



```
PS C:\Users\thorsten.a.maier\roo-demo> git clone https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug.git
```

```
• Cloning into '2025-03-07-usermanagement-with-bug'...
```

```
remote: Enumerating objects: 106, done.
```

```
remote: Counting objects: 100% (106/106), done.
```

```
remote: Compressing objects: 100% (65/65), done.
```

```
remote: Total 106 (delta 27), reused 90 (delta 11), pack-reused 0 (from 0)
```

```
Receiving objects: 100% (106/106), 17.45 KiB | 1.94 MiB/s, done.
```

```
Resolving deltas: 100% (27/27), done.
```

```
PS C:\Users\thorsten.a.maier\roo-demo>
```


> **Task:** Fix this issue <https://github.com/thorstenmaier/2025-03-07-us...> \$0.1749 ✕

In the `UserServiceImpl.createUser` method (lines 36-40), I see:

```
@PreAuthorize("hasRole('ADMIN')")
public User createUser(User user) {
    logEntryRepository.save(new LogEntry("User created"));
    return userRepository.save(user);
}
```

The issue is that the log entry is saved before the user is saved, and there's no transaction management. If the user save operation fails for any reason (e.g., due to a constraint violation or other database error), the log entry will still be saved, resulting in log entries for users that don't exist.

Additionally, there's no reference to the specific user in the log entry - it just says "User created" without any information about which user was created. This makes it impossible to correlate log entries with specific users.

The fix should involve:

- Adding proper transaction management to ensure that both operations (saving the log entry and saving the user) are part of the same transaction
- Saving the log entry after the user is successfully saved
- Including user information in the log entry to make it more useful for auditing

Let's implement these changes:

After

✓ Auto-approve: Read >

Cancel

Type a message...

(@ to add content, / to switch modes, hold shift to drag in files)

Code Preview

PROBLEMS OUTPUT DEBUG CONSOLE **TERMINAL** PORTS COMMENTS Roo Code + - [Icons]

```
PS C:\Users\thorsten.a.maier\roo-demo> git clone https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug.git
Cloning into '2025-03-07-usermanagement-with-bug'...
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Resolving deltas: 100% (27/27), done.
PS C:\Users\thorsten.a.maier\roo-demo>
```


> **Task:** Fix this issue <https://github.com/thorstenmaier/2025-03-07-us...> \$0.1749 ✕

`UserServiceImpl.createUser` method:

```
@PreAuthorize("hasRole('ADMIN')")
public User createUser(User user) {
    logEntryRepository.save(new LogEntry("User created"));
    return userRepository.save(user);
}
```


There are two key problems:

The log entry is saved before the user is saved. If the user save operation fails for any reason (e.g., due to a constraint violation), the log entry will still be saved, resulting in log entries for users that don't exist.

There's no transaction management to ensure that both operations (saving the log entry and saving the user) are part of the same transaction.

The log entry doesn't contain any information about which user was created, making it impossible to correlate log entries with specific users.

Let's fix these issues by modifying the `UserServiceImpl.java` file:

 **Roo wants to edit this file:**

...rc/main/java/com/accenture/spring/user/service/UserServiceImpl.java-2025-03-07 ✕

☒ Auto-approve: Read >

Cancel

Type a message ...

(@) to add context / to switch modes, hold shift to drag (in files)

✕ Copy ✕ Revert

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS COMMENTS  Roo Code + ✕ [Icons]

PS C:\Users\thorsten.a.maier\roo-demo> git clone https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug.git

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remote: Compressing objects: 100% (65/65), done.

remote: Total 106 (delta 27), reused 90 (delta 11), pack-reused 0 (from 0)

Receiving objects: 100% (106/106), 17.45 KiB | 1.94 MiB/s, done.

Resolving deltas: 100% (27/27), done.

PS C:\Users\thorsten.a.maier\roo-demo> []

> **Task:** Fix this issue <https://github.com/thorstenmaier/2025-03-07-us...> \$0.2059 X

```
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Let's fix these issues by modifying the `UserServiceImpl.java` file:

Roo wants to edit this file:

...rc/main/java/com/accenture/spring/user/service/UserServiceImpl.java-2025-03-07 ▾

API Request... ▾

☒ Auto-approve: Read >

Cancel

Type a message...
(@ to add context / to switch modes, hold shift to drag in files)

Code default

3-07-usermanagement-with-bug > src > main > java > com > accenture > spring > user > service > UserServiceImpl.java

```
1 package com.accenture.spring.user.service;
2
3 import java.util.List;
4
5 import org.springframework.security.access.prepost.PreAuthorize;
6 import org.springframework.stereotype.Component;
7 import org.springframework.transaction.annotation.Transactional;
8
9 import com.accenture.spring.user.aop.Monitor;
10 import com.accenture.spring.user.domain.LogEntry;
11 import com.accenture.spring.user.domain.User;
12 import com.accenture.spring.user.repository.LogEntryRepository;
13 import com.accenture.spring.user.repository.UserRepository;
14
15 @Component
16 public class UserServiceImpl implements UserService {
17
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS COMMENTS Roo Code + ▾ ▢ [Icons] ^ X

PS C:\Users\thorsten.a.maier\roo-demo> git clone https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug.git

- Cloning into '2025-03-07-usermanagement-with-bug'...
remote: Enumerating objects: 106, done.
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Resolving deltas: 100% (27/27), done.
- PS C:\Users\thorsten.a.maier\roo-demo> []

> **Task:** Fix this issue <https://github.com/thorstenmaier/2025-03-07-us...> \$0.2251 ✕

entry and saving the user) are part of the same transaction.

The log entry doesn't contain any information about which user was created, making it impossible to correlate log entries with specific users.

Let's fix these issues by modifying the `UserServiceImpl.java` file:

Roo wants to edit this file:

...rc/main/java/com/accenture/spring/user/service/UserServiceImpl.java-2025-03-07 ✕

✓ **API Request** \$0.0191 ✕

Checkpoint Current

Now let's also add transaction management to the delete operation to ensure consistency. We should also add a log entry for user deletion to maintain a complete audit trail:

Now let's also add transaction management to the delete operation and add a log entry for user deletion to maintain a complete audit trail:

Roo wants to edit this file:

...rc/main/java/com/accenture/spring/user/service/UserServiceImpl.java-2025-03-07 ✕

✓ **Auto-approve:** Read >

Save

Reject

Type a message...

(@ to add context, / to switch modes, hold shift to drag in files/images)

~ Code ~ default



> main > java > com > accenture > spring > user > service > `UserServiceImpl.java` > {} com.accenture.spring.user.service

```
40 16 public class UserServiceImpl implements UserService {
41 39     public User createUser(User user) {
42 42         // Then create a log entry with user details
43 43         logEntryRepository.save(new LogEntry("User created: " + savedUser.get
44 44         return savedUser;
45 45     }
46 46
47 47     @Override
48+ 48     @Transactional
49 49     @PreAuthorize("hasRole('ADMIN')")
49 50     public void deleteUserById(Long id) {
51+ 51         // Get user details before deletion for logging
52+ 52         User user = userRepository.findById(id).orElse(null);
53+ 53         if (user != null) {
50 54         userRepository.deleteById(id);
55+ 55         logEntryRepository.save(new LogEntry("User deleted: " + user.get
```

PROBLEMS OUTPUT DEBUG CONSOLE **TERMINAL** PORTS COMMENTS + ✕ ... ^ ✕

PS C:\Users\thorsten.a.maier\roo-demo> git clone https://github.com/thorstenmaier/2025-03-07-usermanagement-with-bug.git

● Cloning into '2025-03-07-usermanagement-with-bug'...

remote: Enumerating objects: 106, done.

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Resolving deltas: 100% (27/27), done.

○ PS C:\Users\thorsten.a.maier\roo-demo>

> **Task:** Fix this issue <https://github.com/thorstenmaier/2025-03-0...>

\$0.3161

Roo wants to read this file:

...ava/com/accnture/spring/user/repository/DatabseInitializer.java-2025-03-07

✓ API Request \$0.0267

Now let's create a test to verify our fix. We'll create a new test in the UserServiceTest class that tests the createUser method and verifies that the log entry is created correctly.

Let's modify the UserServiceTest.java file:

Now let's create a test to verify our fix. We'll add a test method to the UserServiceTest class that tests the createUser method and verifies that the log entry is created correctly:

Roo wants to edit this file:

...test/java/com/accnture/spring/user/service/UserServiceTest.java-2025-03-07

✓ API Request \$0.0151

⚙ Checkpoint Current

✓ Auto-approve: Read, Commands

Resume Task

Terminate

Type a message...

(@ to add context, / to switch modes, hold shift to drag in files/images)

^ Code ^ default

025-03-07-usermanagement-with-bug > src > test > java > com > accnture > spring > user > service > UserServiceTest.java

```
20 public class UserServiceTest {
47+     public void testCreateUserWithLogEntry() {
48+         // Count log entries before
49+         long logCountBefore = logEntryRepository.count();
50+
51+         // Create a new user
52+         User newUser = new User(firstname:"Test", lastname:"User");
53+         User savedUser = userService.createUser(newUser);
54+
55+         // Verify user was saved
56+         assertEquals(expected:"Test", savedUser.getFirstname());
57+         assertEquals(expected:"User", savedUser.getLastname());
58+
59+         // Verify log entry was created
60+         List<LogEntry> logEntries = logEntryRepository.findAll();
61+         assertEquals(logCountBefore + 1, logEntries.size());
62+
63+         // Find the latest log entry
64+         LogEntry latestLog = logEntries.get(logEntries.size() - 1);
```

PROBLEMS 9

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

COMMENTS

PS C:\Users\thorsten.a.maier\roo-demo>

Roo ...

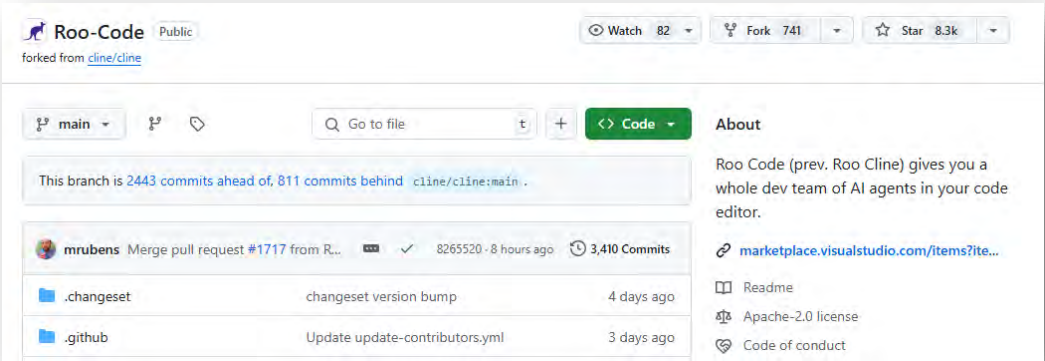
Roo ...

Roo ...

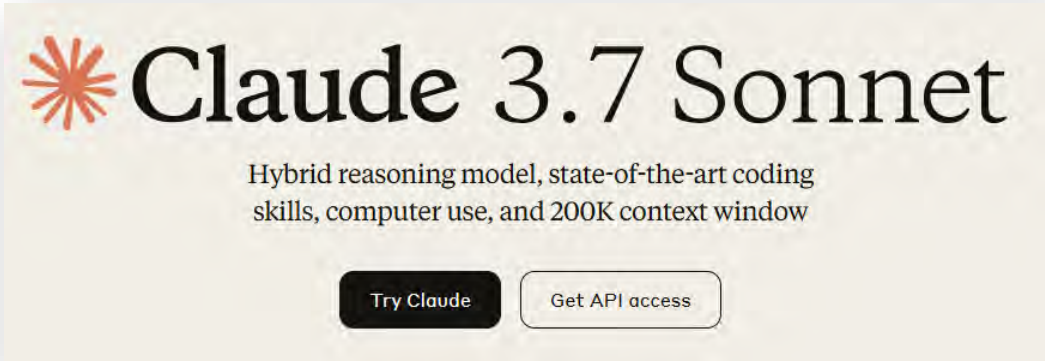
OpenSource Plugin + Credit Card 😊



Visual Studio Code




<https://github.com/RooVetGit/Roo-Code>



<https://www.anthropic.com/claude/sonnet>



ROO CODE + [Icons] v3.22.6



Generate, refactor, and debug code with AI assistance. Check out our [documentation](#) to learn more.

Customizable Modes:
Specialized personas with their own behaviors and assigned models

Task Orchestration: Split tasks into smaller, manageable parts

✓ Auto-approve: Read >

Type your task here...

(@ to add context, / to switch modes, hold shift to drag in files)

PROBLEMS OUTPUT TERMINAL ... [Icons]

* Welcome to **Claude Code**!

/help for help, /status for your current setup


cwd: /Users/thorsten.a.maier

* Tip: Want Claude to remember something? Hit # to add preferences, tools, and instructions to Claude's memory

> Try "create a util logging.py that..."

? for shortcuts

CHAT [Icons]





Edit with Copilot

Agent Mode

Ask Copilot to edit your files in [agent mode](#). Copilot will automatically use multiple requests to pick files to edit, run terminal commands, and iterate on errors.

Copilot is powered by AI, so mistakes are possible. Review output carefully before use.

 or type # to attach context

 Add Context...

Edit files in your workspace in agent mo

A. ▾ Claude... ▾ [Icons]

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ROO CODE +

v3.22.6

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☒ Auto-approve: Read

Type your task here...

(@ to add context, / to switch modes, hold shift to drag in files)

Code ~ default

Search

PROBLEMS OUTPUT **TERMINAL** ...

node +

* Welcome to **Claude Code**!

/help for help, /status for your current setup

cwd: /Users/thorsten.a.maier

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ROO CODE + [Icons] v3.22.6



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Search [Icons]


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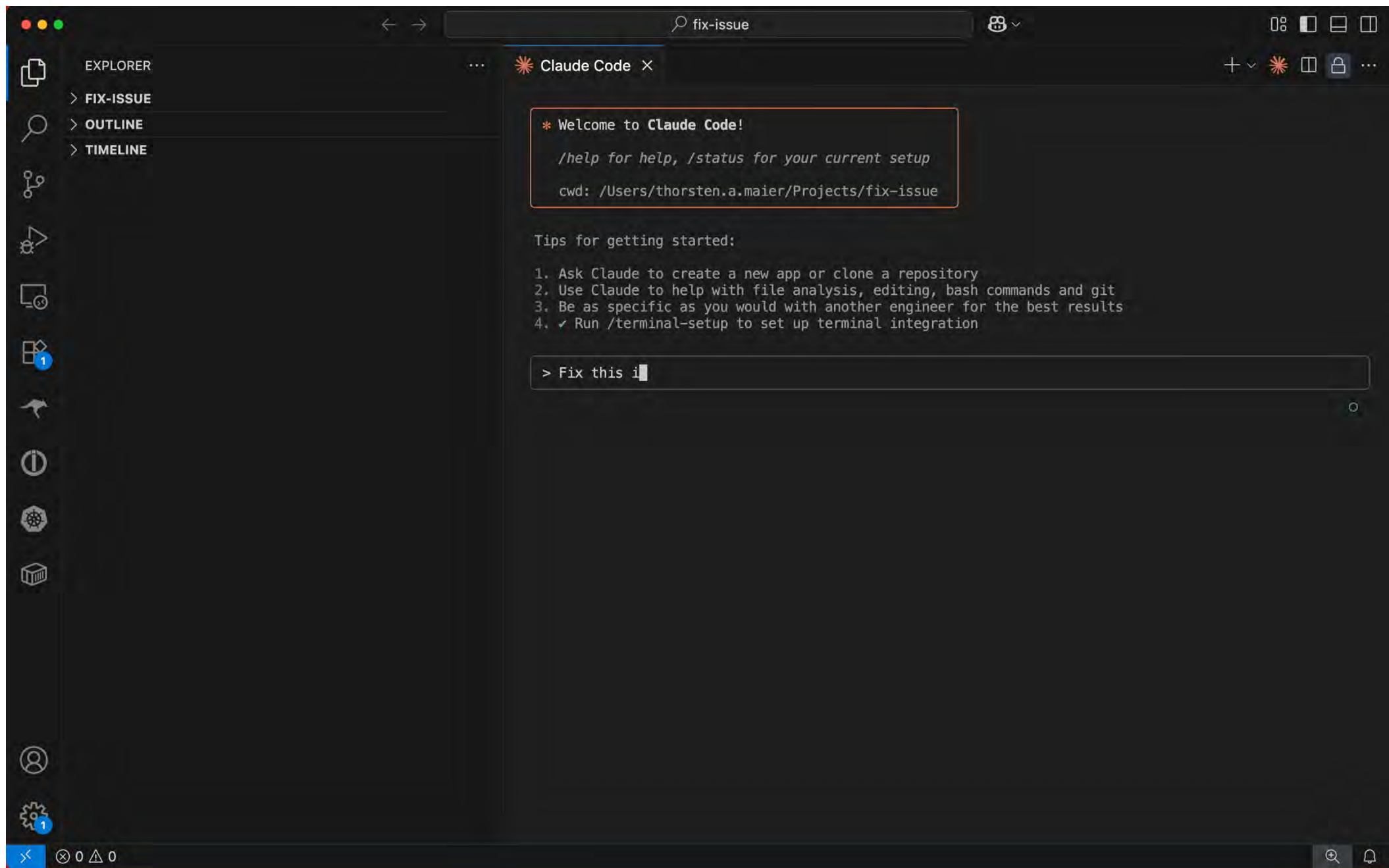
Edit files in your workspace in agent mo

A. ▾ Claude... ▾ [Icons]

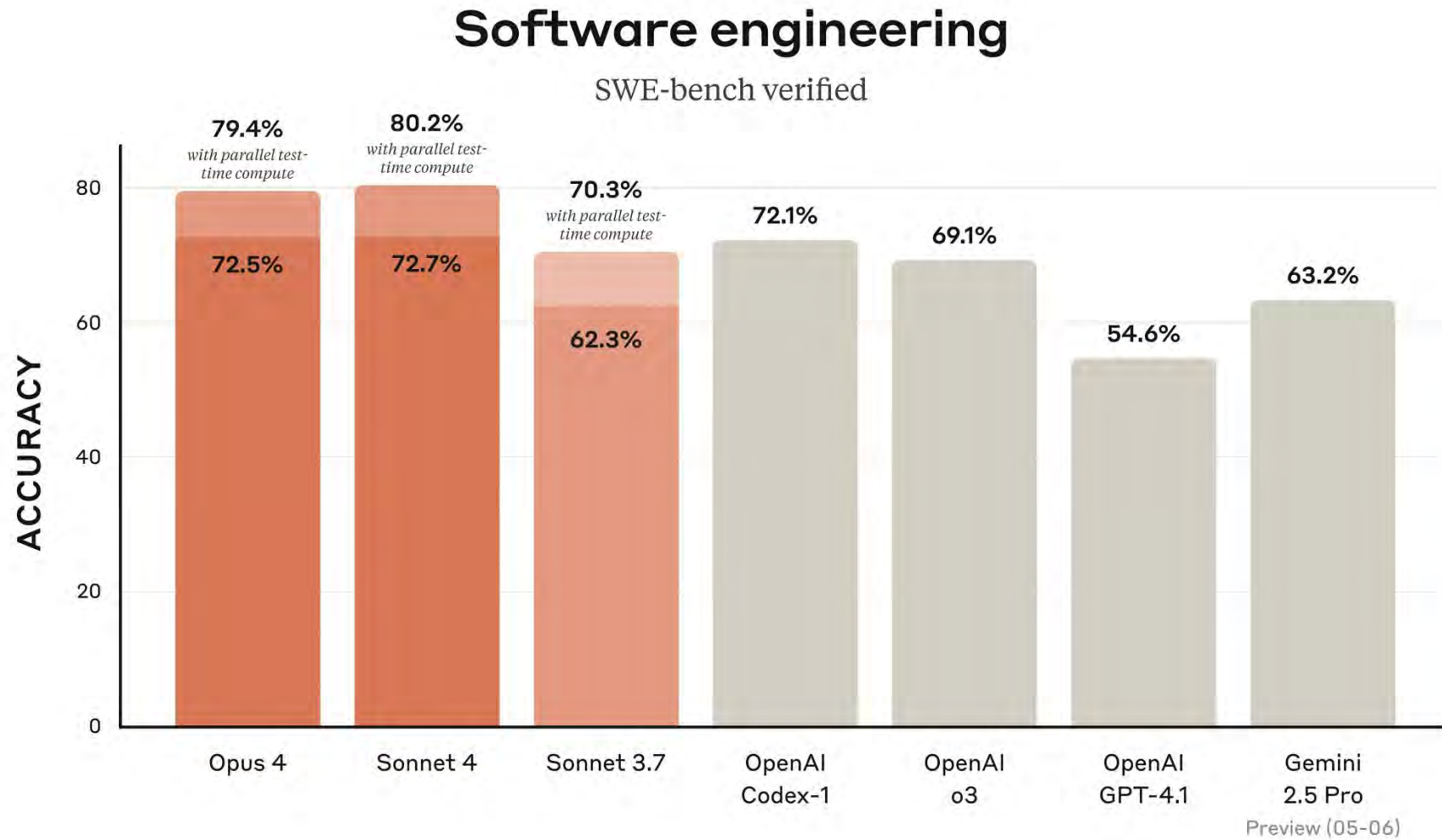
PROBLEMS OUTPUT **TERMINAL** ... [Icons]

```
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* Tip: Want Claude to remember something? Hit # to add preferences,  
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? for shortcuts
```





How good are these models?



<https://www.anthropic.com/news/claude-4>



Is it only for developers?

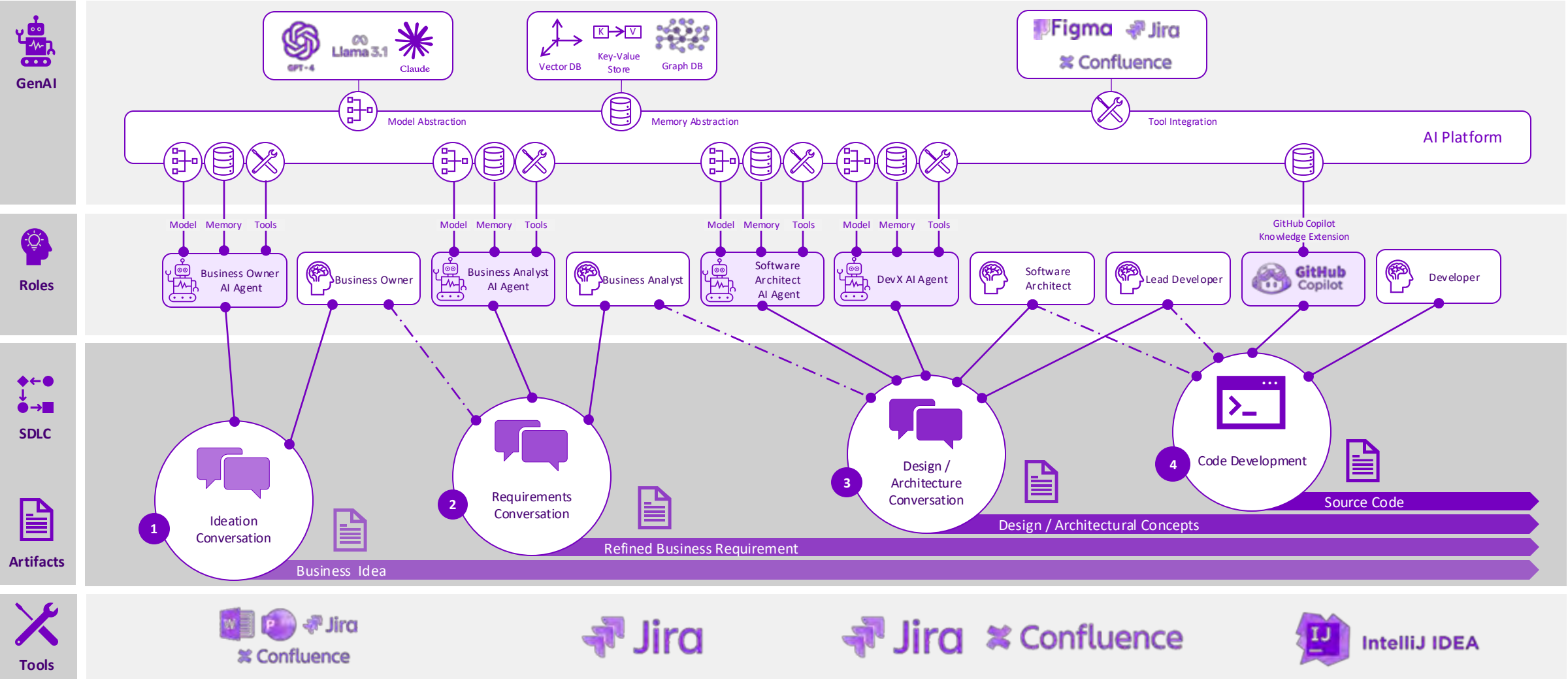
*We need to scale
Agents across the
entire organization*

*Do I need to create a
prompt library to
repeat it?*

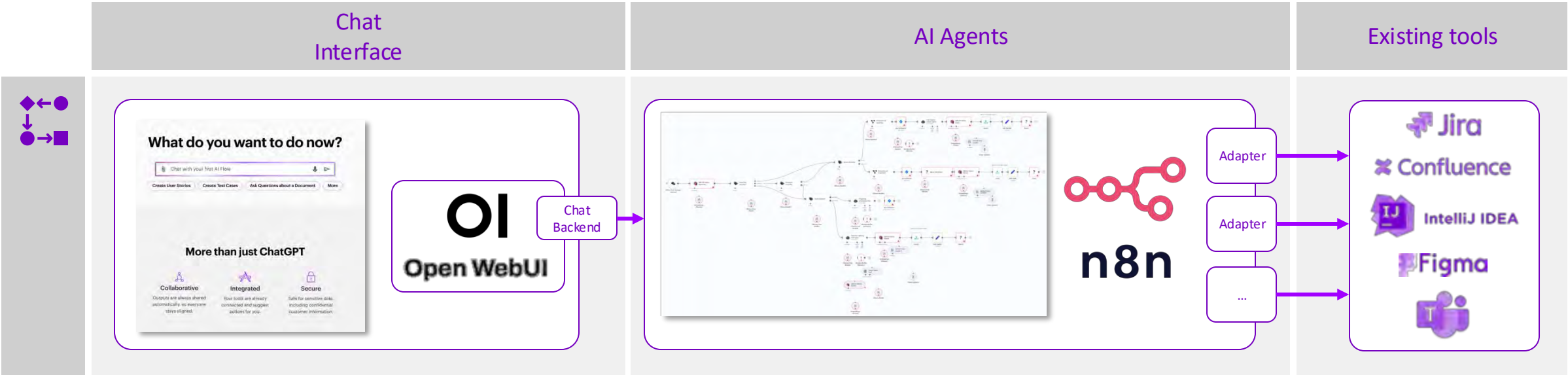


You will need an AI Platform

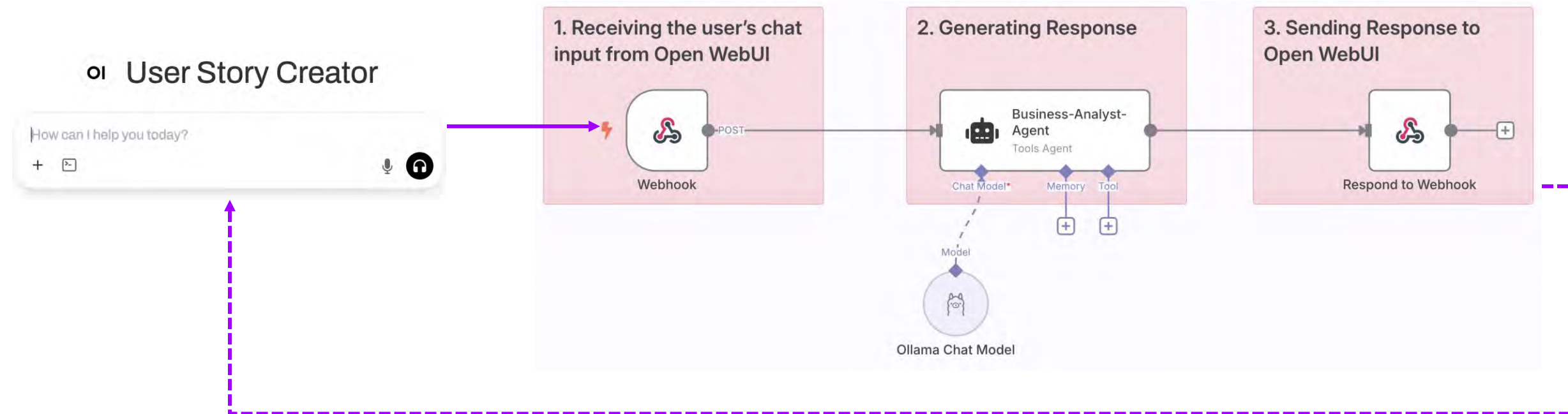
Rethink SDLC as consecutive conversations with alternating roles resulting in artifacts where AI agents participate in these conversations



AI platform based on open-source solutions



Simple example – User Story Creator



Group-based collaboration



Thorsten Maier

Good morning, I was off yesterday. Can you please give me a short update?

+ Eine Nachricht senden



Group-based collaboration



Thorsten Maier

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Jira (AI-Agent)

Welcome back, Thorsten! Here's a quick summary of what happened while you were away:

- **Feature: Dark Mode for Dashboard** → The implementation is complete, but we need final validation before release.
- **Bug: Payment Processing Failure (JIRA-4821)** → Still open, waiting for a root cause analysis.
- **Sprint Review** → The team identified performance issues in the user search API, leading to slow response times.

Suggested next step for you:

Your input on optimizing the search API would be valuable. You can start by reviewing the latest performance benchmarks in the Jira ticket: JIRA-4963.

+ Eine Nachricht senden



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Nils

Hold on, Thorsten! We have a production issue that takes priority.

+ Eine Nachricht senden



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Jörg

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AI-Coder (AI-Agent)

Can you share the link to the bug report? I'll analyze the issue and suggest a solution.

+ Eine Nachricht senden




Group-based collaboration



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AI-Coder (AI-Agent)



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Jörg

Here's the link: BUG-5729

 Eine Nachricht senden



Group-based collaboration

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Jörg

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AI-Coder (AI-Agent)

Can you share the link to the bug report? I'll analyze the issue and suggest a solution.



Jörg

Here's the link: BUG-5729



AI-Coder (AI-Agent)

Possible fix:

The issue appears to be caused by a race condition in the authentication module. When two sessions are initialized simultaneously for the same user, the session token is sometimes overwritten before verification is complete.

Suggested solution:




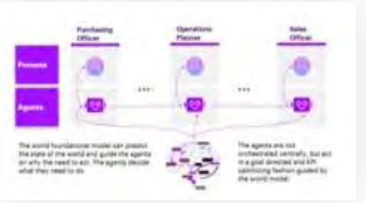
Introduce a locking mechanism for session initialization or switch to an atomic reference for token handling.

Would you like me to generate a code snippet for this fix?

+ Eine Nachricht senden

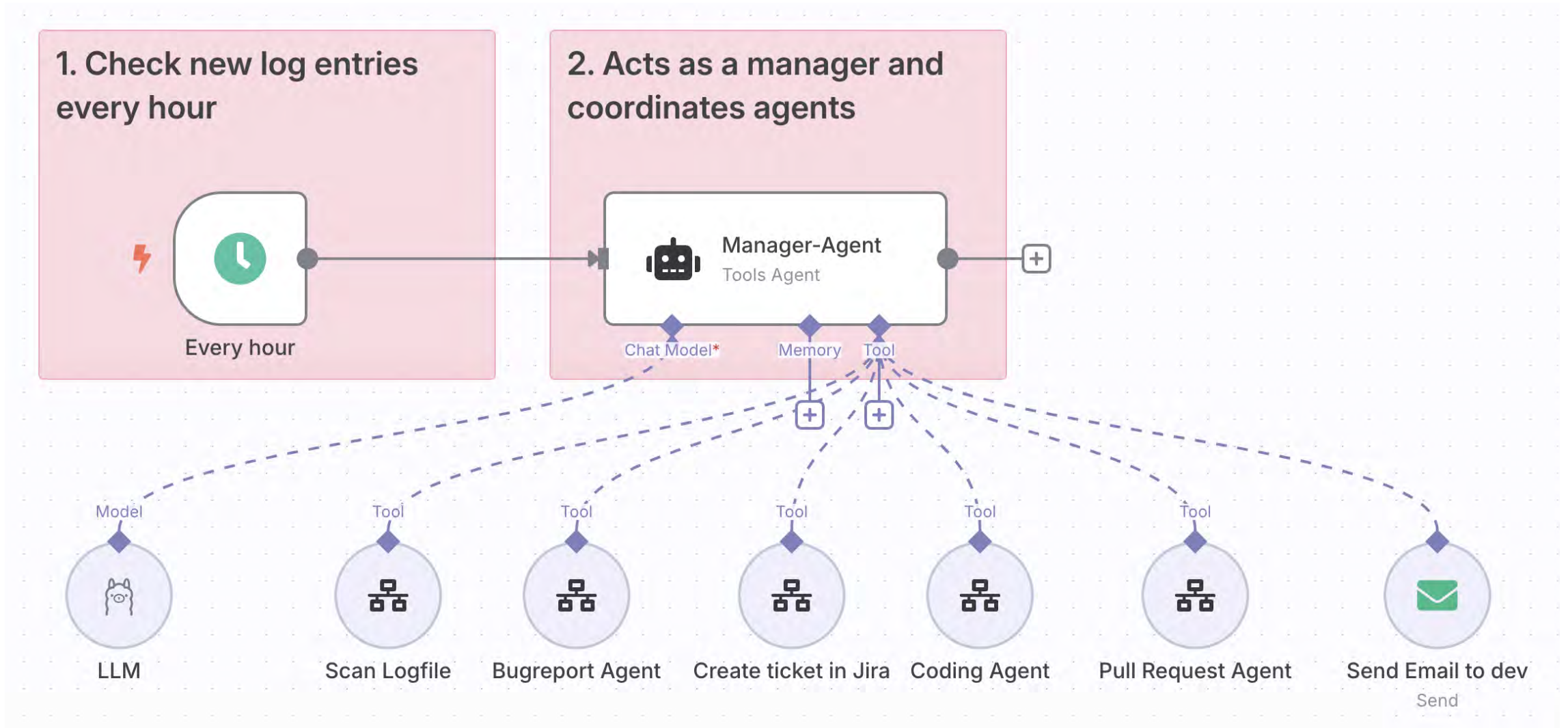


Expected ROI and Business Impact of Agentic AI

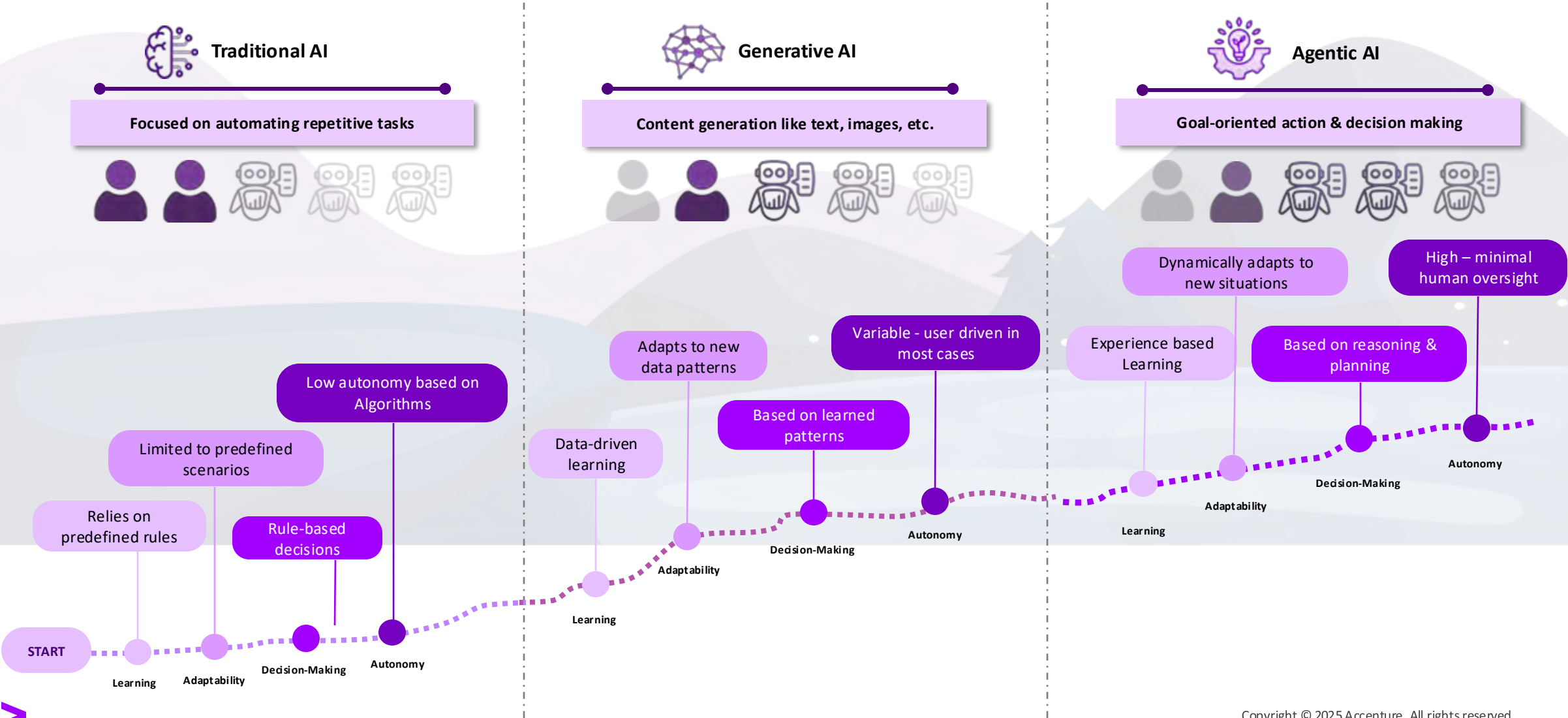
	Humans augmented by machines			Machines Self Aware supported by Humans
				
Value Delivered	Information	Automation	Coordination	Optimization
Business Impact	Enable human workers & agents to find enterprise information faster	AI integrated closely into a process augmenting human workers	Enable long range automations for complex workflows augmenting human workers capabilities	Fully automated execution of complex service operations tasks
Productivity Increase	~ 5-15% Faster, data-driven decision-making that improves planning and resource allocation	~ 10-40% Lower labor costs and reduce manual deployment efforts	~ 1-2 x Rapid adaptation across business units with the ability to scale from digital to physical realms	~ 2-10X Future proof operations that deliver measurable productivity and sales growth
Anticipated Technology readiness in the market	Classic (2023+)	Advanced (2024+)	Current (2025+)	Future (2026+)



Fully automated workflow?



We need a mindset transformation



Here's a thought experiment

What if you banned yourself from doing tasks directly?

Instead, for everything you do in your
workday, you first ask:

“How can I get AI to do this?”

Start thinking “AI-native”



Thank You

