



# Get the right Solution



01

Almost everyone  
underestimates **complexity**

02

**Write** things down, draw  
diagrams, **propose solutions**

03

When in doubt, build the whole  
thing yourself...**without AWS or**  
**any enterprise tooling**

THIS IS A LEADING  
QUESTION....

## MULTIPLE CHOICE

What is the average number of integration points required for a production deployment in DSAI?

Projects Considered: DCA, ICBM, CI:Hack, Insurance Fraud, Clara, Interim Data Science platform

<10

10+

## MULTIPLE CHOICE

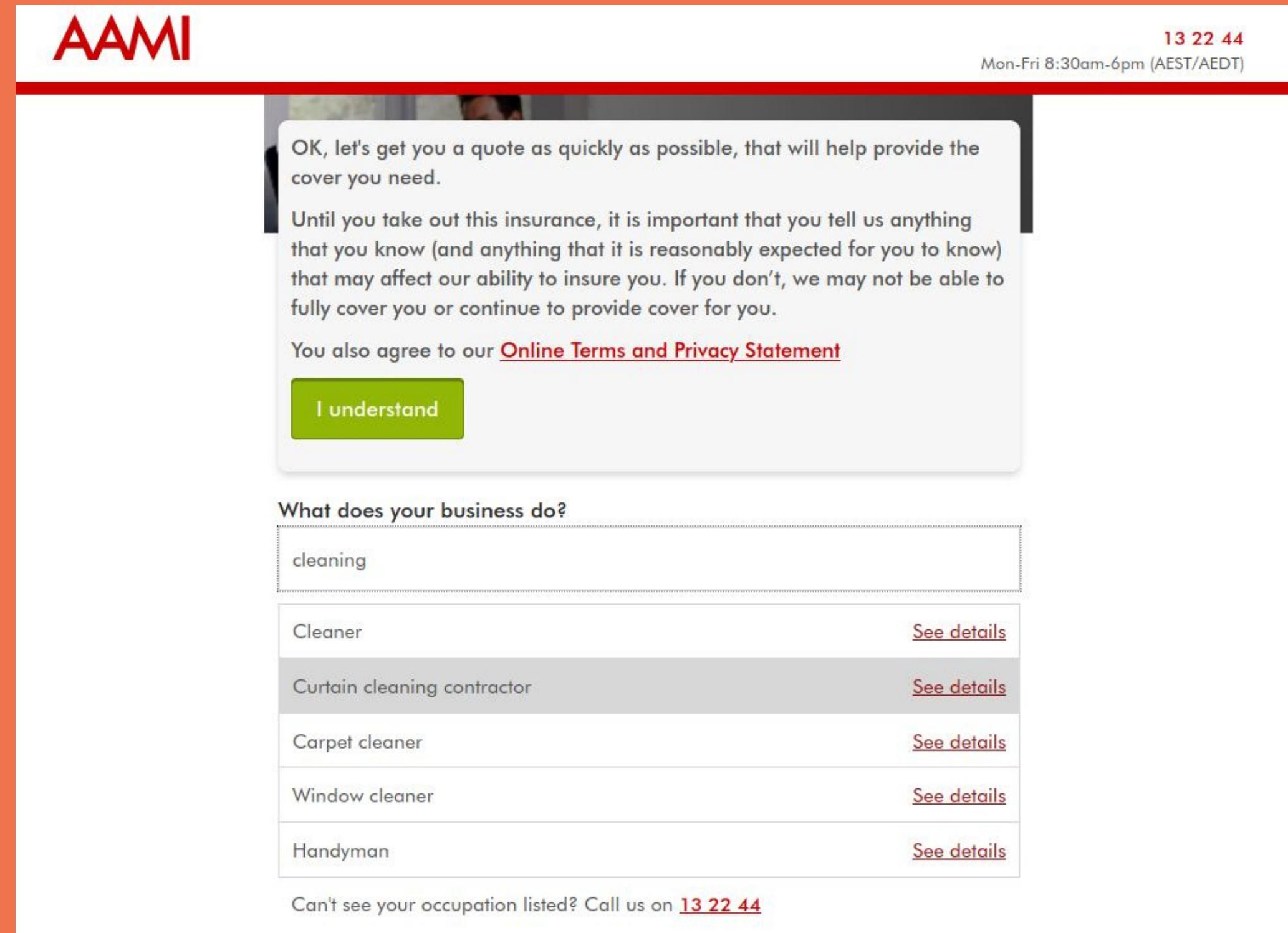
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# CI:HACK



The image shows a screenshot of an AAMI insurance quote form. At the top left is the AAMI logo. To the right are the phone number **13 22 44** and the operating hours "Mon-Fri 8:30am-6pm (AEST/AEDT)". A large red banner at the top has the text "OK, let's get you a quote as quickly as possible, that will help provide the cover you need." Below this, a message states: "Until you take out this insurance, it is important that you tell us anything that you know (and anything that it is reasonably expected for you to know) that may affect our ability to insure you. If you don't, we may not be able to fully cover you or continue to provide cover for you." It also mentions agreeing to the [Online Terms and Privacy Statement](#). A green button labeled "I understand" is present. The next section asks "What does your business do?" with the input "cleaning". A list of occupation options follows, each with a "See details" link: Cleaner, Curtain cleaning contractor, Carpet cleaner, Window cleaner, and Handyman. At the bottom, a note says "Can't see your occupation listed? Call us on **13 22 44**".

AAMI

13 22 44  
Mon-Fri 8:30am-6pm (AEST/AEDT)

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You also agree to our [Online Terms and Privacy Statement](#)

I understand

What does your business do?

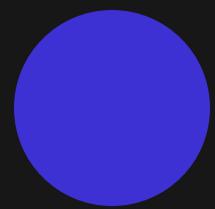
cleaning

Cleaner	<a href="#">See details</a>
Curtain cleaning contractor	<a href="#">See details</a>
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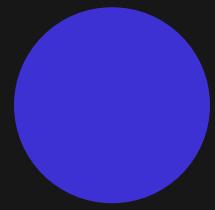
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# CUSTOMER FACING API

What are some of the considerations?



Entitlements



DMZ



API Gateways



Airgap Cloud  
Infrastructure

# CUSTOMER FACING API

What are some of the considerations?

Vendor Solutions don't fix these problems!



# **What are the considerations?**



In any solution that is proposed where is the complexity? - probably something James Pearce would say

## MULTIPLE CHOICE

In the AAMI Commercial Insurance Quote process solution how many Gateways and API endpoints were deployed to support our three ML models (ANZIC, Business Like you, Building Details) and WWW?

**1 Gateway  
2 API endpoints**

**1 Gateway  
5 API endpoints**

**2 Gateway  
5 API endpoints**

**2 Gateway  
10+ API endpoints**

## MULTIPLE CHOICE

In the AAMI Commercial Insurance Quote process how many APIs did our three ML models (ANZIC, Business Like you, Building Details) need to interact with?

**1**

**2**

**3**

**4**

## MULTIPLE CHOICE

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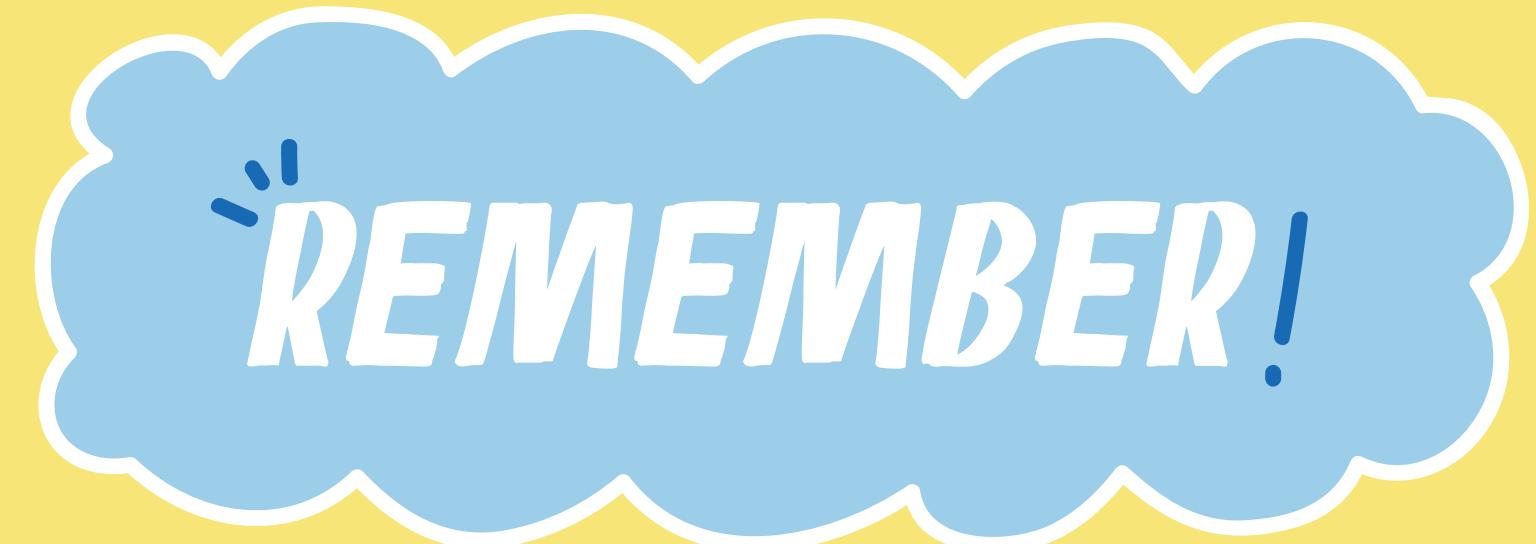
**2**

**3**

**4**

# On Building Facades

Facades don't remove the essential complexity, it merely moves it away (from the data scientists)



# Bonus: Conway's Law

Any organization that designs a system (defined broadly) will produce a design whose structure is a copy of the organization's communication structure.

- Melvin Conway

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Reflection on  
complexity!

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# Write Things Down



If you have 10 architects in a room you get 10 opinions -  
Kieran Earnshaw (probably)

# Write Things Down



- Talk is easy - communicate clearly by draw what things look like end-to end

The best way to get the right answer on the internet is not to ask a question, it's to post the wrong answer - Ward Cunningham  
(Cunningham's Law)

# Just build things

- Imagine I gave you a raspberry pi and told you to deploy your project what would you do?
- How quickly could you prototype anything end to end if you had to do it as fast as possible?



# Building a Web Application

We want to build a web portal where authorised users can view an interactive output powered by machine learning.

What considerations are there?

**Discuss**

# OPEN DISCUSSION

**Authorisation**

**ServiceNow**

**Turnkey  
Solutions?**

**Authentication**

**APIs vs WebApp?**

**Security?**

# OPEN DISCUSSION

**Authorisation**

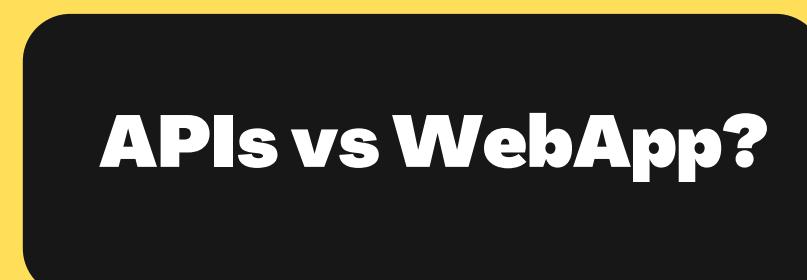
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**Security?**



# **AD Integration - is it enough?**

- Authentication: is the user using the web application who they say they are?
- Authorisation: does the user (after being authentication) have the correct role/privilege to interact with the application?

# **AD Integration - is it enough?**

- Authentication: is the user using the web application who they say they are?
  - via SSO
- Authorisation: does the user (after being authentication) have the correct role/privilege to interact with the application?
  - via AD Groups

## MULTIPLE CHOICE

How many API calls/interactions does it take to perform authentication/authorisation?

<3

3-5

6-8

9+

## MULTIPLE CHOICE

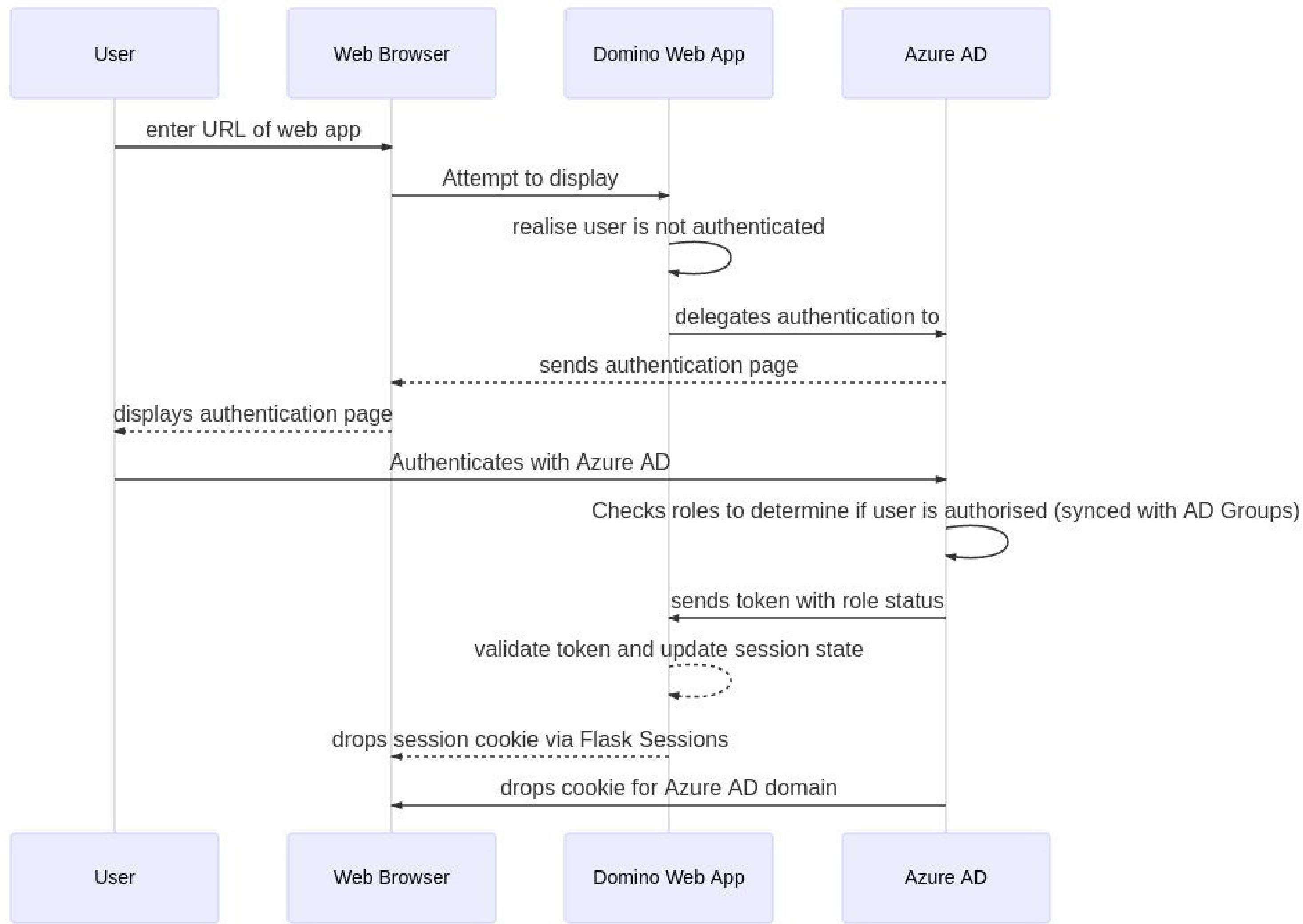
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## MULTIPLE CHOICE

Using this approach is our application secure?

**Yes**

**No**

## **MULTIPLE CHOICE**

Using this approach is our application secure?

**Yes**

**No**

**MAYBE?  
OPEN DISCUSSION**

# **AD Integration - is it enough?**

- Can we guarantee Data Science and AI team will build applications that ensure authorisation is maintained?

How do we guard against Privilege Credential Abuse?

**OPEN DISCUSSION**

## MULTIPLE CHOICE

Suppose we alter our API patterns so that they can be used "on behalf of" users - how many API calls/interactions are required?

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## MULTIPLE CHOICE

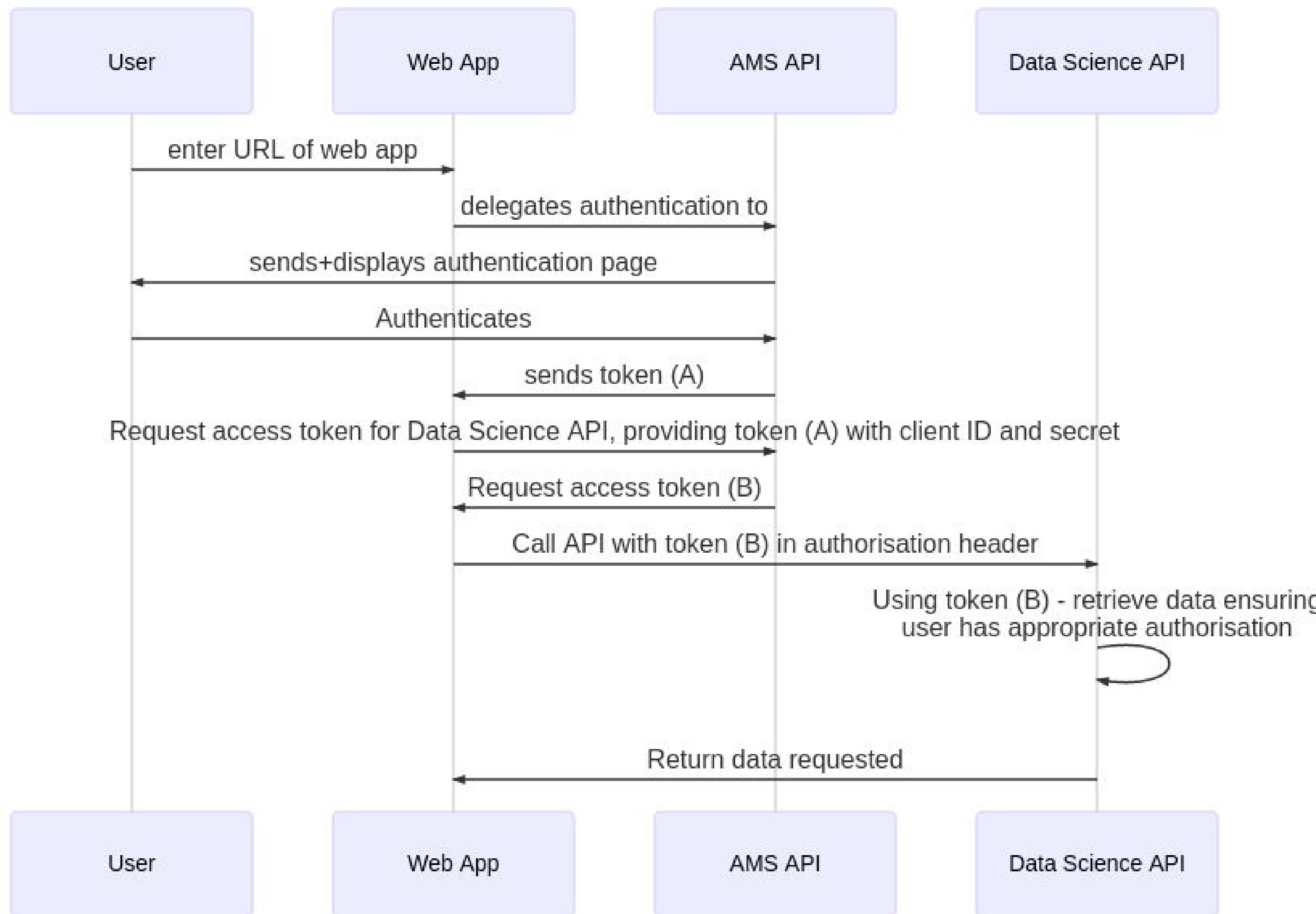
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# Sum Up

- Think about where complexity lies
- Write your solutions down and have them verified
- Build holistic prototypes to understand limitations

