



Lemontree Event

Testdata – med SIG Security

2026-03-25

Lemontree

Lemontree Event



- Från flaskhals till möjliggörare
- Vi kommer att gå igenom resan med testdata
- Hur vi har löst testdatahantering

Agenda

- Om Lemontree
- Check-in
- Testfall och testdata
- Test Data Management
- LLM Data Generation
- Lemontree Test Data Management
- Demo
- Öppen diskussion om testdata och säkerhet



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- 70 specialister med kontor i Sverige
- Grundades 1999
- Del av Lyviakoncernen
 - Mer än 1500 specialister
 - 50 kontor i Europa
- "Driving digital evolution"

Vad vi gör



Konsulttjänster

Våra experter tillför er organisation expertis och kapacitet för möjliggöra digitala utveckling.



Projektleveranser

Vi genomför kompletta projekt där vi designar, utvecklar och testar lösningen. Vi genomför även utbildning och överlämning till er organisation.



Team on site

Leverans av ett expertteam som tillsammans med er organisation genomför och snabbar på er digitala utveckling.



Lösningar som tjänst

Vi erbjuder funktionsleveranser inom IT och kvalitetssäkring som ofta inkluderar service och supportavtal.

Hosting och drift av kritiska applikationer med tillhörande SLA.

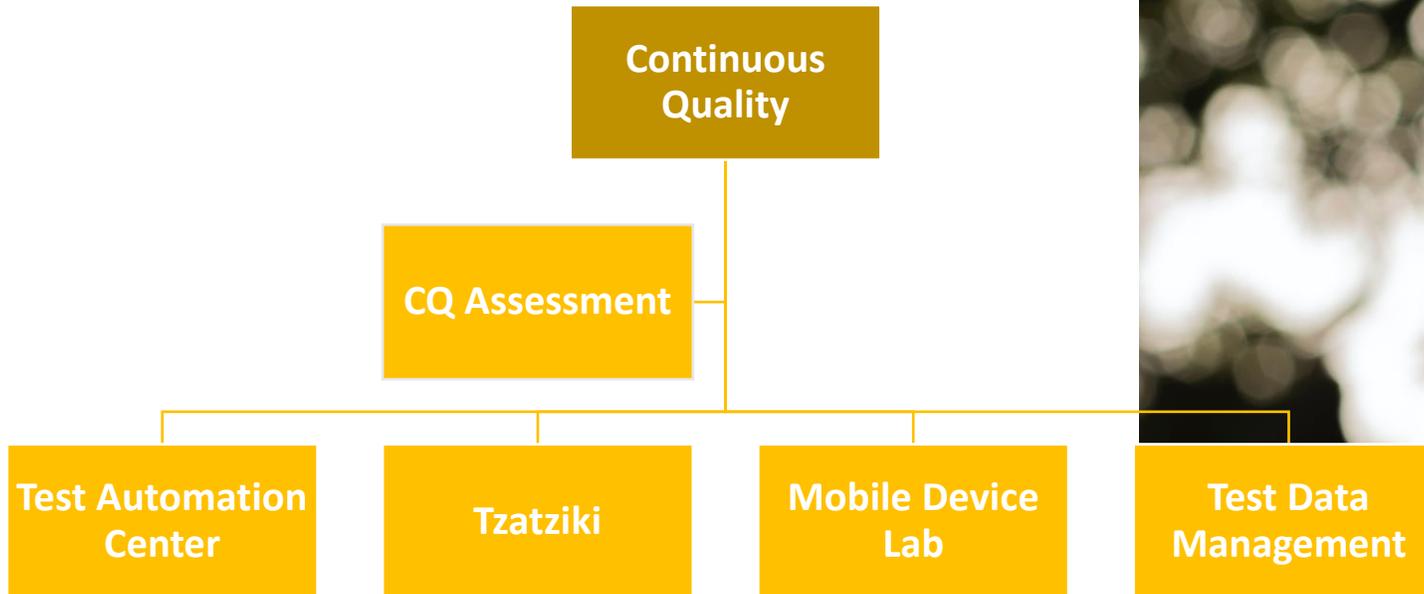


Ludwig Östlund

- Head of Test/QA at Lemontree
- Lemontree since 2012
- QA strategist, many industries
- Test automation expert
- Board member SAST
(Swedish Association for Software Testing)
- Old hobby revisited →



Our Concepts and Services



Professional Testing Services

- Test Automation
- Technical Test
- Performance
- Security
- Test Management

Education and training

- Test Automation Foundation
- ISTQB Foundation
- OpenText UFT 3 days
- Playwright 2 days
- X-Ray Test Management
- Mobile device and appium
- Security: Hacking the juiceshop
- Testing foundation - ½ day
- And more...



Round the table:

What is your top challenge when it comes to test data?



What is your top challenge when it comes to test data?



Testfall och testdata



lemon tree

Lagerförda varor

- Citroner
- Ramlösa
- Vinägerchips
- Snickers
- ...

Kanal

- Maskin
- Hemsida
- Kundapp
- B2B integration

Betalsätt

- VISA
- MasterCard
- Swish
- Faktura
- Cash is king?

Scenario

- Köp
- Makulering
- Ändring
- Support

Riskbaserat tänk

Vilka är vanligast?

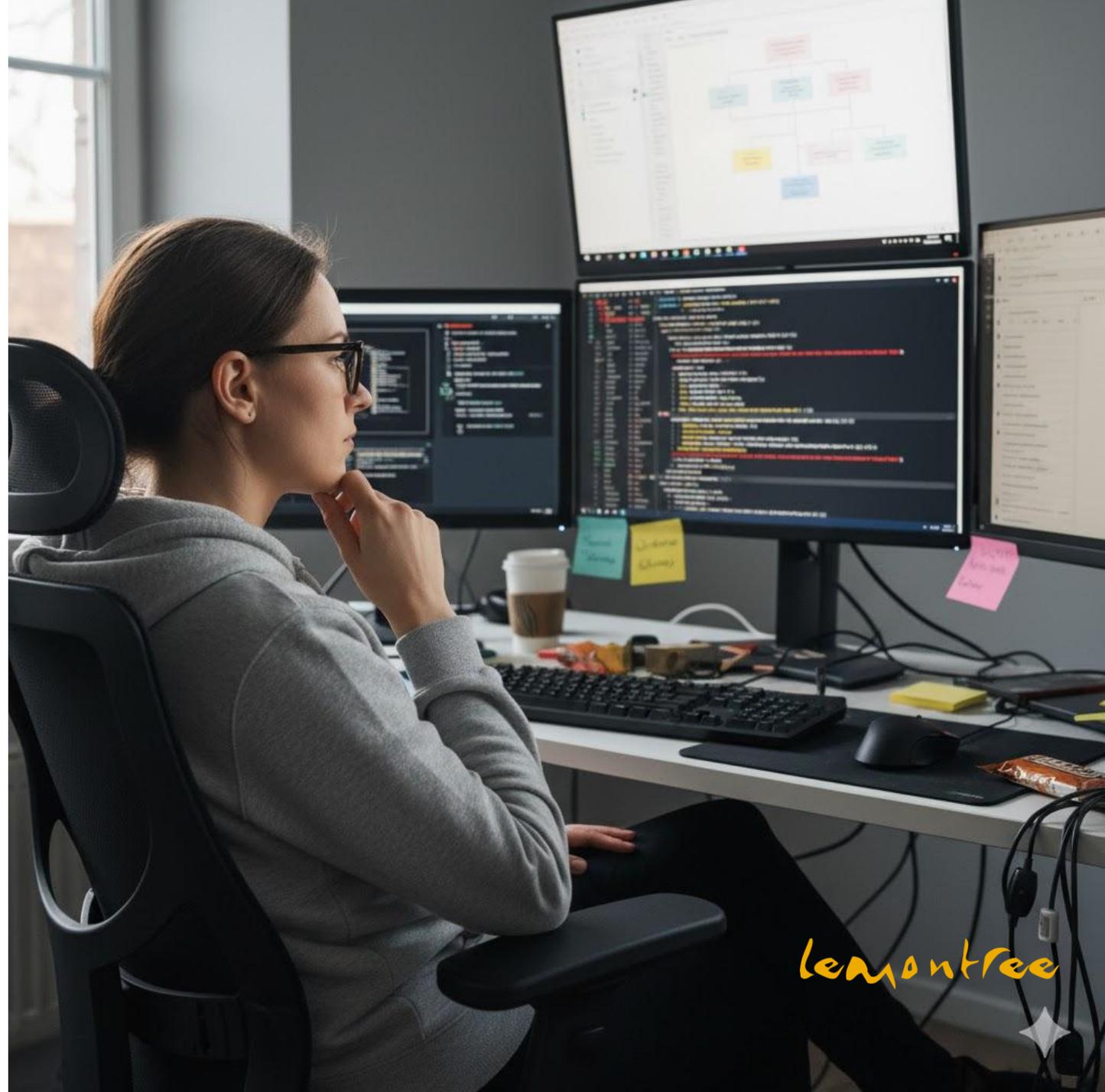
Vad har störst påverkan
på affären?

Var gör det mest ont
när det går fel?

Testarens vy

Jag behöver testdata som...

- ska vara ett standardurval av data som jag kan testa med
- ska vara som produktionsdata
- ska innehålla all data så att jag kan köra mitt test
- ska innehålla tillräckligt med data så att jag kan köra mina tester flera gånger
- ska innehålla uppdaterat data
- ska innehålla data som jag testat med förut
- ska kunna återställa data när jag vill
- ska vara synkroniserad med testdata i andra system



Testarens vy, fortsättning



- Jag måste också kunna köra mina automatiska tester, om och om igen
- Jag vill inte att någon annan håller på med mitt testdata!
- Jag behöver kunna återställa delar av data, om och när jag vill
- Om det har det hänt något intressant i produktion vill jag ha det också, idag och imorgon...
- Jag vill också ha “dåligt” data för mina negativa testfall
- Jag ska också snabbt kunna kлона delar av den
- Och den får inte innehålla känslig information.
- Självklart är miljön väldokumenterad
- Nu är jag nöjd!
- Tror jag 😊

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What is TDM?

“The process of planning, designing, acquiring, and controlling the data required for testing software applications throughout the Software Development Lifecycle (SDLC)”



TEST DATA MANAGEMENT MATURITY MODEL



INCREASING MATURITY & VALUE



LemonTree

Why Test Data Management?

- 30-50% of testers time is spent managing test data
- GDPR and compliance
- NIS2, EU AI Act?
- Avoid others stealing your data
- Avoid manual work in many systems
- Cross team dependencies
- Support automation
- Traceability



Where?

- Central solution?
- Cross team managed in the organization?
- Up to each team to use test data after their needs?





Clever Data Generation

- Given a context – generate test data for edge cases
- Use LLMs to code data generation
- Testing one system without shared test data - let the LLM create test data
- Integrated systems – code the generation or ensure the data quality with validations
- Use automation to feed the data to relevant systems

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Riskbaserat tänk

Vilka är vanligast?

Vilka har störst impact på affären?

Var gör det mest ont om det går fel?

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Kanal

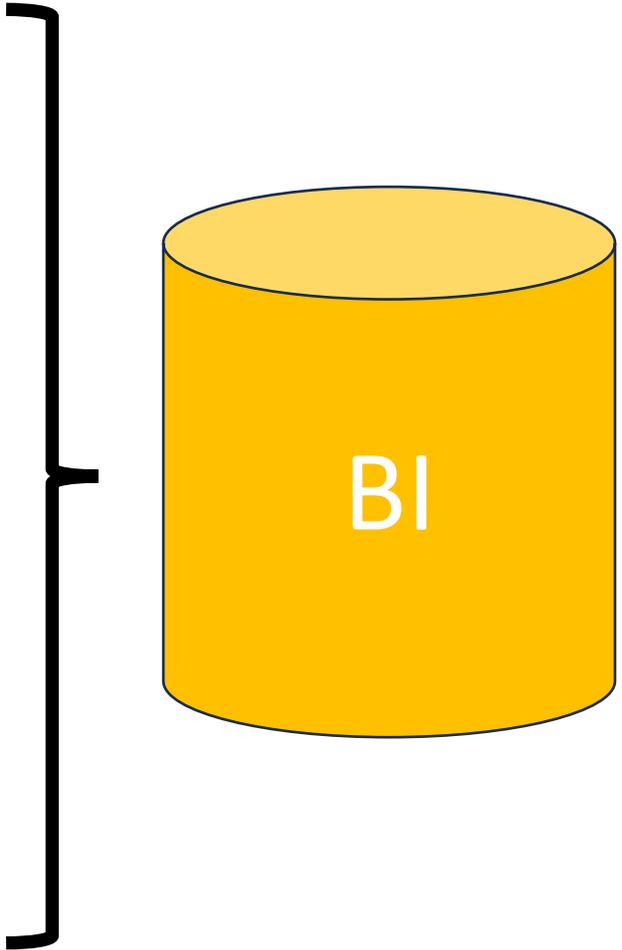
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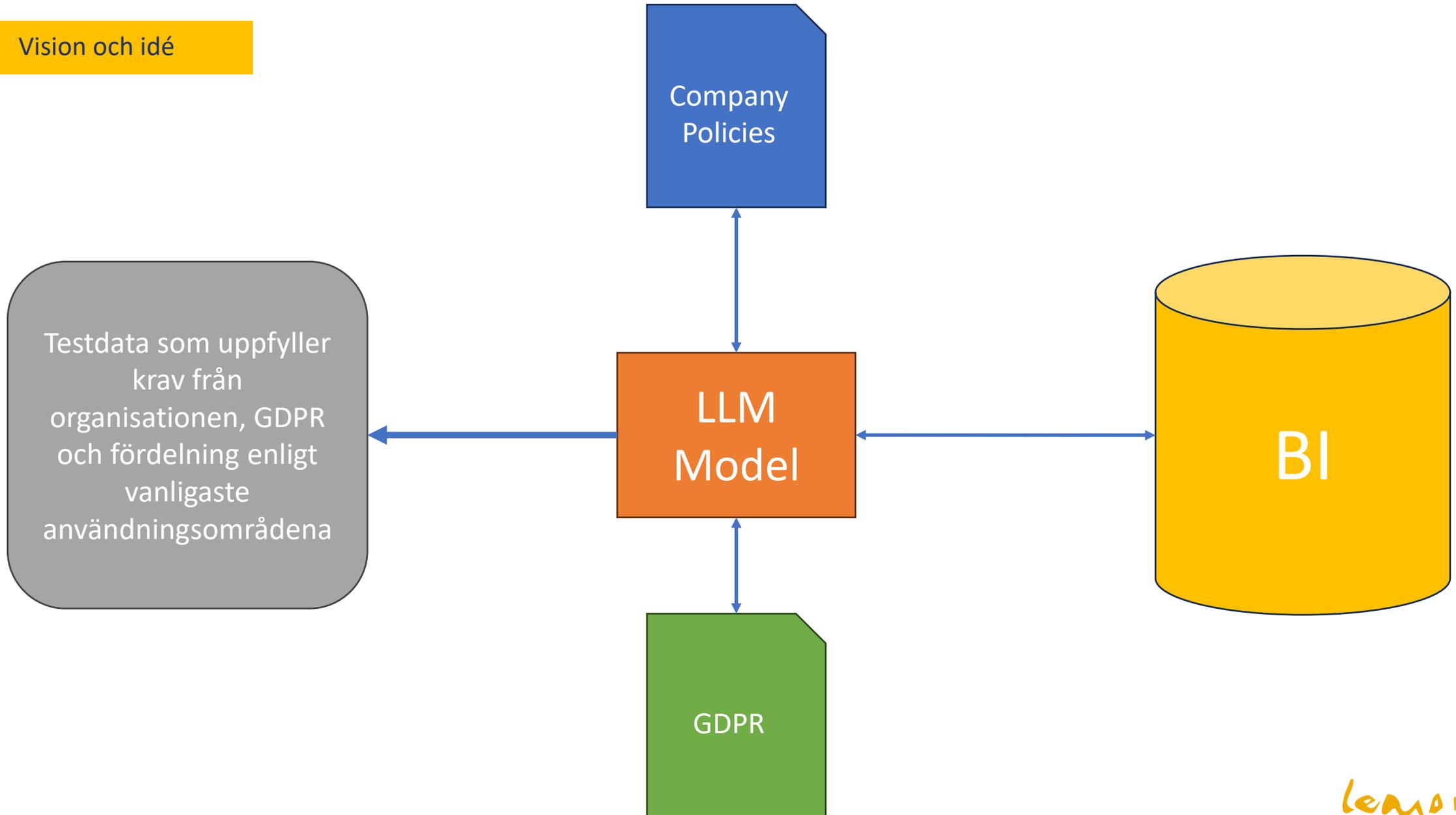
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Vision och idé



Vi gör en testdata/LLM övning!

Vi testar förenklat tillsammans med Copilot för att se om det går att skapa fungerande testdata snabbare än om vi gör det manuellt!



How do you do it?

- TDaaS/Off the shelf application to serve test data
- Database of test data
- Test data reservation and generation in the same interface
- SSO/LDAP
- Supporting logs, who have accessed the test data
- GDPR perspective
- Less frustration

How it all started

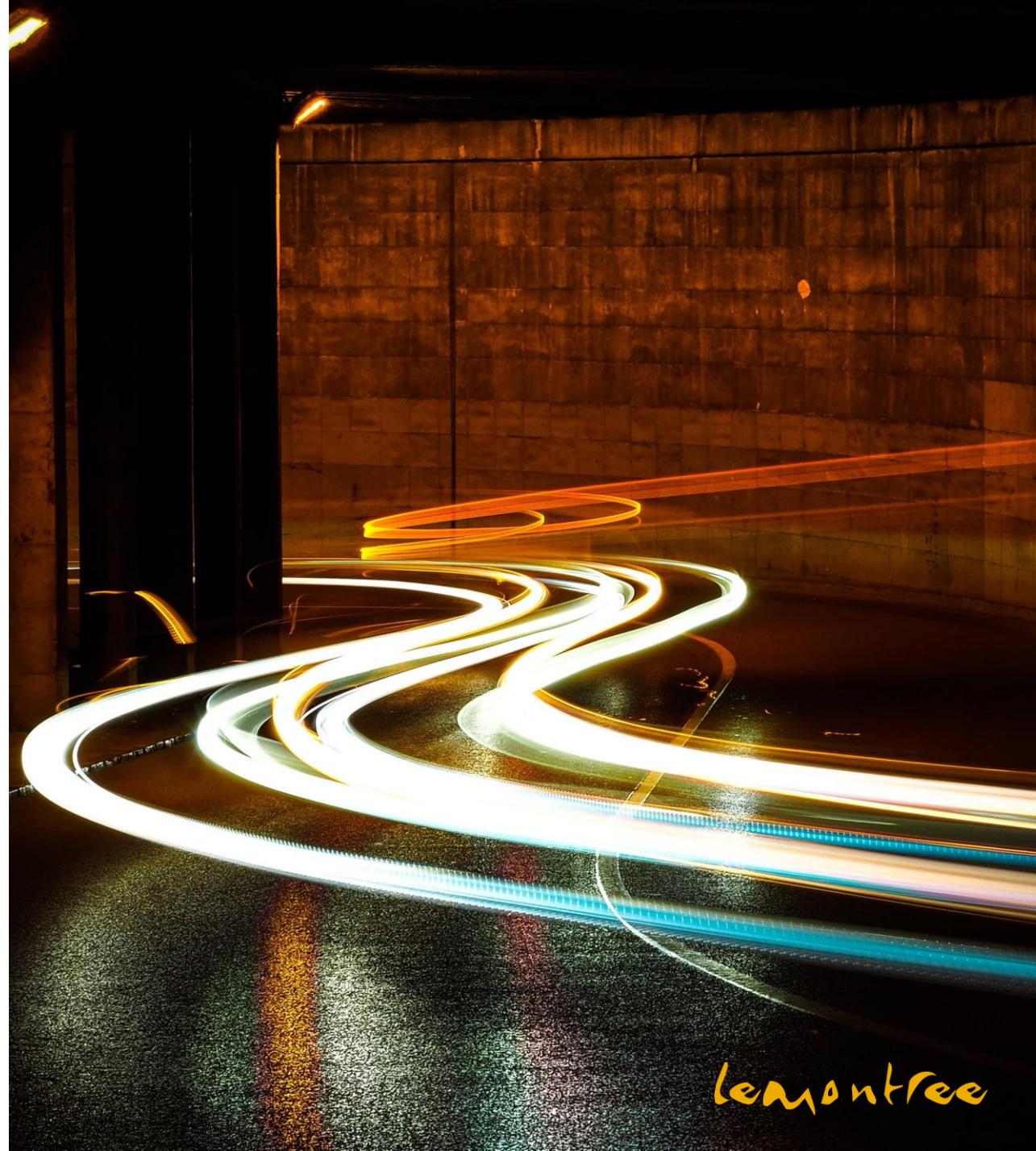


Test Automation Center at a customer

- We built reusable components in our test automation framework in many many systems, enabling end-to-end tests covering the entire process/value stream.
- We asked ourselves if we could use the solution in more ways than just for testing purposes?
- Setting up users with proper access in the test environment was a real time killer.
 - We solved this!
- Testers needed ongoing orders in their systems, and usually had to plan with other testers that were busy.
 - We solved this too!
- Every test data we automated cut lead time. Access and knowledge in other systems that was not focus for their testing was not needed.
- More projects and testers started to order test data from our Test Automation Center to be able to test in their integrated environments.
- But could we simplify this even more?
 - Let them just "Push the button"

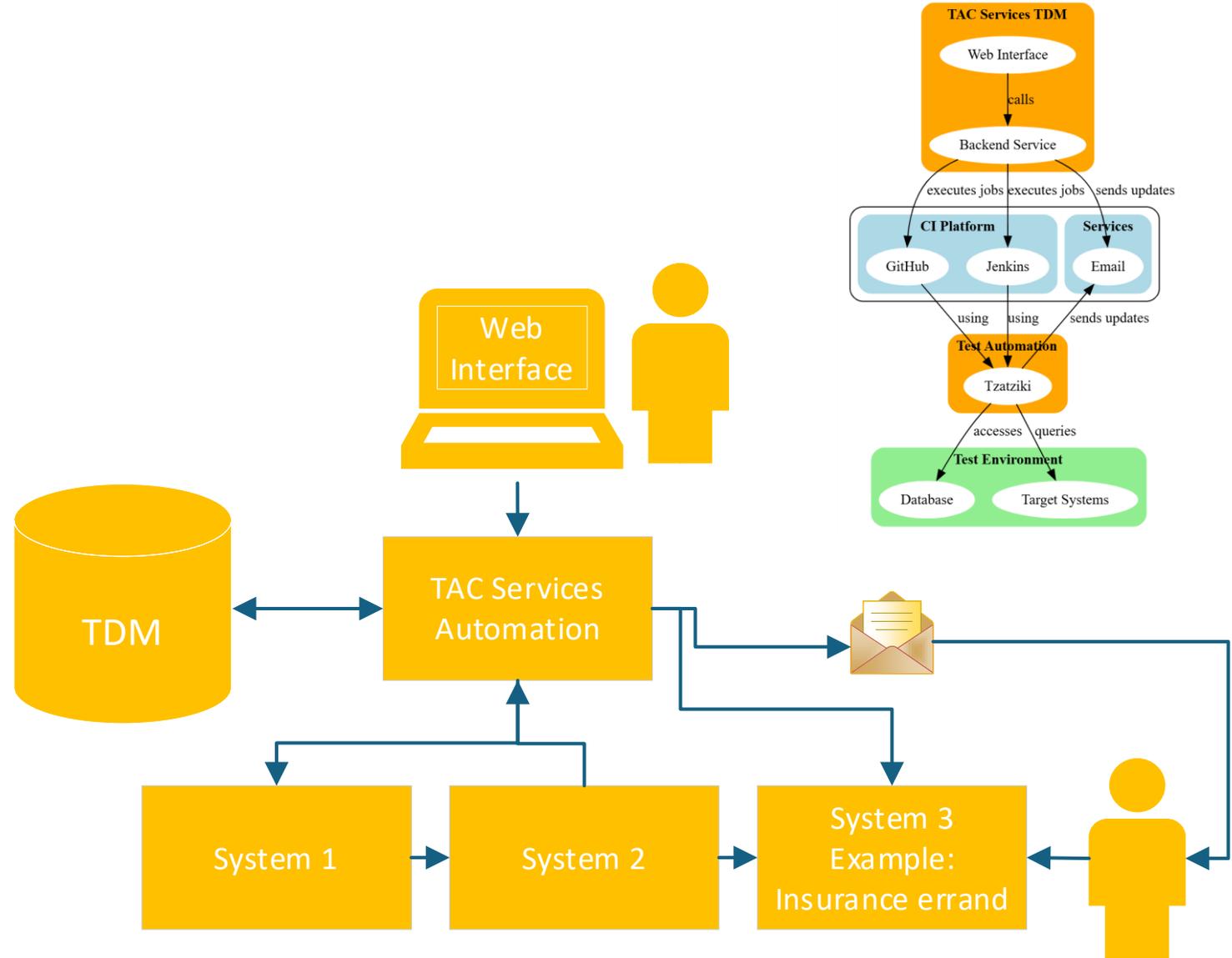
Lemontree Test Data Service (TDS)

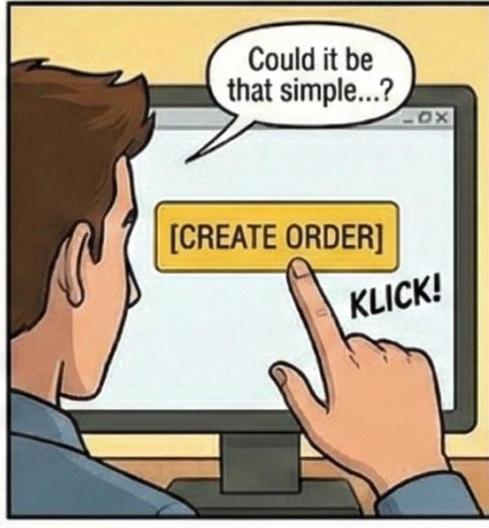
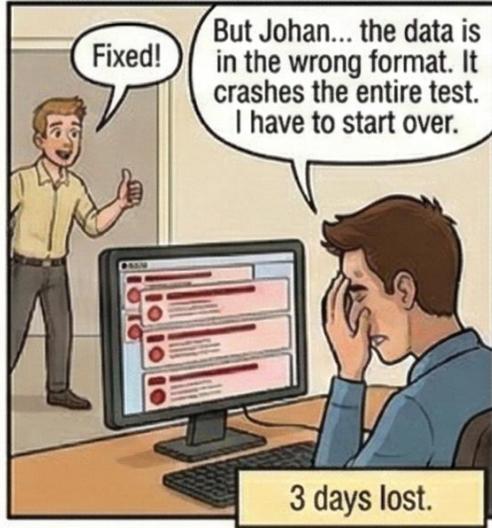
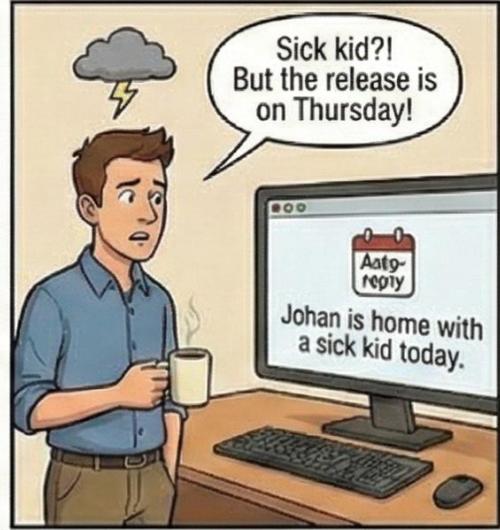
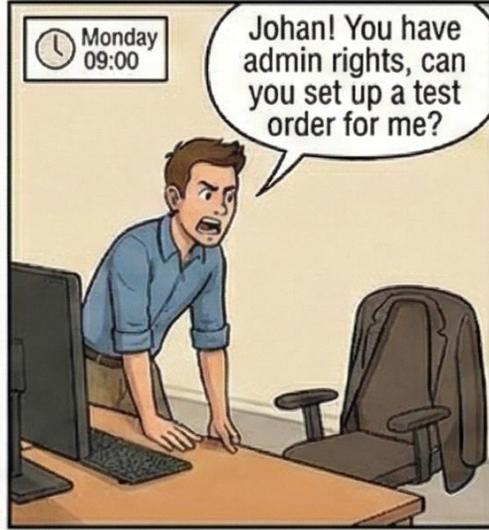
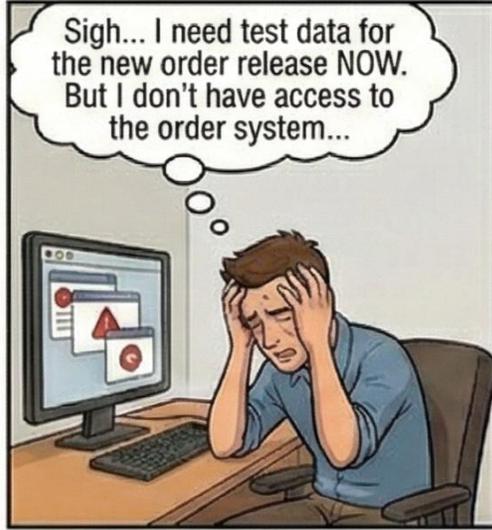
- Removes dependency on individuals
- Minimizes waiting time
- Frees up time from critical resources in the organization
- Minimizes the risk of using each other's test data
- Does not require access to or knowledge of other systems
- Reduces duplicated work; "the wheel doesn't need to be reinvented"



TAC Services

- Automated Test Data Generation
- Serving testers with test data generation
- Saving up to 50% test data generation time
- Role based access
- Intelligent re-use of test automation
- Email-notification or UI
- Lightweight design

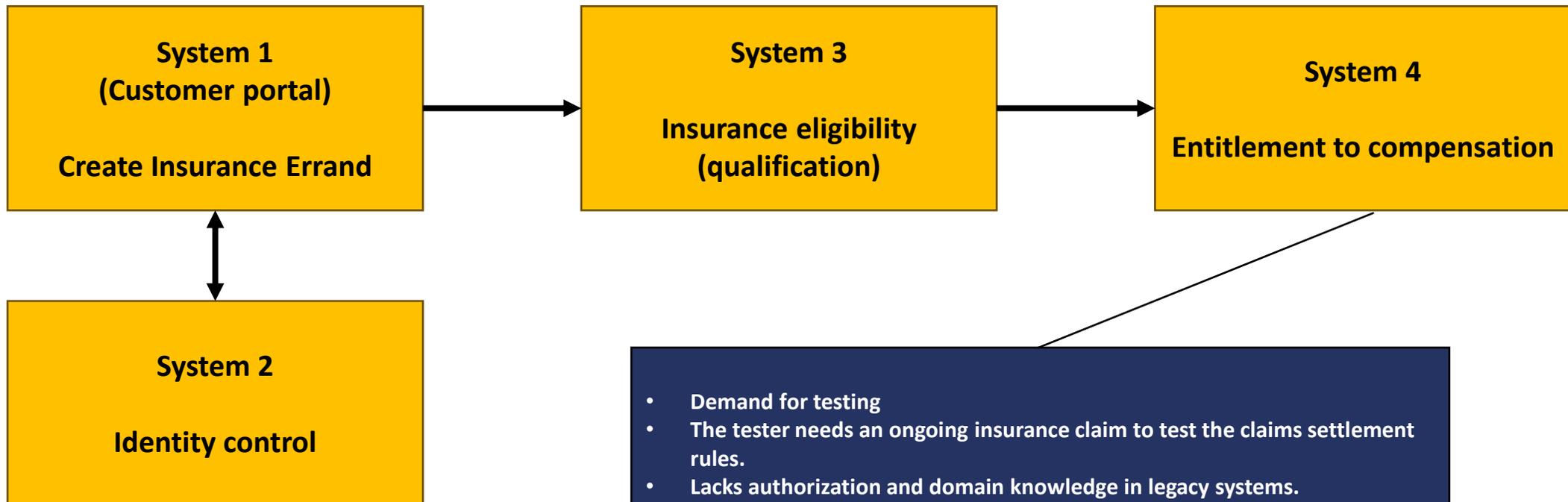




Scenario – Insurance Errand

- Access to systems in the test environment is required.
- Training or documentation on how the workflow operates.

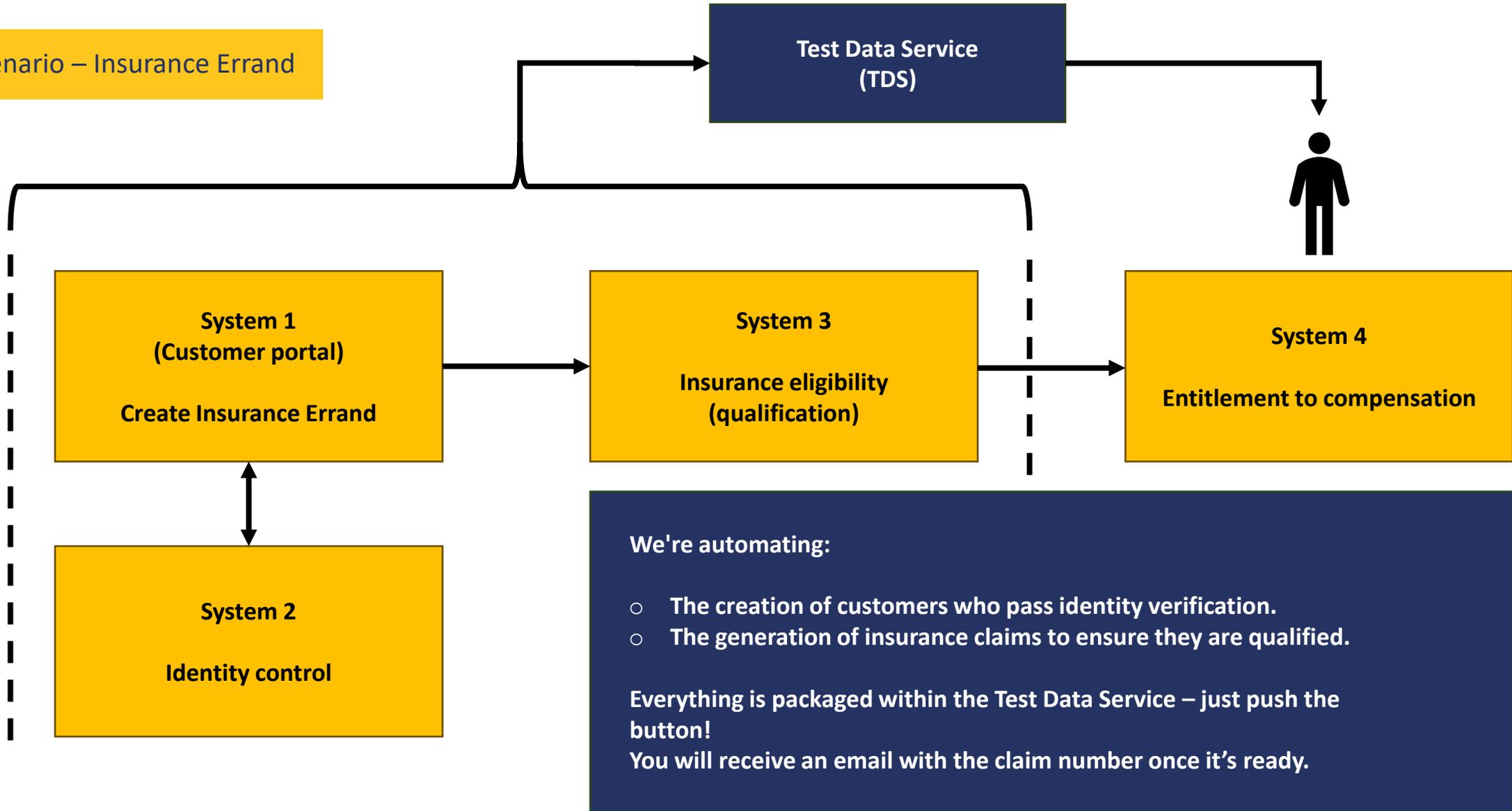
- Insurance must be qualified and approved
- There are many scenarios where the customer or the situation does not qualify



- It must be a valid personal identity number
- Must be registered as a customer
- All details must be included, email and phone number
- It must not be a real person, due to GDPR

- Demand for testing
- The tester needs an ongoing insurance claim to test the claims settlement rules.
- Lacks authorization and domain knowledge in legacy systems.
- A customer must be created who passes the identity verification.
- A qualified insurance claim must be created for the customer.

Scenario – Insurance Errand



We're automating:

- The creation of customers who pass identity verification.
- The generation of insurance claims to ensure they are qualified.

Everything is packaged within the Test Data Service – just push the button!

You will receive an email with the claim number once it's ready.

DEMO

<https://services.lemontreedemo.se/>

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Demo

Test Data Service



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Login -

Username:

Password:

[Lost password?](#)

Info: We take questions, tips and suggestions of improvements. Mail us at tac-services@lemontree.se. For more information please see [Lemontree TDM Confluence](#) or the [Test Data Management Teams Channel](#).

- Customers
- Lemons**
- Orders

+ Lemonade

- Lemons

Add fresh lemons from our garden to inventory

Lemons

Lemontrees

+ Tzatziki

[TAC Services] Lemons - Run: 9 - Finished
TZATZIKI Services <tzatziki-team@lemontree.se>
To johan.kinholm@lemontreedemo.se
Wed 2024-05-22 09:17

Service execution finished!

Job URL: <https://jenkins.lemontreedemo.se/job/tzatziki-demo/job/main/9/>

Filled up with fruit:

Type	Quantity
Lemons	3000

Best regards,

Tzatziki Team
Test Automation

Tzatziki

Lemontree Enterprise Solutions AB
tzatziki-team@lemontree.se

Öppen diskussion och frågor om testdata

Ämnen som diskuterades: NIS2, EU AI Act, mm.

Tack för din uppmärksamhet!

Connecta gärna med mig!

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