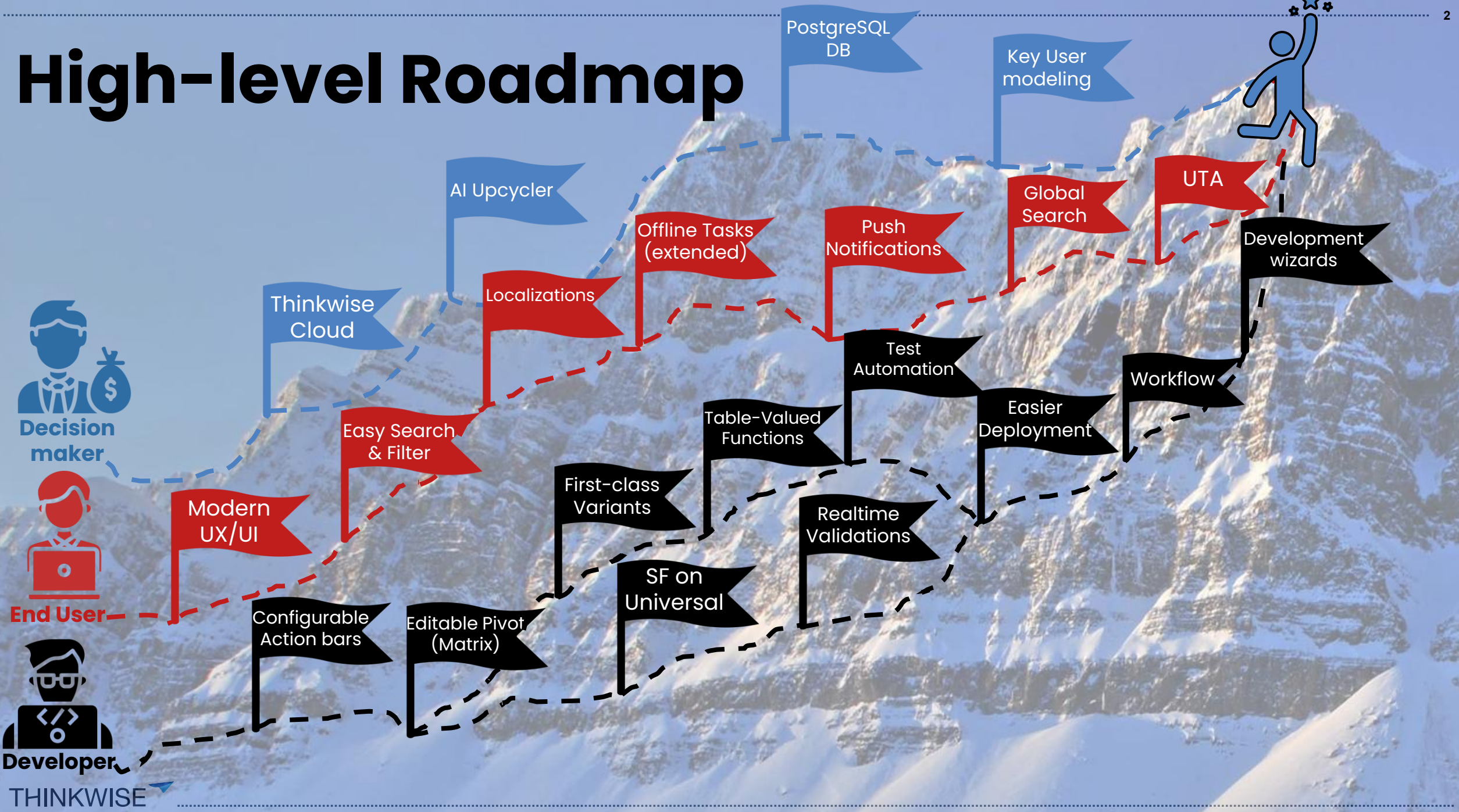


Sneak peek in de Thinkwise toekomst

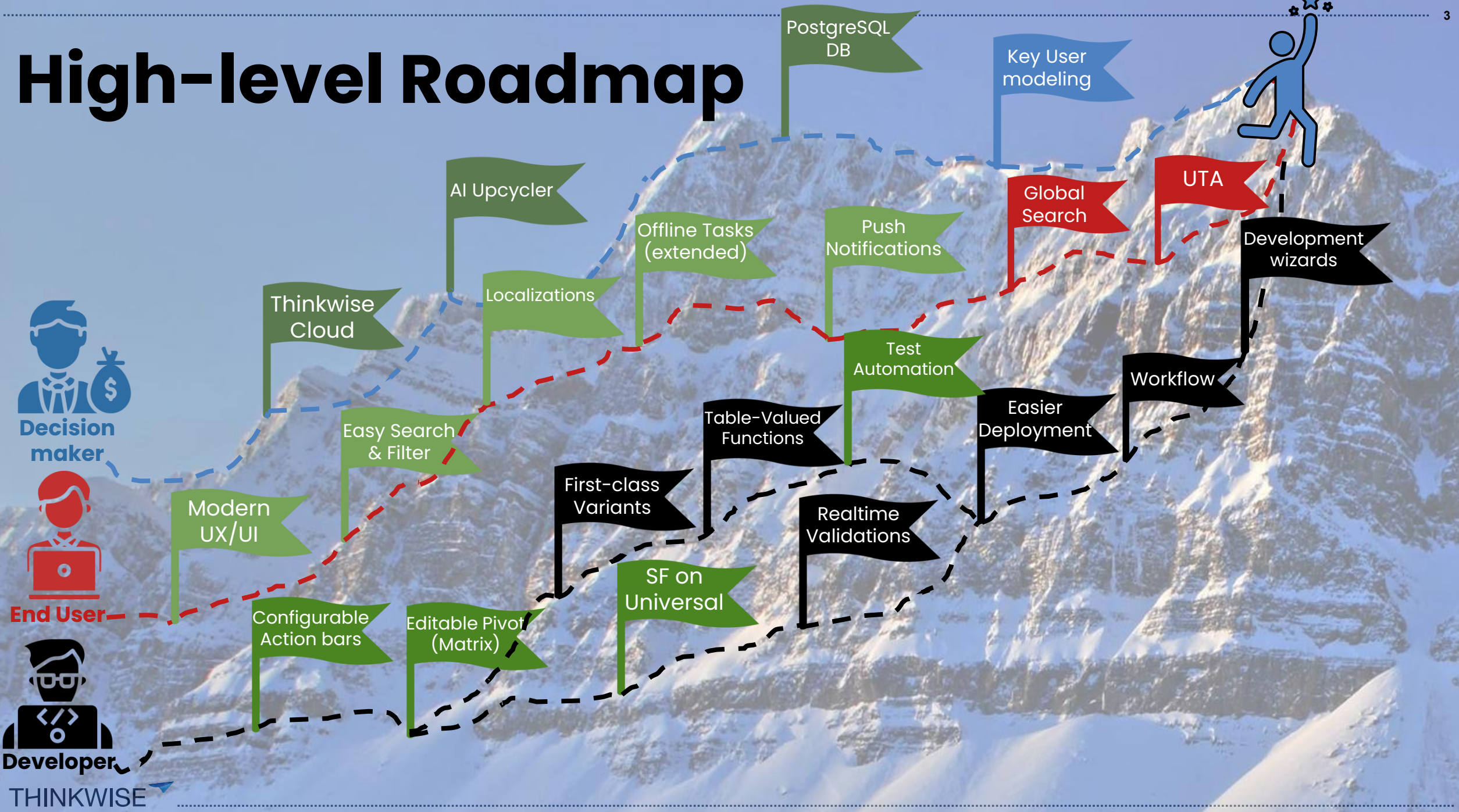


Anne Buit
Chief Architect

High-level Roadmap



High-level Roadmap

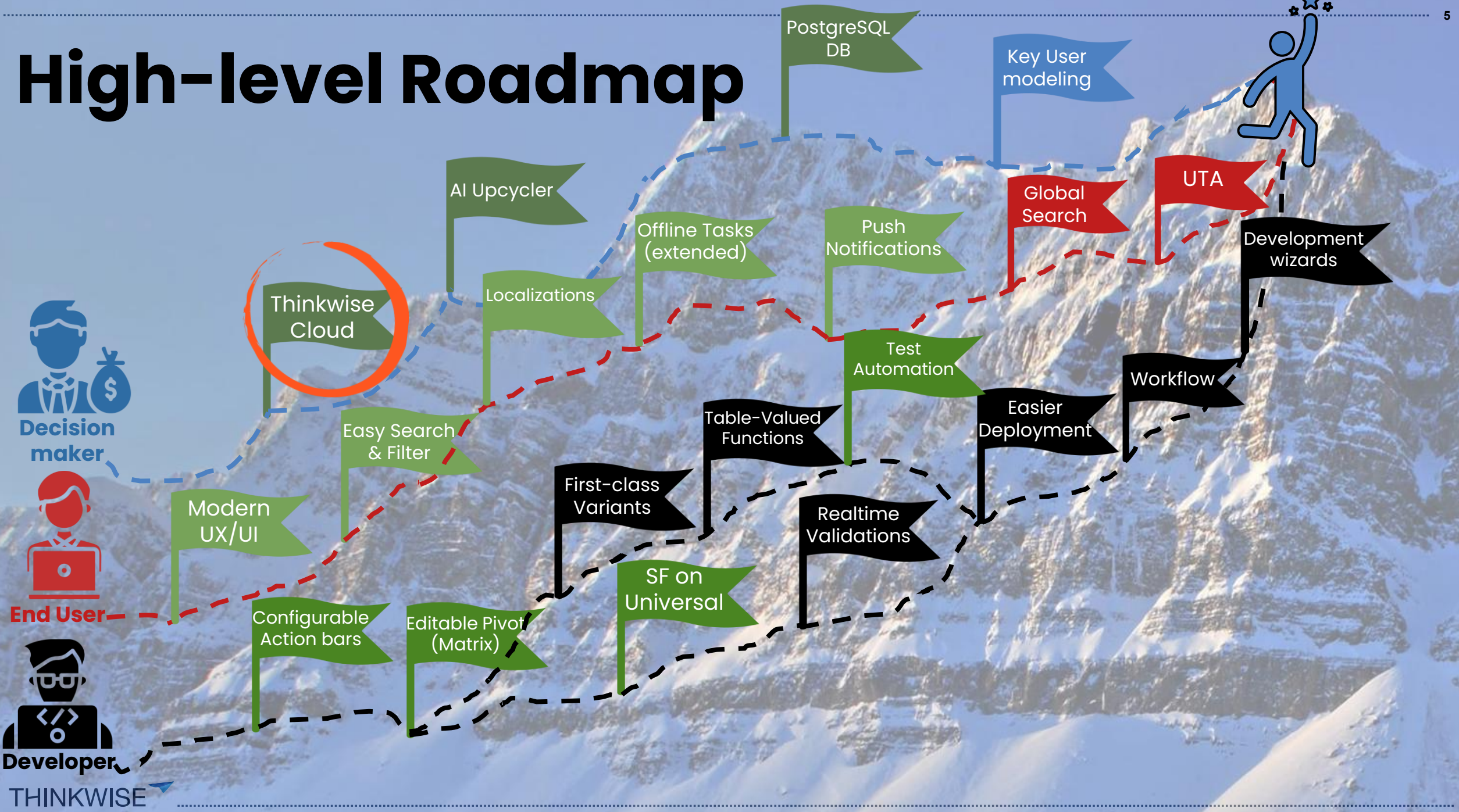


An aerial night view of a modern city, likely Dubai, featuring illuminated skyscrapers and a canal. The buildings are lit up, and the canal reflects the lights. The scene is framed by a grid of glowing orange lines.

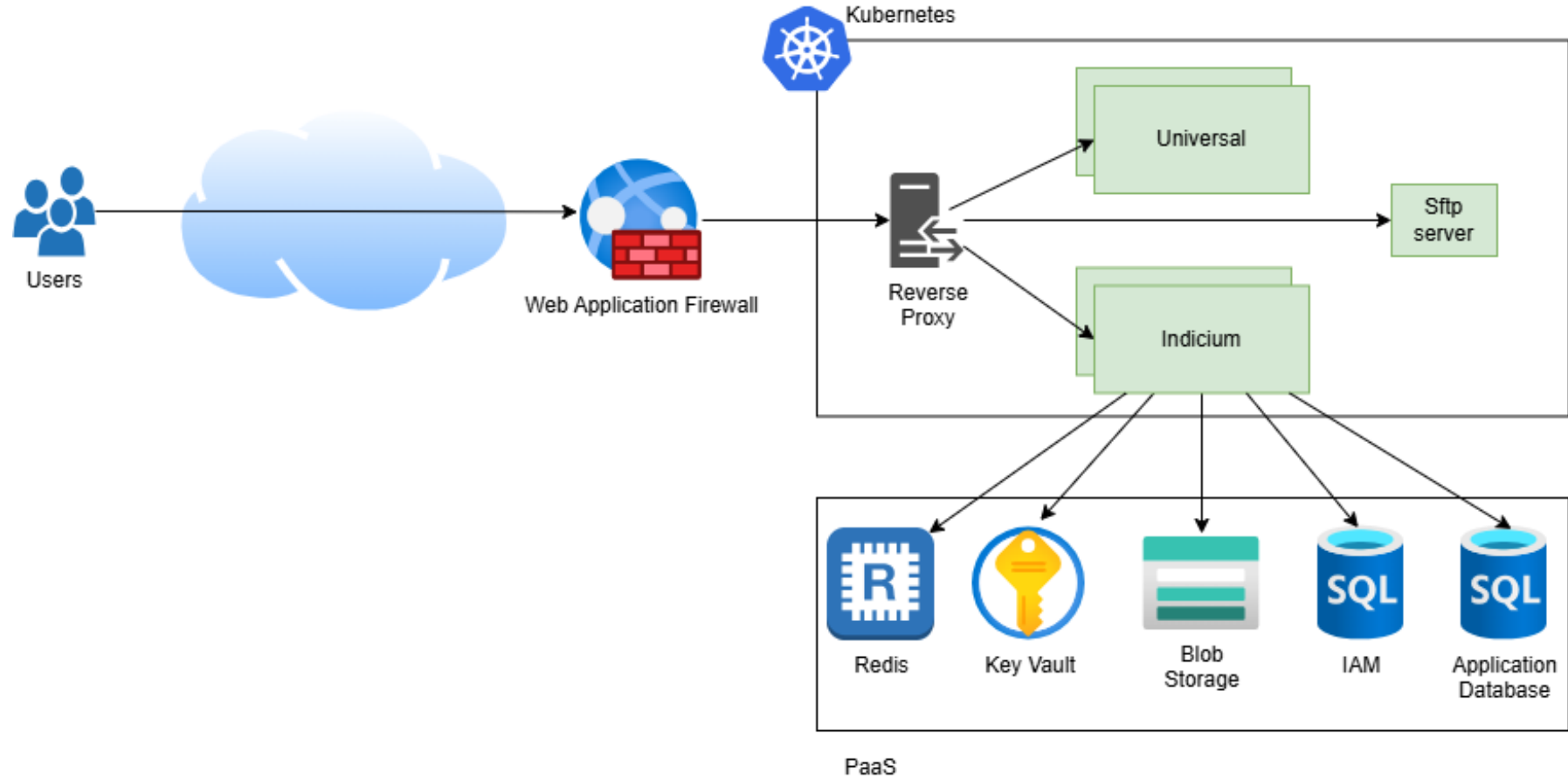
Terugblik

THE NEVER LEGACY LEGENDS

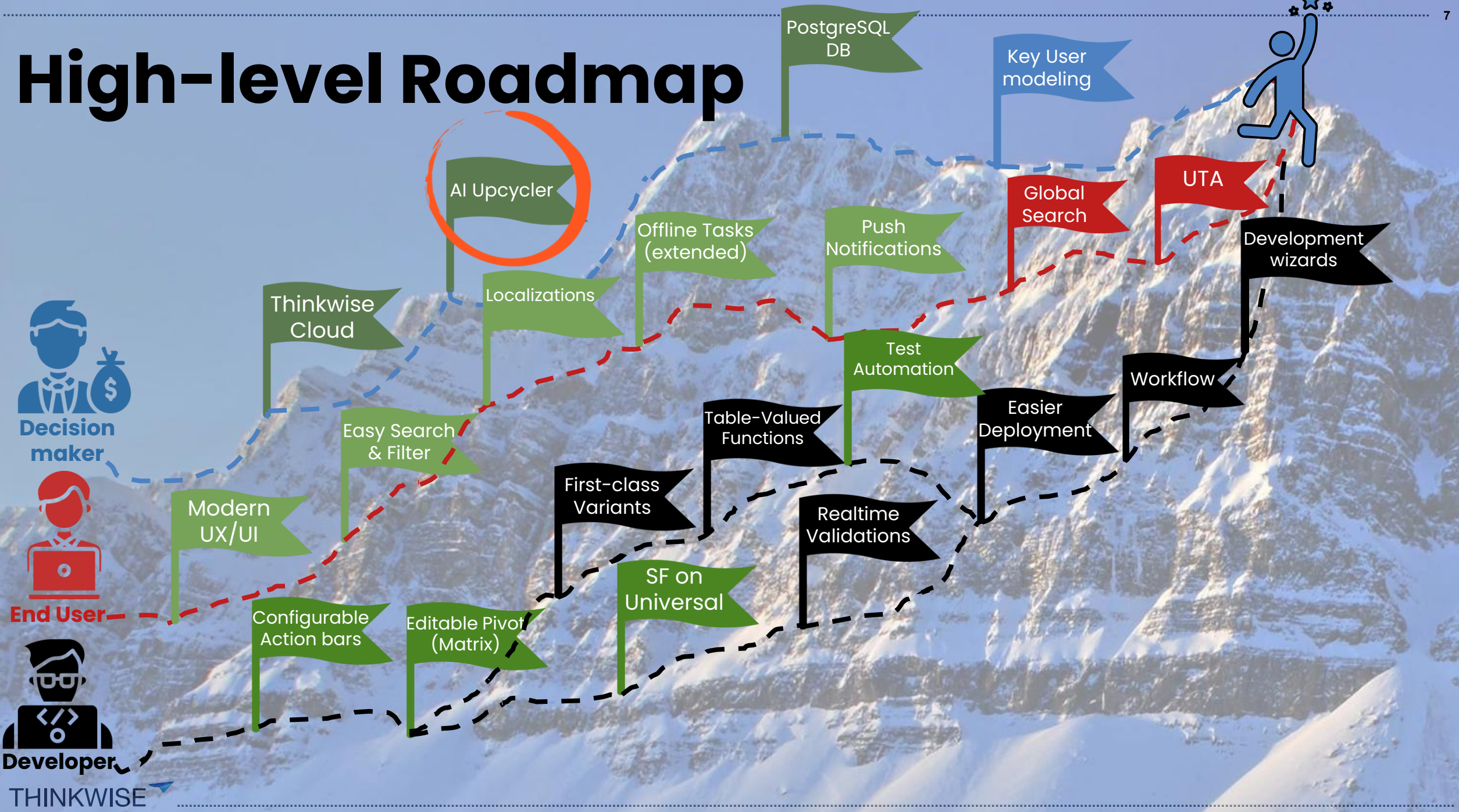
High-level Roadmap



Thinkwise Cloud

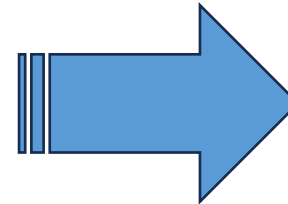


High-level Roadmap



AI-Upcycler

A screenshot of a legacy ERP system interface. The main window shows a data table with columns for 'aantal', 'tekst', 'prijs', and 'totaal'. A terminal window is overlaid on the left side, displaying green text on a black background. The interface includes various menu options and buttons, typical of an older business application.



A screenshot of a modern 'INSIGHTS' dashboard. The interface is clean and modern, featuring a sidebar with navigation options like 'CRM', 'Klanten', and 'Projecten'. The main area displays a list of projects with columns for 'Omschrijving', 'Projectmanager', and 'Start'. A bar chart titled 'Uren per subject' is visible on the right. A mobile phone is overlaid in the foreground, showing the same dashboard content on a smaller screen.

High-level Roadmap



Decision maker

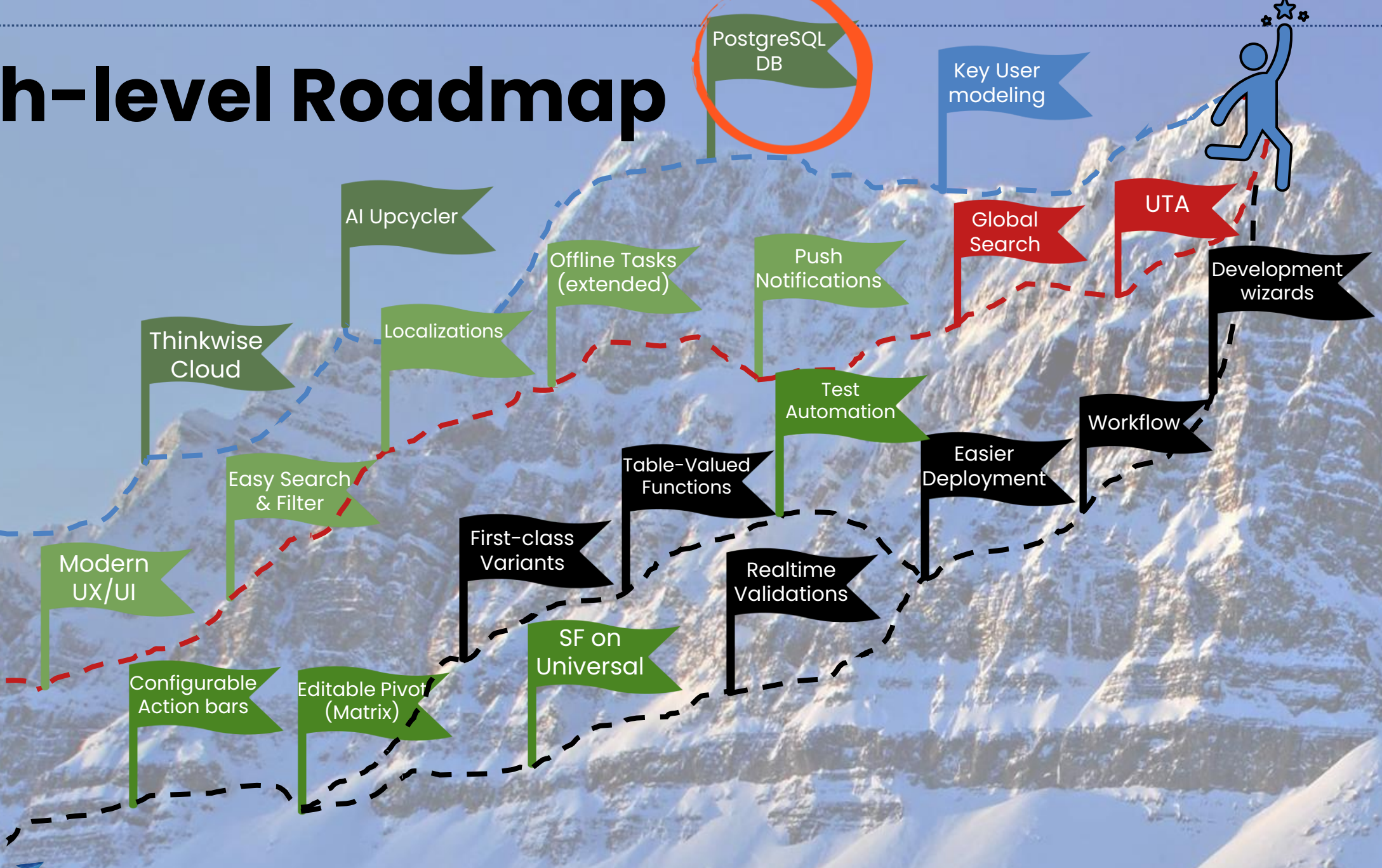


End User

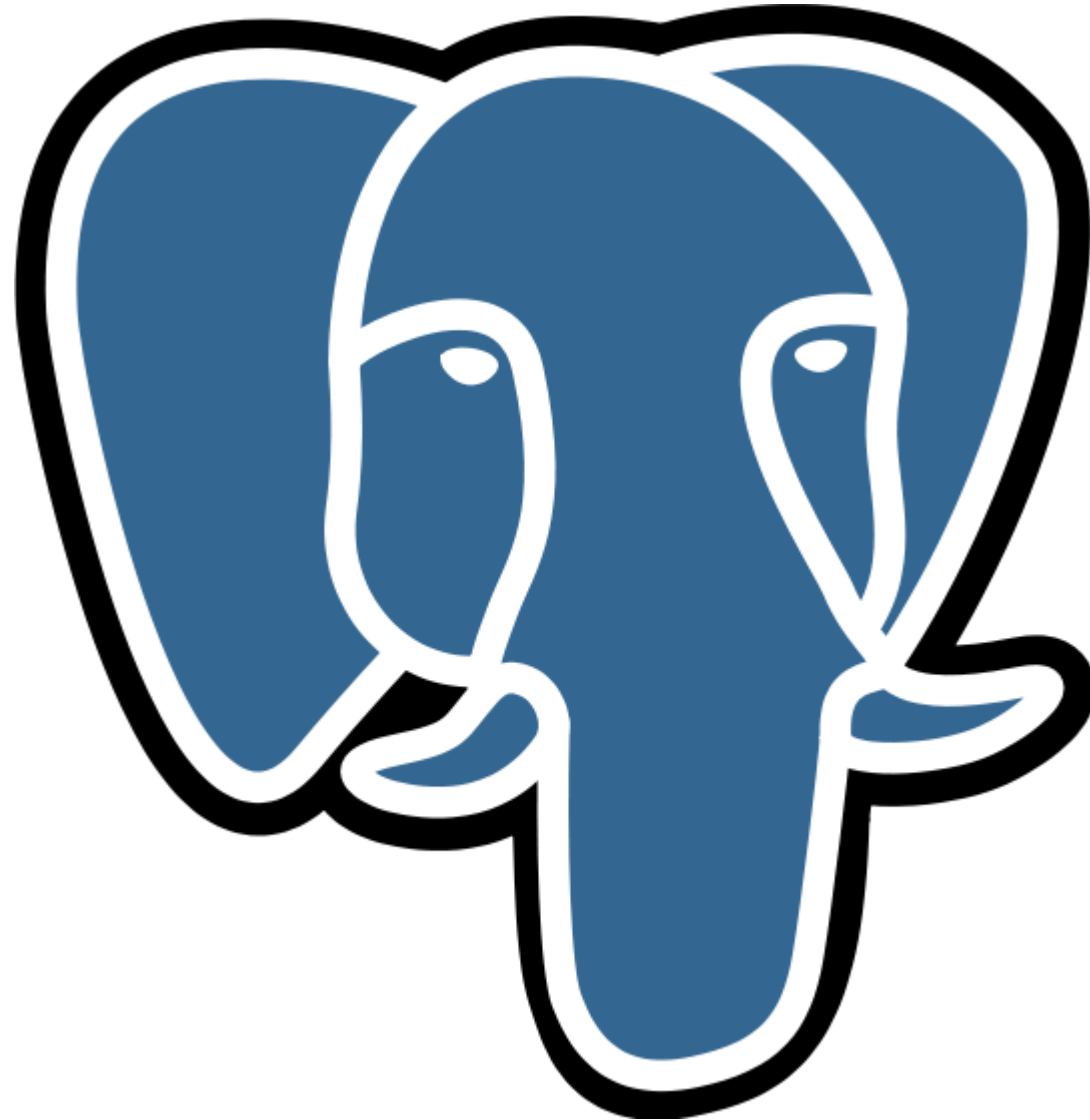


Developer

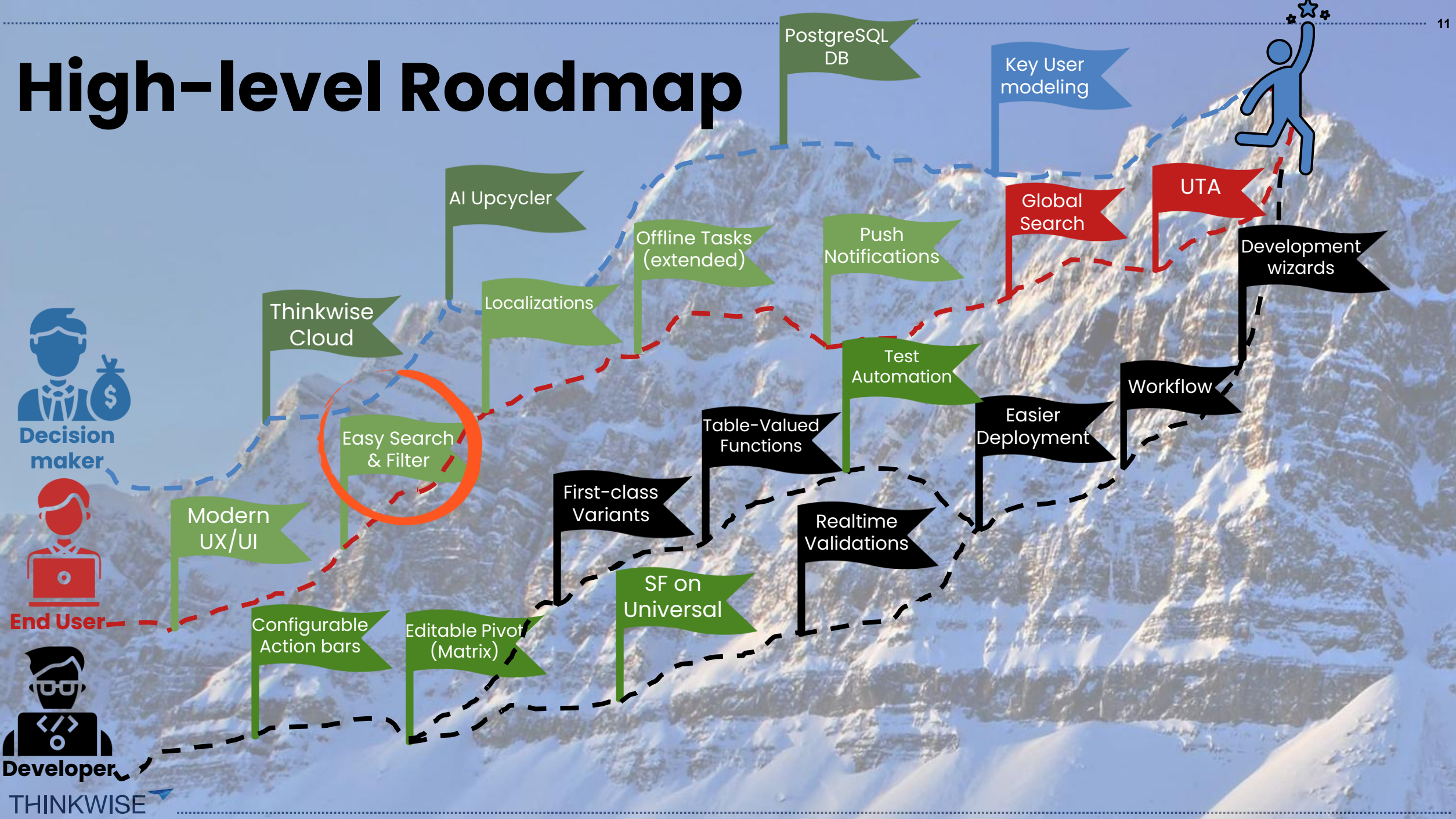
THINKWISE



PostgreSQL support



High-level Roadmap





List Form Workorder material Hour registrations

Search [P] [S] [T] [M]

Service call	Date started	Date closed	Status
356	01/03/2018 13:00:00	01/03/2018 ...	Finished
358	01/06/2018 16:00:00	01/06/2018 ...	Finished
366	01/11/2018 15:00:00	01/11/2018 ...	Finished
367	01/08/2018 20:00:00	01/09/2018 ...	Finished
368	01/15/2018 19:00:00	01/16/2018 ...	Finished
370	01/11/2018 22:00:00	01/12/2018 ...	Finished
371	01/10/2018 02:00:00	01/10/2018 ...	Finished
372	01/13/2018 02:00:00	01/13/2018 ...	Finished
373	01/21/2018 11:00:00	01/21/2018 ...	Finished
375	01/12/2018 10:00:00	01/12/2018 ...	Finished
378	01/18/2018 09:00:00	01/18/2018 ...	Finished
379	01/19/2018 21:00:00	01/20/2018 ...	Finished
380	01/20/2018 11:00:00	01/20/2018 ...	Finished
383	01/25/2018 02:00:00	01/25/2018 ...	Finished
384	01/27/2018 21:00:00	01/28/2018 ...	Finished
385	01/30/2018 04:00:00	01/30/2018 ...	Finished
386	01/24/2018 21:00:00	01/25/2018 ...	Finished
387	02/01/2018 09:00:00	02/01/2018 ...	Finished
391	01/29/2018 03:00:00	01/29/2018 ...	Finished
392	02/08/2018 15:00:00	02/09/2018 ...	Finished
395	02/08/2018 02:00:00	02/08/2018 ...	Finished
396	02/11/2018 18:00:00	02/12/2018 ...	Finished

Filter Workorders

Advanced filter

Date started

Interval: Year Operator: Equal to Value: 2018

Status

Operator: In Value: Finished, Not fini...

Mechanic Lookup

Operator: Satisfies (2) conditions

Mechanic

Operator: Equal to Value:

Add extra filter

Select field:






RESET

CANCEL

FILTER

Start workorder Goto detail Workorder report

Workorder id	Address	Date planned
356	Kolbleikolk 30 8017 NJ Zwolle	01/03/2018
358	Landweg 11 3841 GH Harderw	01/06/2018
366	Beekstraat 1 7311 LD Apeldo	01/11/2018
367	Schellerpad 5 8017 AM Zwolle	01/08/2018
368	Mariastraat 28 7311 HM Apeld	01/15/2018
370	Minderbroederslaan 29 3841 D	01/11/2018
371	Erasmuslaan 29 8024 CW Zwo	01/10/2018
372	Burgemeester de Meesterstraa	01/13/2018
373	Burgemeester van Meursstraat	01/21/2018
375	Sparrenlaan 38 8024 XS Zwolle	01/12/2018
378	Nieuwendijk 26 7311 RP Apeld	01/18/2018
379	Piet Heinstraat 28 7311 HR Ap	01/19/2018
380	Hanzelaan 7 8017 JP Zwolle	01/20/2018
383	Van Huutstraat 8 7311 AA Ape	01/25/2018
384	Lunenstraat 22 8017 KM Zwoll	01/27/2018
385	Groeneweg 31 7311 DA Apeldc	01/30/2018
386	Erasmuslaan 11 8024 CX Zwol	01/24/2018
387	Grenslaan 9 8017 BG Zwolle	02/01/2018
391	Hoofdstraat 35 7311 AZ Apeld	01/29/2018
392	Hoofdstraat 39 7311 KJ Apeld	02/08/2018
395	Smeepoortenbrink 13 3841 EM	02/08/2018
396	Hanzelaan 7 8017 JP Zwolle	02/11/2018






S Start workorder
G Goto detail
W Wo

Date closed	Mechanic
01/03/2018 16:00	Bos, Arjan
01/06/2018 17:00	Brouwer, Otto
01/11/2018 16:00	Dijk, Arjan
01/09/2018 15:00	Jansen, Jasper
01/16/2018 18:00	rd Heuvel, Koen
01/12/2018 14:00	rd Heuvel, Koen
01/10/2018 16:00	Jansen, Jasper
01/13/2018 13:00	rd Heuvel, Koen
01/21/2018 18:00	Mulder, Maarten
01/12/2018 17:00	Mulder, Armin
01/18/2018 16:00	Dijk, Arjan
01/20/2018 15:00	Ginkel, Ivo
01/20/2018 17:00	Dijk, Gijs
01/25/2018 13:00	Mulder, Maarten
01/28/2018 17:00	Mulder, Armin
01/30/2018 15:00	/os, Jan
01/25/2018 18:00	Brouwer, Otto

Filter Workorders

Advanced filter

Date started

Interval: Year Operator: Equal to Value: 2018

Status

Operator: In Value: Finished, Not fini...

Mechanic Lookup

Operator: Satisfies (2) conditions

Mechanic

Operator: Equal to Value:

Add extra filter

Select field:

Workorders
Custom cube view

Erik Brink

List Form Workorder material Hour registrations

Search

Start workorder Goto detail Workorder report

Service call	Date started	Mechanic
356	01/03/2018 13:00:00	Bos, Arjan
358	01/06/2018 16:00:00	Brouwer, Otto
366	01/11/2018 15:00:00	v Dijk, Arjan
367	01/08/2018 20:00:00	14 Jansen, Jasper
368	01/15/2018 19:00:00	vd Heuvel, Koen
370	01/11/2018 22:00:00	vd Heuvel, Koen
371	01/10/2018 02:00:00	Jansen, Jasper
372	01/13/2018 02:00:00	vd Heuvel, Koen
373	01/21/2018 11:00:00	Mulder, Maarten
375	01/12/2018 10:00:00	Mulder, Armin
378	01/18/2018 09:00:00	14 v Dijk, Arjan
379	01/19/2018 21:00:00	v Ginkel, Ivo
380	01/20/2018 11:00:00	14 v Dijk, Gijs
383	01/25/2018 02:00:00	14 Mulder, Maarten
384	01/27/2018 21:00:00	Mulder, Armin
385	01/30/2018 04:00:00	Vos, Jan
386	01/24/2018 21:00:00	Brouwer, Otto
387	02/01/2018 09:00:00	14 v Dijk, Gijs
391	01/29/2018 03:00:00	14 v Dijk, Arjan
392	02/08/2018 15:00:00	v Dijk, Arjan
395	02/08/2018 02:00:00	Vos, Jan
396	02/11/2018 18:00:00	v Dijk, Arjan
397	02/14/2018 05:00:00	vd Heuvel, Koen
398	02/12/2018 10:00:00	Mulder, Armin
399	02/14/2018 20:00:00	v Dijk, Gijs
400	02/08/2018 03:00:00	v Dijk, Gijs
402	02/19/2018 13:00:00	14 v Ginkel, Ivo
403	02/20/2018 19:00:00	Brouwer, Otto

Filter Workorders

Advanced filter

> Filter Mechanics

Advanced filter

City

Operator In City Apeldo... Zwolle

No longer employed

Operator Equal to Value

Name

Operator Contains Value

Address

Operator Contains Value

Zip code

Operator Contains Value

Hourly rate

Operator Contains Value

Add extra filter

Select field

CANCEL SAVE

1 to 50 of 222

1 2 3 4 5

List Form Workorder material Hour registrations

Search P S T M

Service call	Date started	Date closed	Status
716	12/25/2018 21:00:00	12/26/2018 17:00:00	Finished
718	12/28/2018 20:00:00	12/29/2018 17:00:00	Finished
719	12/23/2018 15:00:00	12/24/2018 15:00:00	Finished
721	12/24/2018 16:00:00	12/24/2018 17:00:00	Finished
722	01/01/2019 23:00:00	01/02/2019 16:00:00	Finished
723	12/26/2018 16:00:00	12/27/2018 14:00:00	Finished
724	12/30/2018 22:00:00	12/31/2018 13:00:00	Finished
725	12/29/2018 16:00:00	12/29/2018 18:00:00	Finished
726	01/04/2019 21:00:00	01/05/2019 14:00:00	Finished
727	01/01/2019 04:00:00	01/01/2019 18:00:00	Finished
729	01/01/2019 20:00:00	01/02/2019 16:00:00	Finished
731	01/15/2019 04:00:00	01/15/2019 18:00:00	Finished
732	01/10/2019 16:00:00	01/10/2019 18:00:00	Finished
735	01/09/2019 22:00:00	01/10/2019 15:00:00	Finished
736	01/15/2019 00:00:00	01/15/2019 18:00:00	Finished
737	01/15/2019 00:00:00	01/15/2019 13:00:00	Finished
738	01/12/2019 21:00:00	01/13/2019 13:00:00	Finished
740	01/17/2019 11:00:00	01/17/2019 14:00:00	Finished
741	01/20/2019 12:00:00	01/20/2019 18:00:00	Finished
742	01/25/2019 02:00:00	01/25/2019 14:00:00	Finished
744	01/15/2019 22:00:00	01/16/2019 16:00:00	Finished
746	01/26/2019 00:00:00	01/26/2019 13:00:00	Finished
747	01/24/2019 21:00:00	01/25/2019 16:00:00	Finished
748	01/24/2019 01:00:00	01/24/2019 14:00:00	Finished
749	01/27/2019 21:00:00	01/28/2019 13:00:00	Finished
750	02/03/2019 18:00:00	02/04/2019 14:00:00	Finished
751	01/25/2019 16:00:00	01/25/2019 17:00:00	Finished
752	01/31/2019 16:00:00	01/31/2019 17:00:00	Finished
756	02/06/2019 18:00:00	02/07/2019 15:00:00	Finished
758	02/05/2019 23:00:00	02/06/2019 13:00:00	Finished
759	02/09/2019 03:00:00	02/09/2019 15:00:00	Finished
760	02/06/2019 15:00:00	02/07/2019 13:00:00	Finished

Filter Workorders

Advanced filter

Filter group: All of the following

- Filter group: Any of the following
 - Filter group: All of the following
 - Date started: Interval Year, Operator Equal to, Value 2018
 - Date started: Interval Quarter, Operator Equal to, Value Q4
 - Filter group: All of the following
 - Date started: Interval Year, Operator Equal to, Value 2019
 - Date started: Interval Quarter, Operator Equal to, Value Q1
- Status: Operator In, Value Not finished, Finished
- Mechanic: Operator Satisfies (2) conditions

Buttons: RESET, CANCEL, FILTER

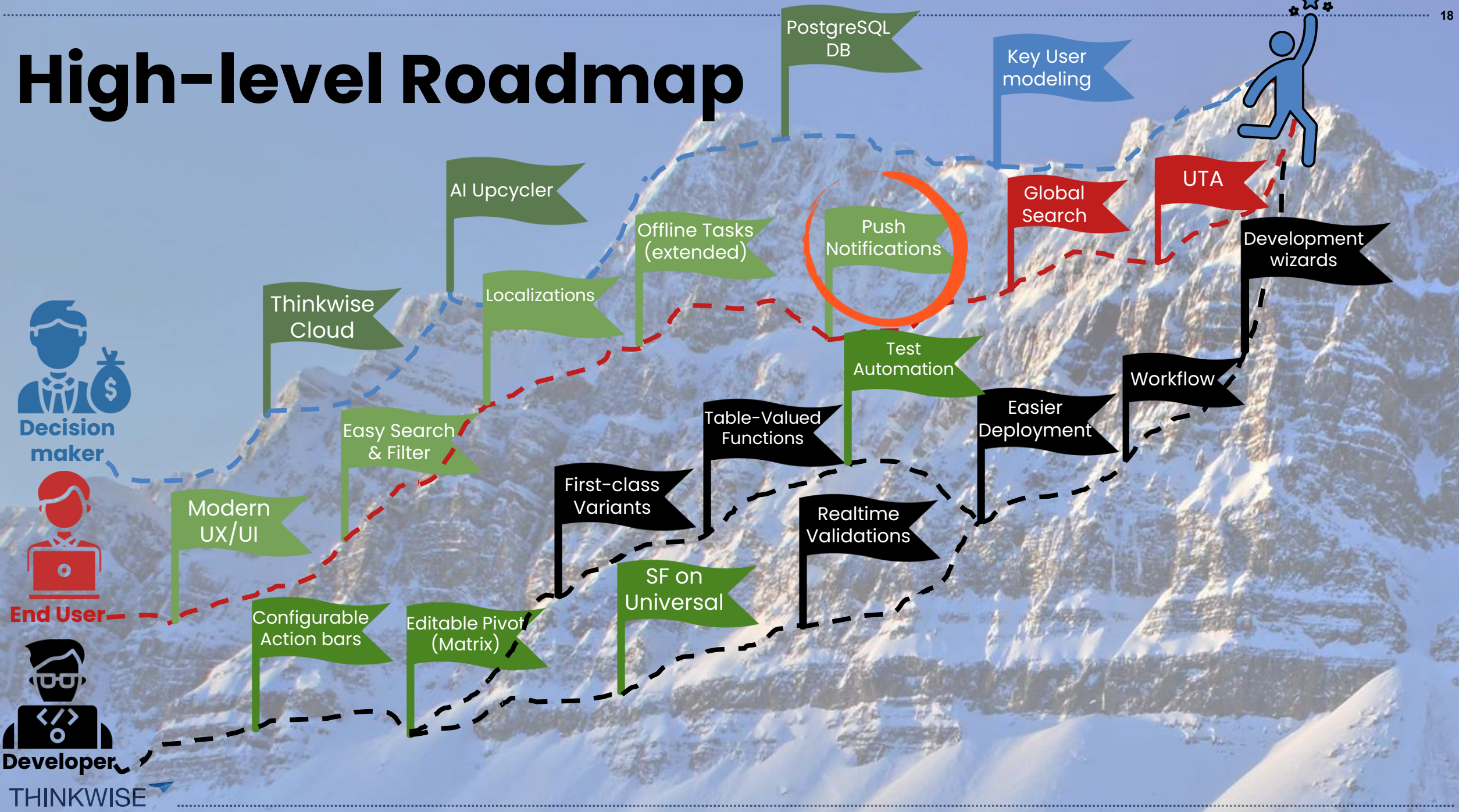
Start workorder Goto detail Workorder report

Workorder	Date planned
Apeldoorn	12/25/2018
Apeldoorn	12/28/2018
Apeldoorn	12/23/2018
Zwolle	12/24/2018
Zwolle	01/01/2019
Zwolle	12/26/2018
Harderwijk	12/30/2018
DJ Zwolle	12/29/2018
IR Apeldoorn	01/04/2019
Harderwijk	01/01/2019
11 7311 TJ Apeldoorn	01/01/2019
Apeldoorn	01/15/2019
27 8017 DX Zwolle	01/10/2019
Zwolle	01/09/2019
Apeldoorn	01/15/2019
Harderwijk	01/15/2019
an 20 7311 NB Apeldoorn	01/12/2019
Zwolle	01/17/2019
Zwolle	01/20/2019
Apeldoorn	01/25/2019
DJ Zwolle	01/15/2019
Apeldoorn	01/26/2019
Harderwijk	01/24/2019
1 GZ Apeldoorn	01/24/2019
Zwolle	01/27/2019
Zwolle	02/03/2019
Apeldoorn	01/25/2019
Harderwijk	01/31/2019
1 Harderwijk	02/06/2019
30 3841 KA Harderwijk	02/05/2019
Zwolle	02/09/2019
DJ Zwolle	02/06/2019

1,508.00

THINK

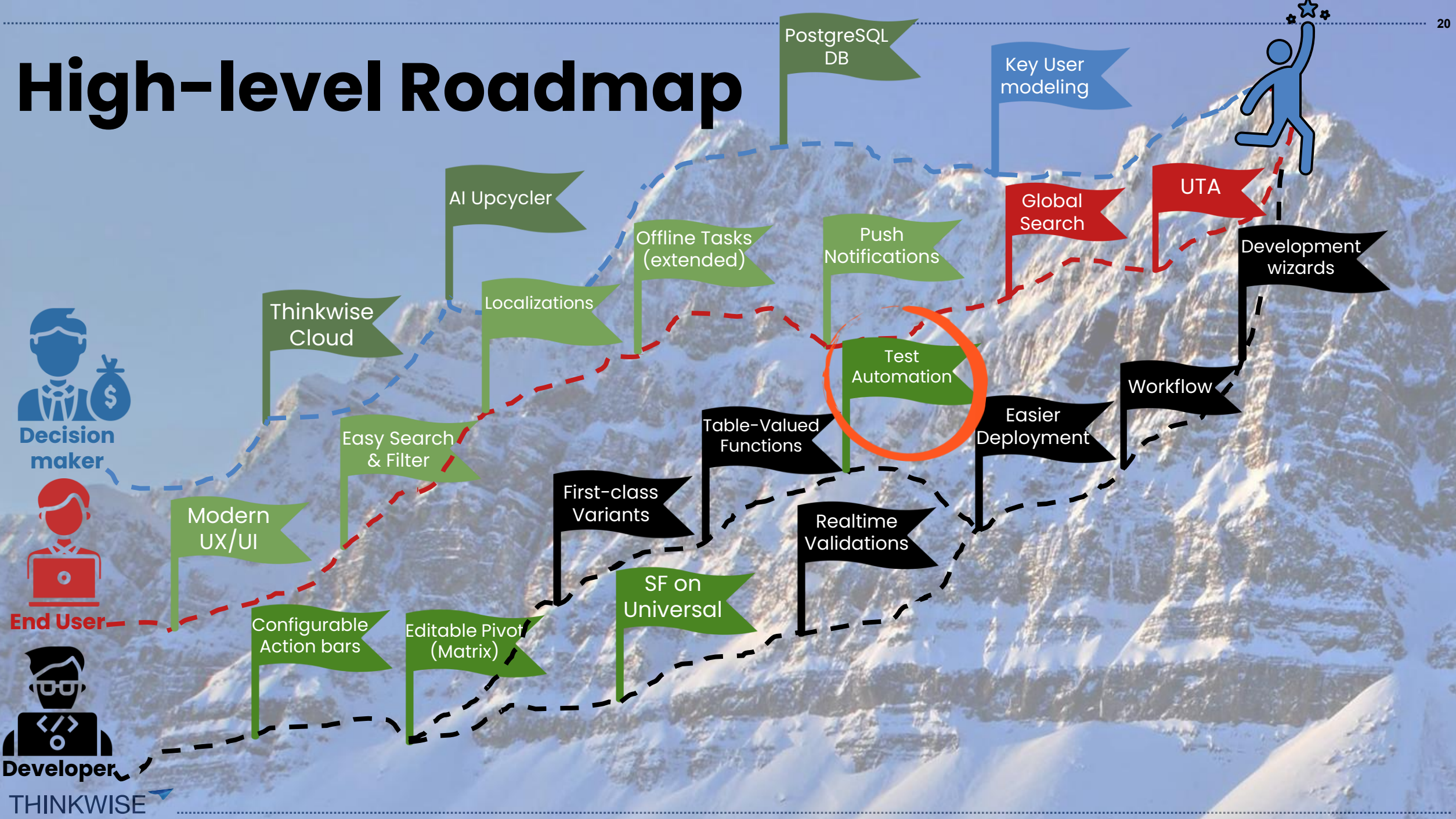
High-level Roadmap





Push notifications

High-level Roadmap



Testwise

Powering the creation of E2E Test Automation
for Thinkwise Applications

THE NEVER LEGACY LEGENDS

THINKWISE 

Waarom End-to-End testing

- **Applicaties groeien**
 - Meer features → meer kans op regressie
- **Handmatig testen schaal slecht**
 - Capaciteit gaat naar regressiechecks i.p.v. nieuwe features
 - Elke release de hele app handmatig testen is niet haalbaar
- **Regressie kan serieuze gevolgen hebben**



Waarom End-to-End testing

Test automation kan een oplossing bieden


- Initiële investering → oneindige herbruikbaarheid
- Automatisch regressie spotten
 - Ook op onverwachte plekken
- Testers vrij voor nieuwe functionaliteit



Wat is Testwise

- **Begonnen als interne tooling**
 - Snellere testontwikkeling binnen Thinkwise
 - Lagere instap naar test automation
- **Gebouwd bovenop Playwright**
 - Alle Playwright-functionaliteit beschikbaar
 - Custom functionaliteit voor Thinkwise / Universal UI



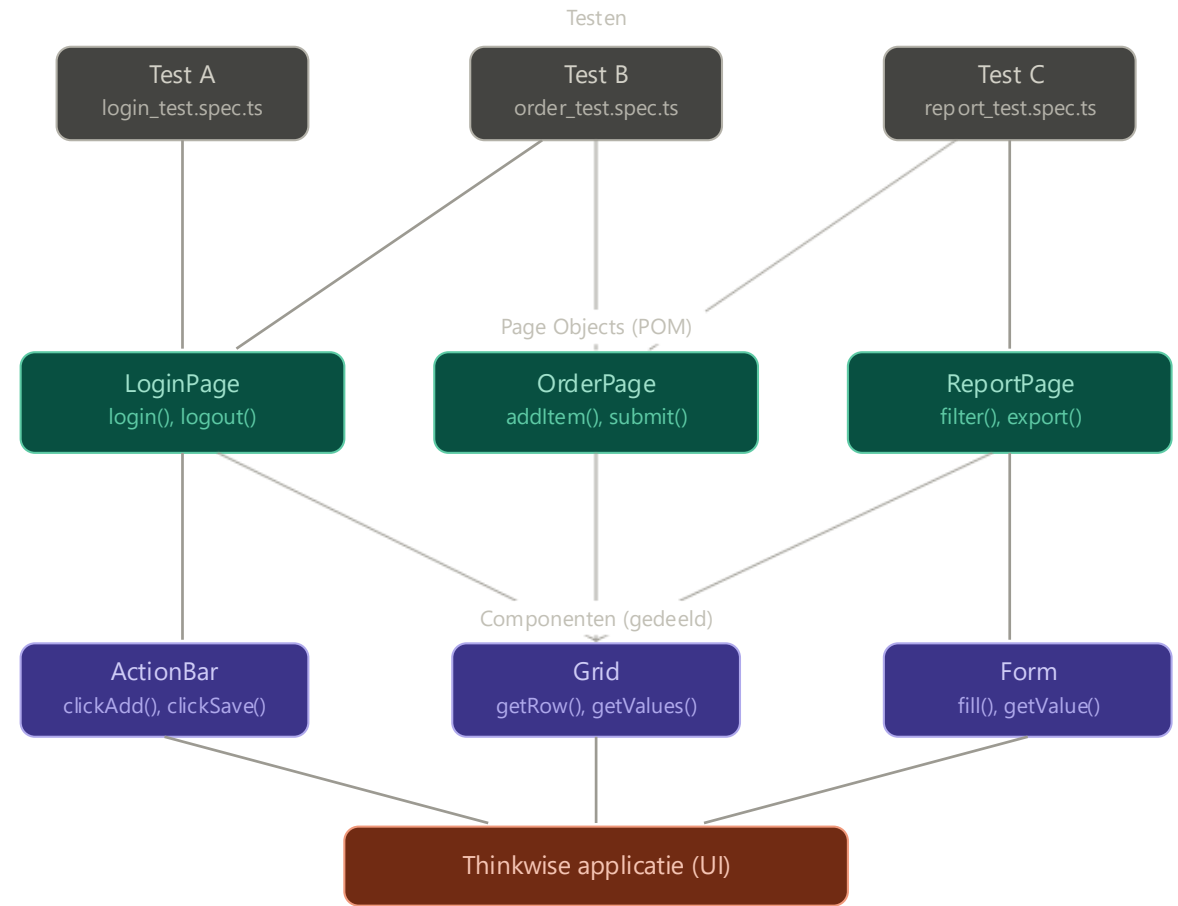
THINKWISE 

+

Playwright

Page Object Model (POM)

- **Design pattern:**
 - Functionaliteit gegroepeerd per page
 - Pages zijn herbruikbaar in meerdere testen
 - Centrale beheerplek
- **Testwise genereert het POM automatisch**
 - Applicatie Model → POM: subject = page
 - Screentypes zijn opgebouwd uit standaard componenten
 - Testwise biedt standaard functionaliteit per component



Roadmap

Wat is nu mogelijk met Testwise:

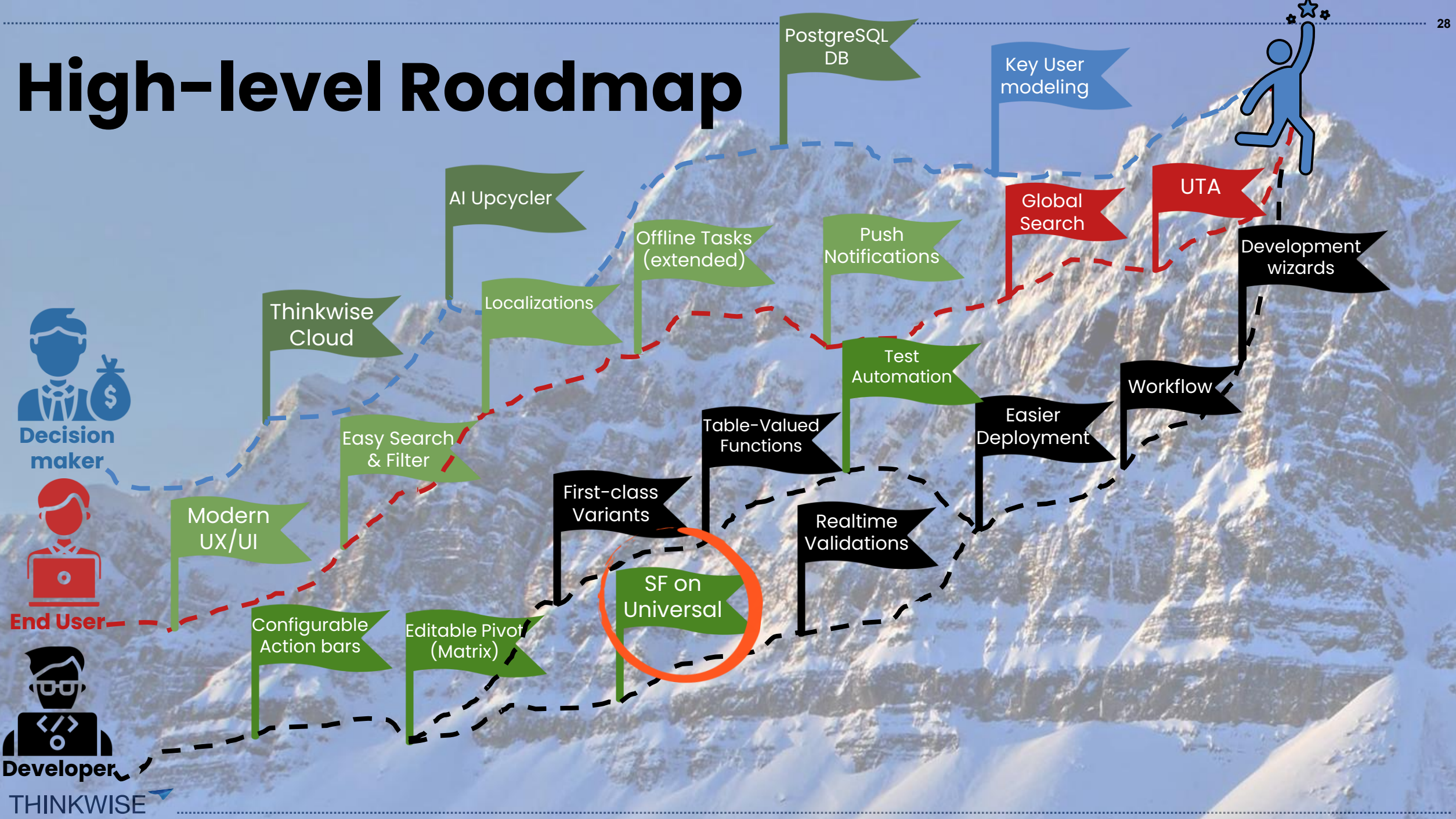
- Volledig POM gegenereerd vanuit het model
- Basis interactie methodes met de meeste componenten
- Implementatie van globale componenten
- Authentication en user simulation

Roadmap

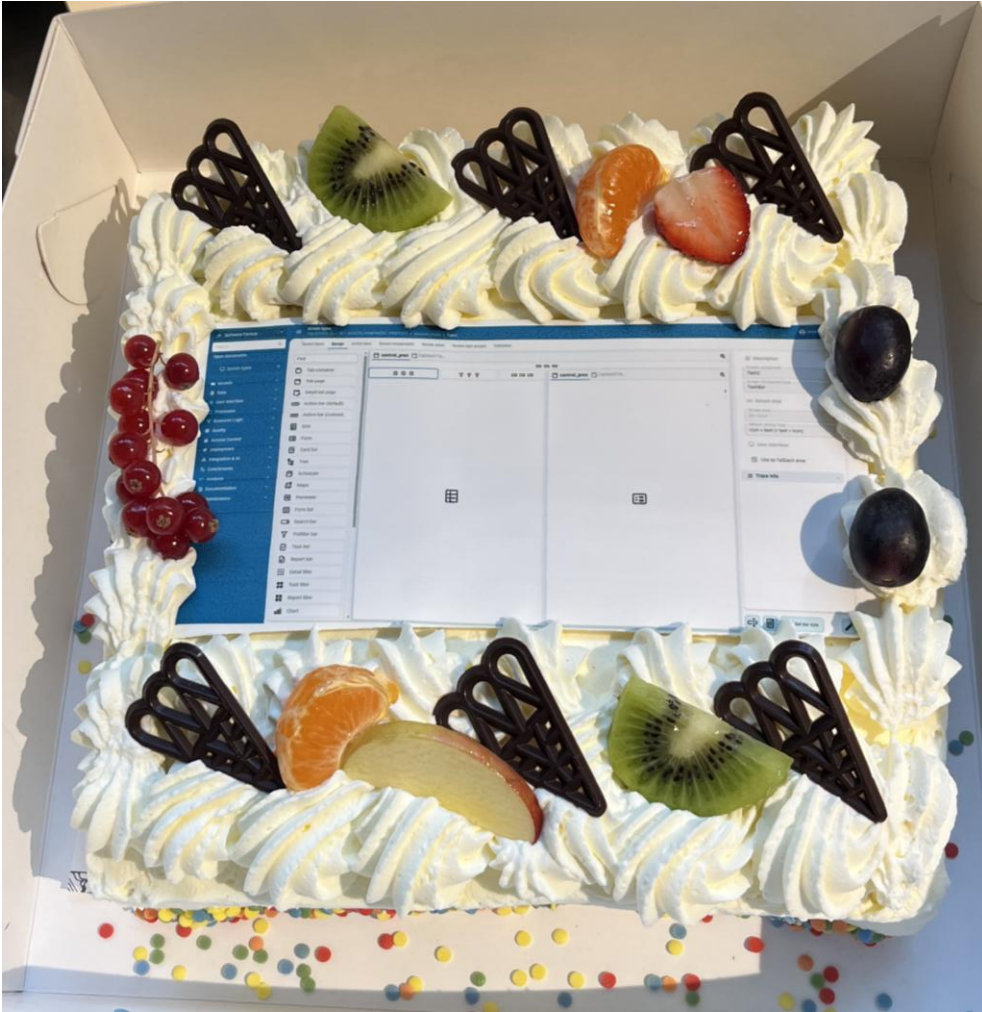
Waar werken we nu aan:

- **Uitbreiding component-functionaliteit**
 - Complexere acties mogelijk maken
- **Slimmere wachtlogica (Universal UI)**
 - Automatisch wachten tot componenten geladen zijn
 - Minder flaky tests door timing-problemen
- **Verdere verlaging van de instap**

High-level Roadmap



Software Factory op Universal

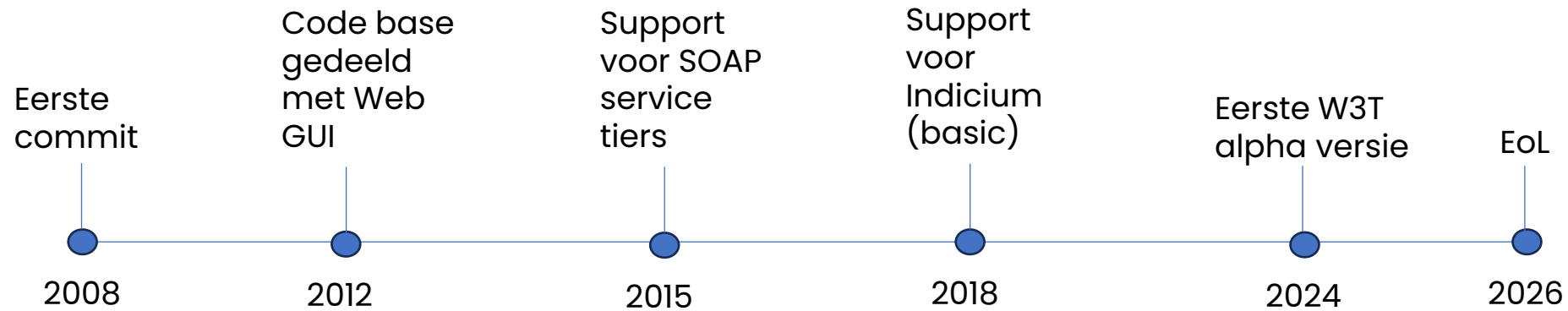


- ERD-, Screen type- en Process flow modeler herbouwd
- Code diff editor control toegevoegd
- File editing met IDE uplink mogelijk gemaakt

Einde Windows GUI

Na **18 jaar** dienst is de Windows GUI End of Life.

Er zijn over de lifetime **45.000 aanpassingen** gedaan en **11.630.686 regels code** geschreven door meer dan **50 developers**.



Verbetering t.b.v. seamless overgang

- Filter capabilities
 - Excel-style filter voor meer datatypen
 - Advanced filter (or/in)
 - Datetime filters voor cubes
- Custom componenten
- Scheduler capabilities uitgebreid
 - Hierarchische groepering
 - Kolommen
 - Worktimes
 - Drag-drop
 - Add activity
- Grid
 - Totalen op selectie
 - Subtotalen op groepsrijen
 - *Data density*
- Kubus verbeteringen
 - Fixed columns
 - Category collapse
 - Export
- Acties over paginas heen bij volledige selectie
- Taak-, rapport- en prefiltergroepen

De toekomst

THE NEVER LEGACY LEGENDS



Large

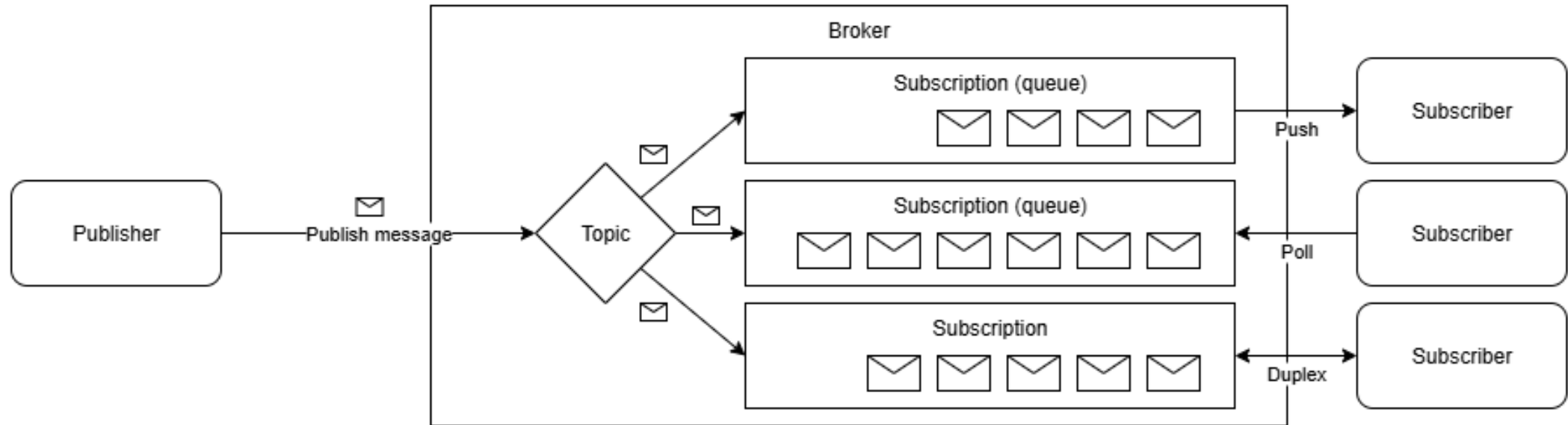
Unique

Evolving

Large Enterprise integratie

THE NEVER LEGACY LEGENDS

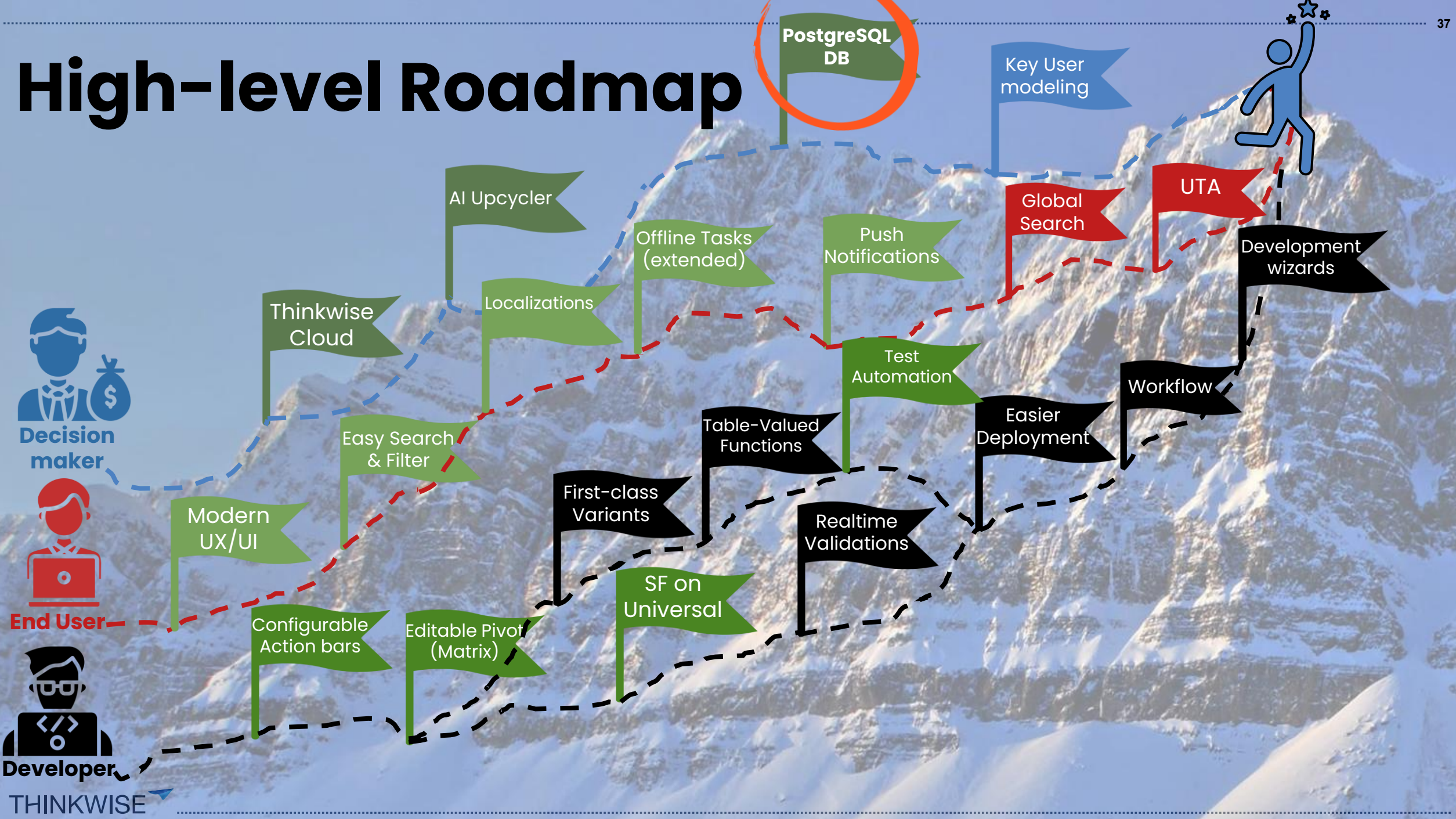
MQTT



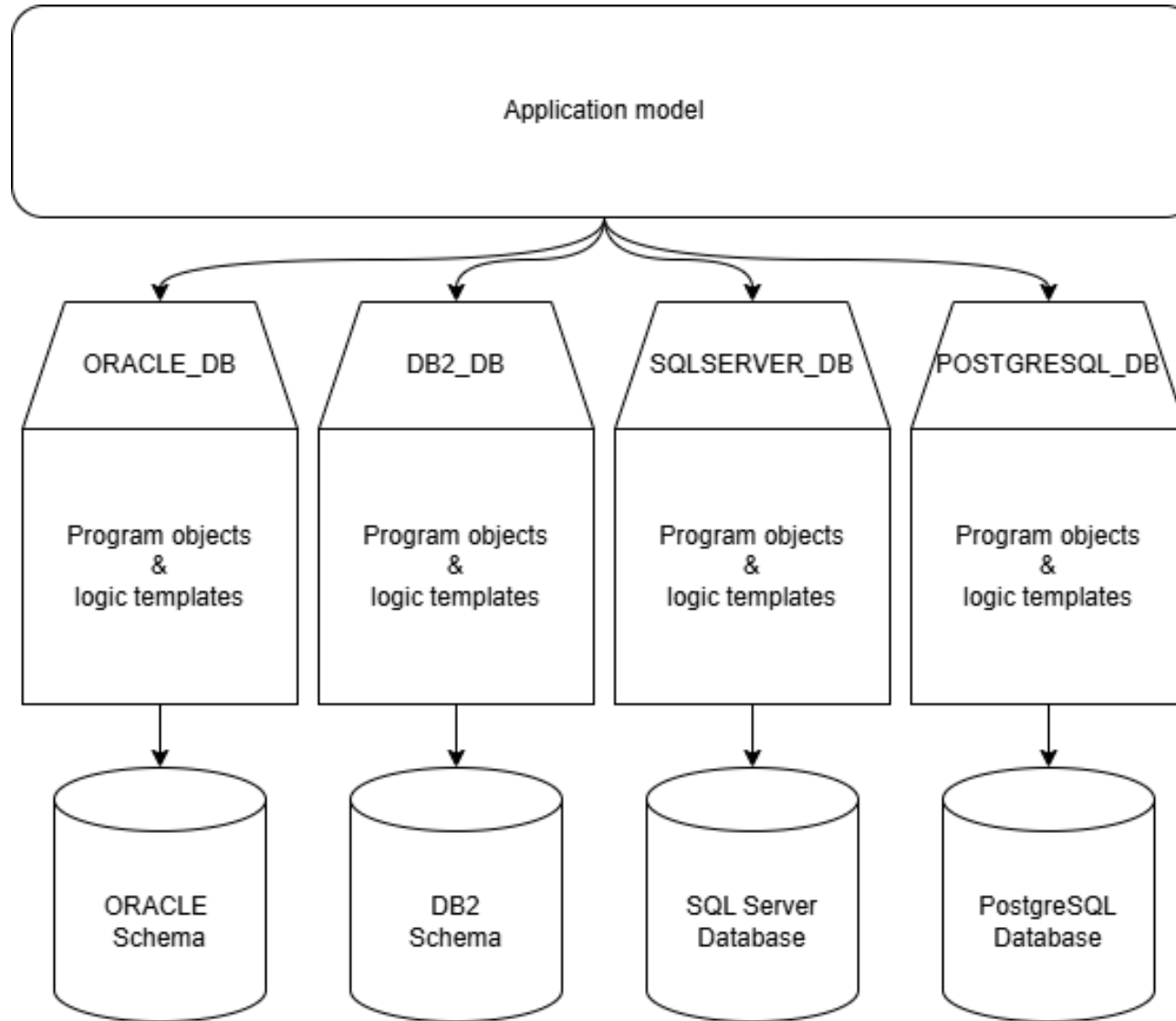
Unique Host & deploy

THE NEVER LEGACY LEGENDS

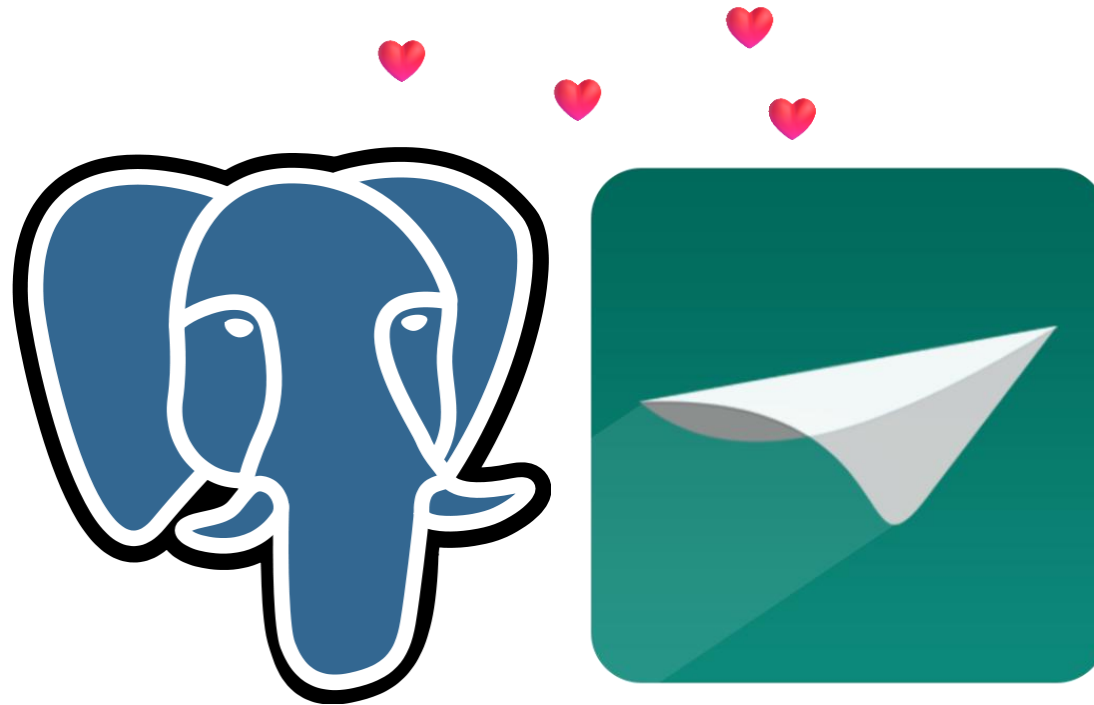
High-level Roadmap



Multi-RDBMS support



PostgreSQL IAM



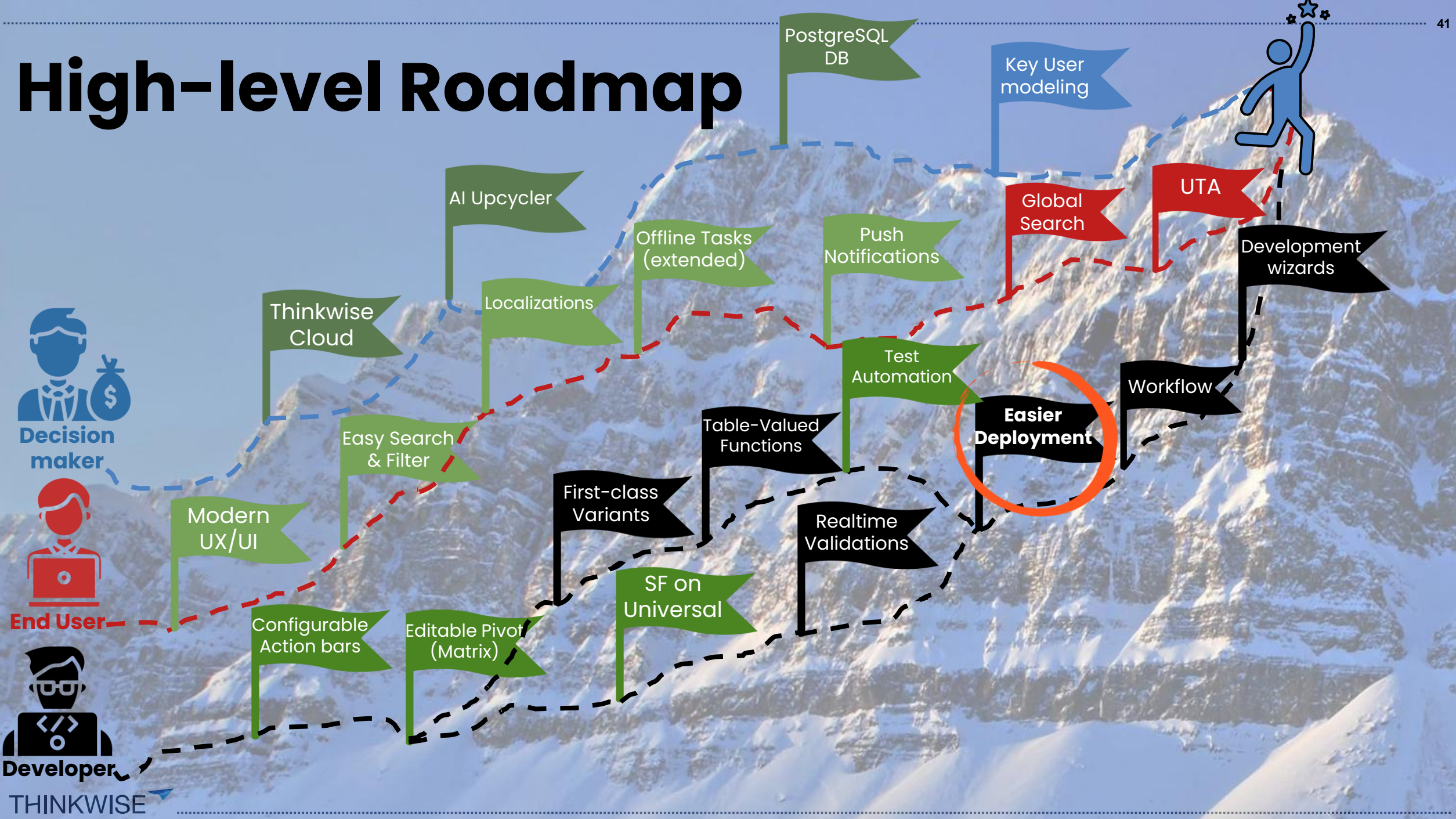
Full-stack on IBM Power

Dus:

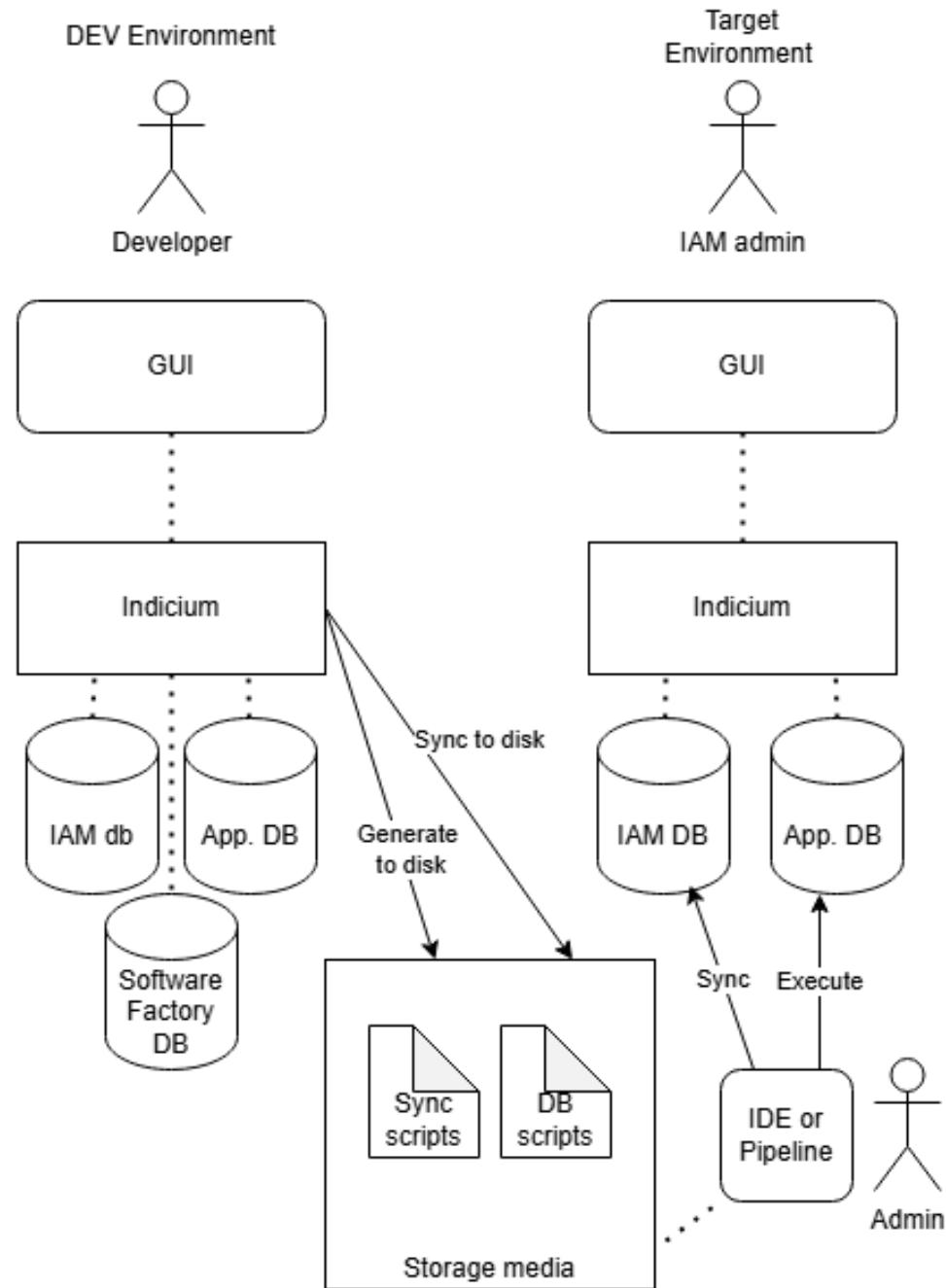
- Applicatie database
- IAM database
- Indicium
- Universal



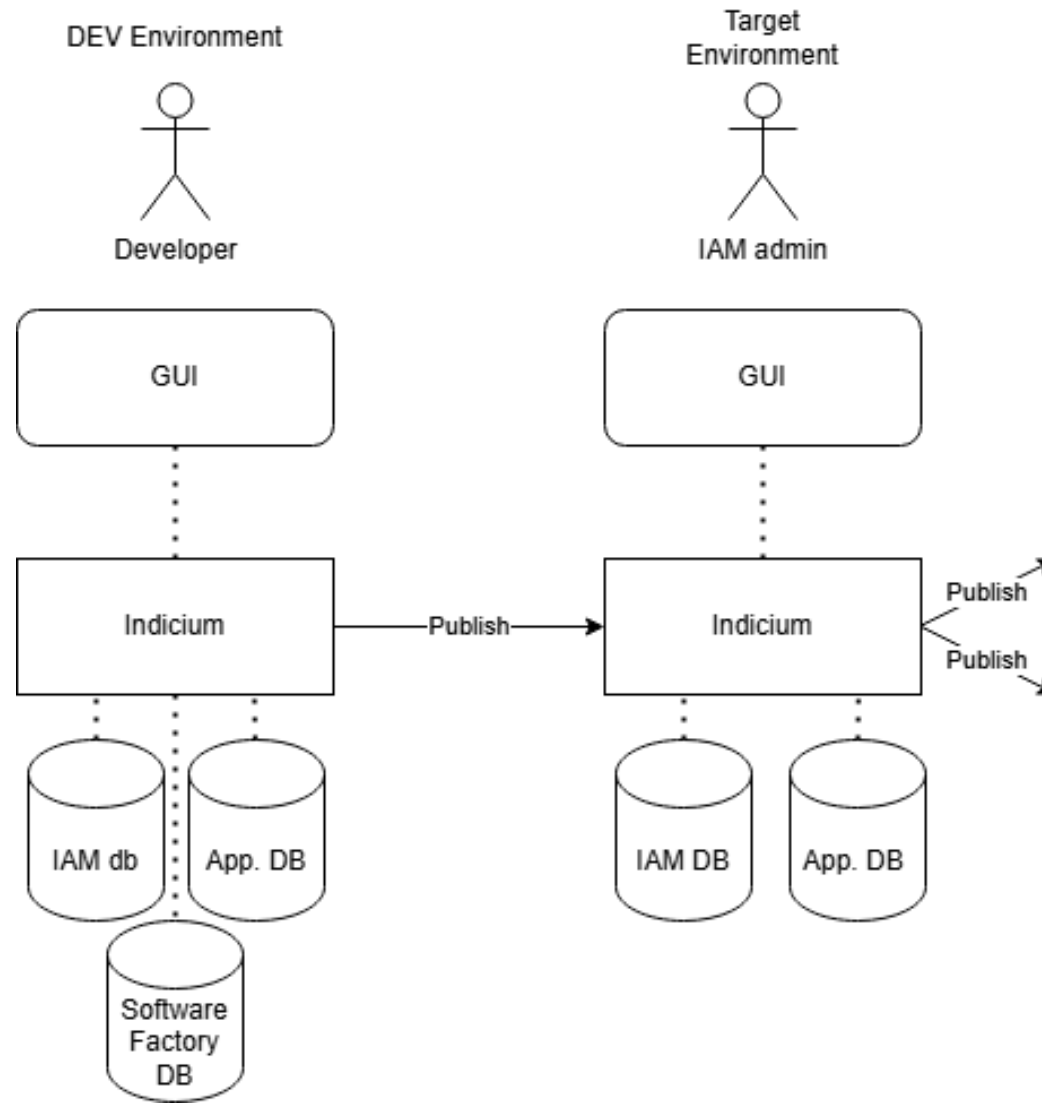
High-level Roadmap



Deployment vandaag



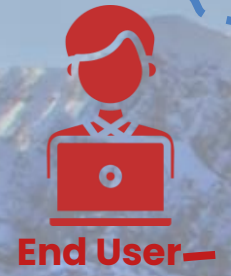
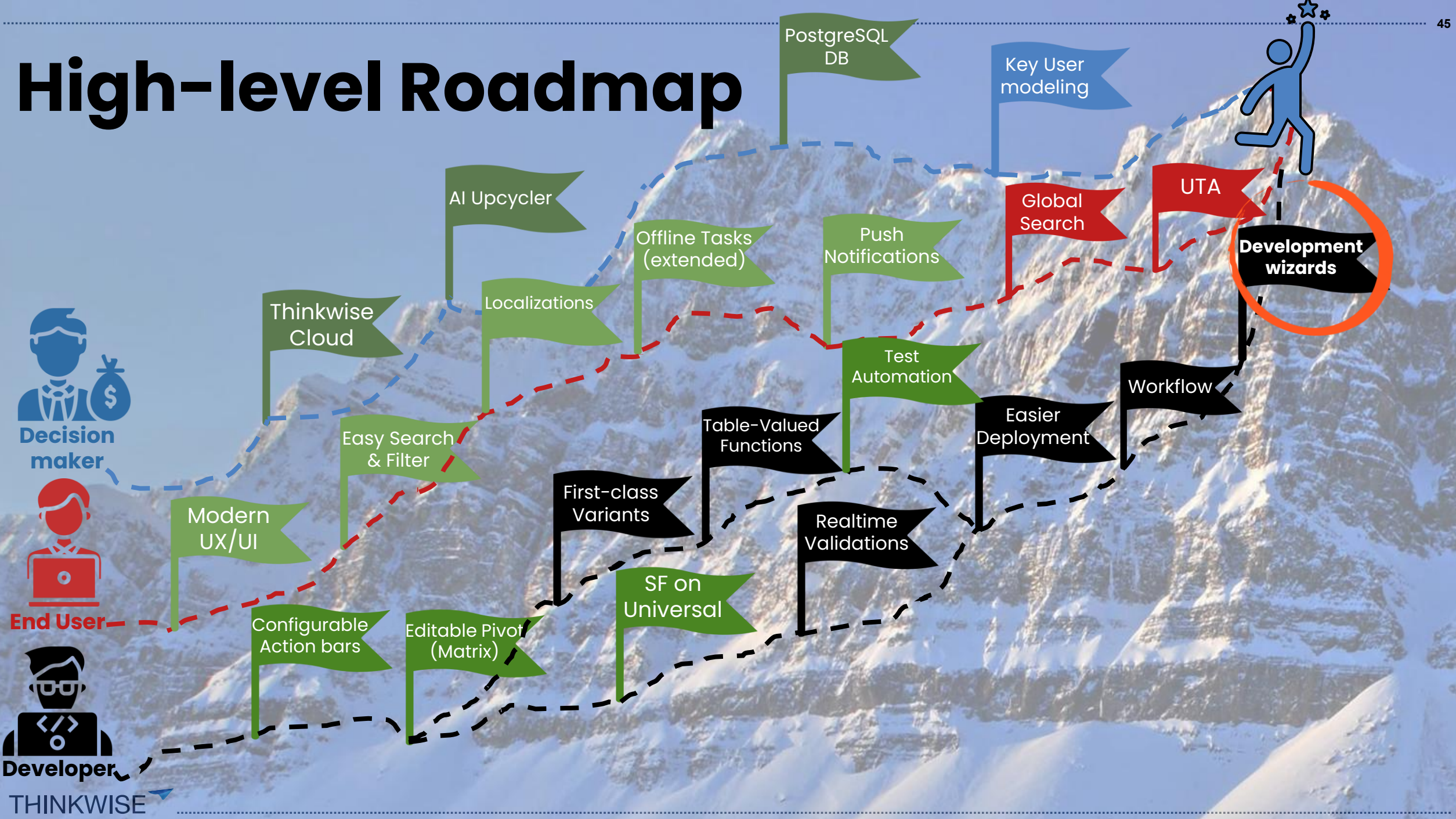
Deployment straks



Evolving Development & AI

THE NEVER LEGACY LEGENDS

High-level Roadmap

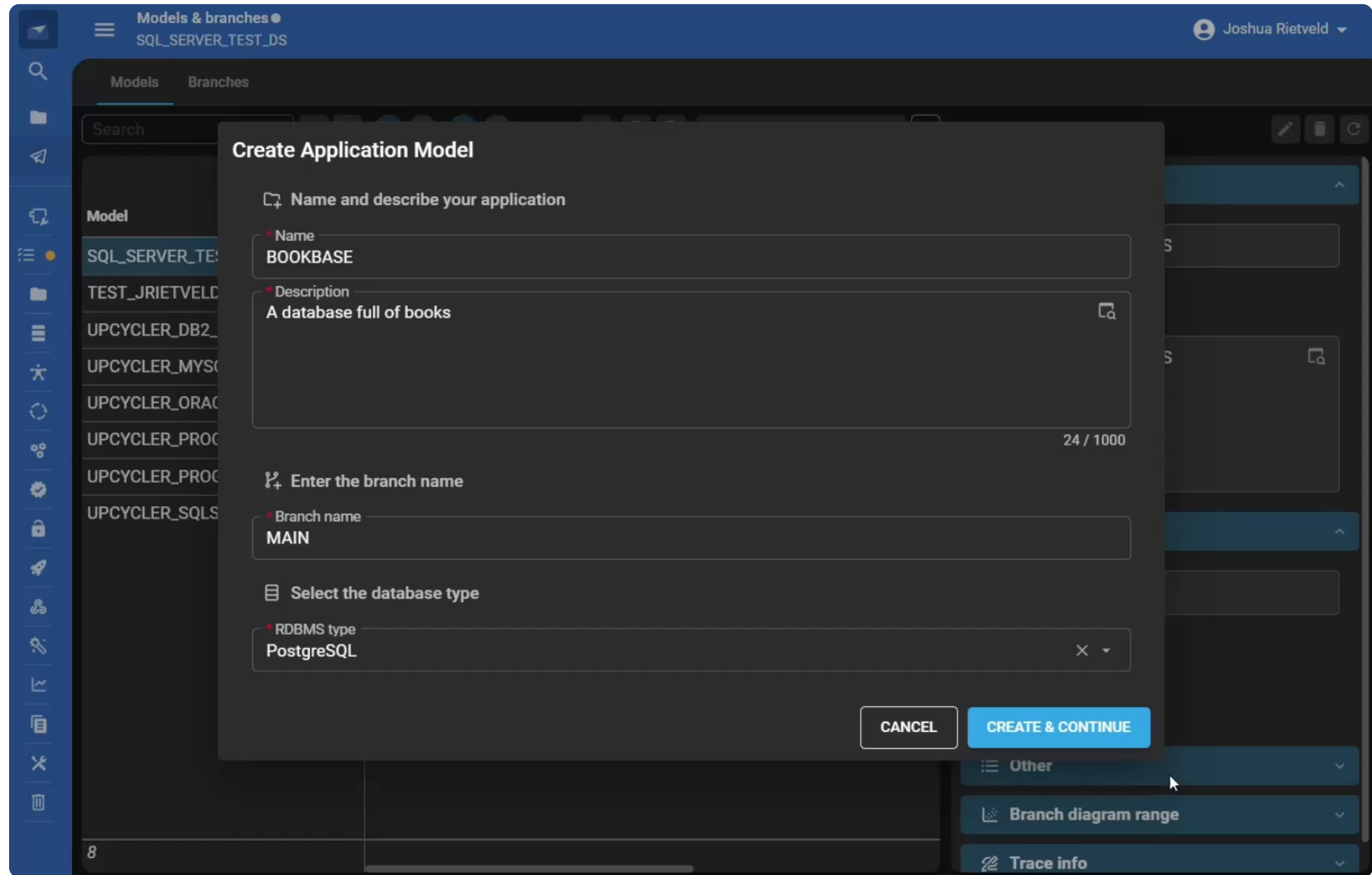


Van workbench naar workflow

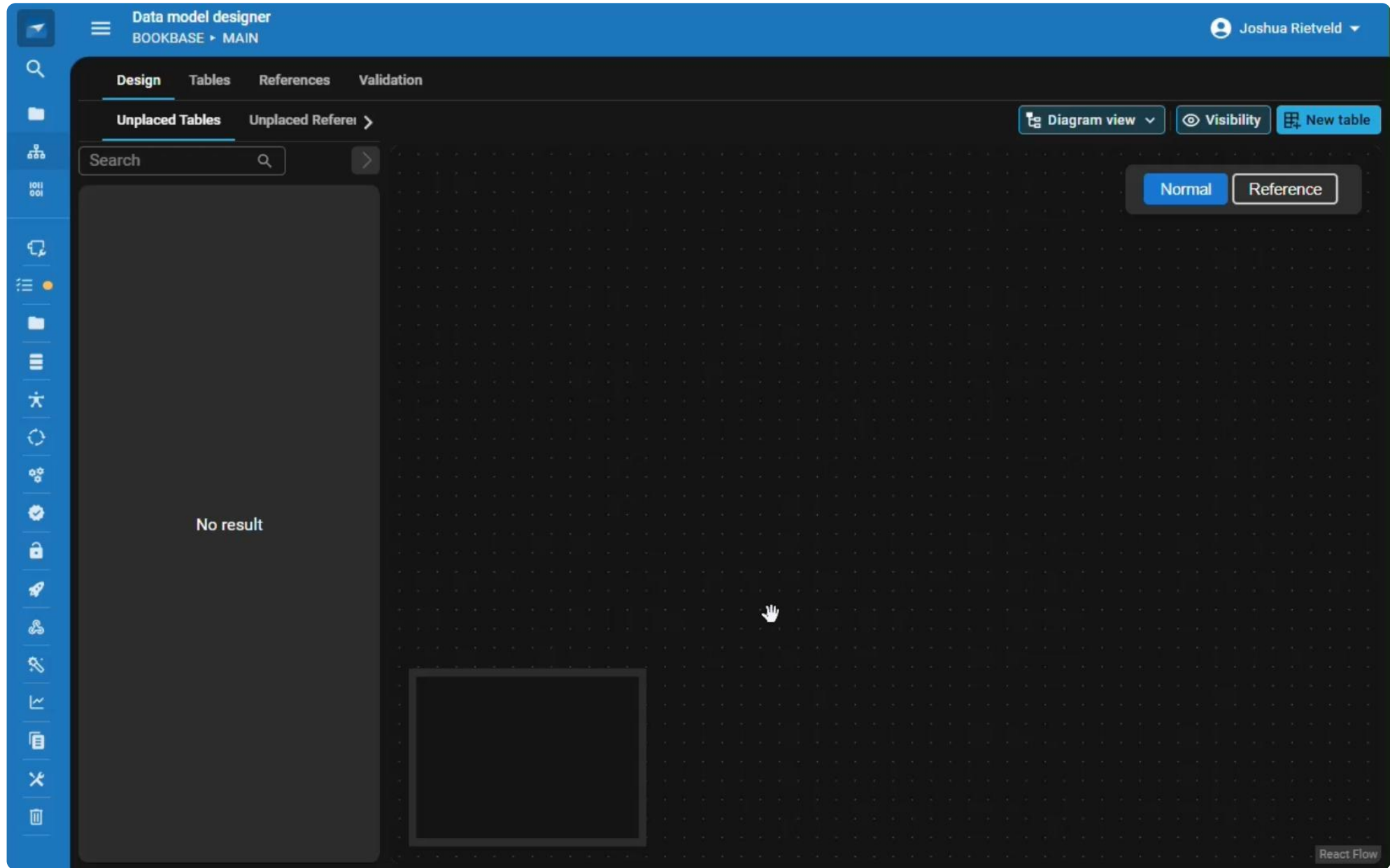
Hoe we structuur brengen in
de Software Factory

THE NEVER • LEGACY LEGENDS

New model creation



Data model designer

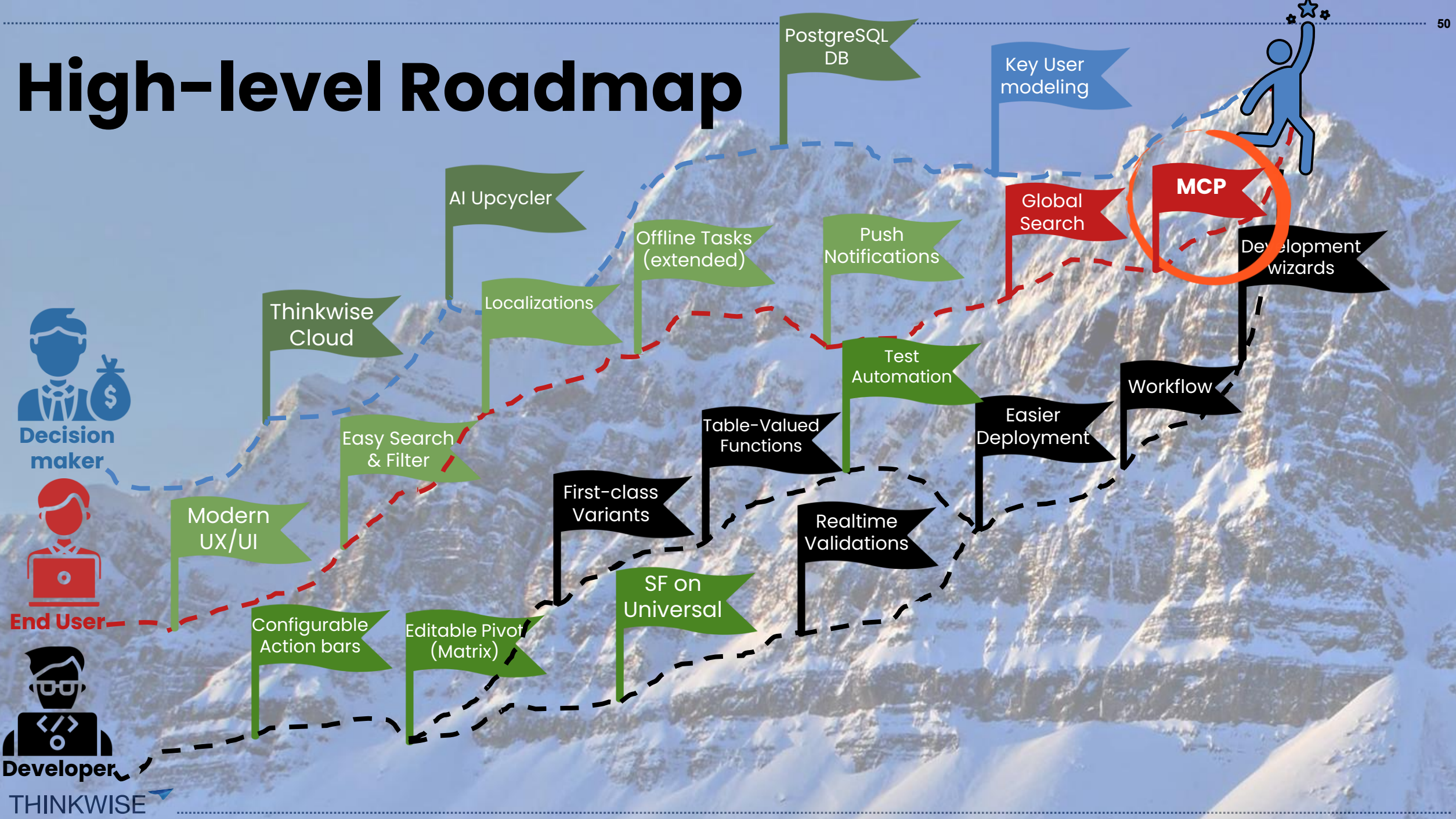


Create tasks with logic

The screenshot displays the 'Tasks' management interface. The top navigation bar shows 'Tasks' and 'BOOKBASE ▶ MAIN'. The user 'Joshua Rietveld' is logged in. The interface is divided into several sections:

- Table:** A table with columns 'Task', 'Task logic type', 'Object name', and 'Generation order no'. The table is currently empty, displaying 'No result'.
- Buttons:** A 'Create task' button is located in the top right of the table area. An 'Add' button is located in the top right of the form area.
- Form:** A form for creating a new task, with sections for 'General' (Task, Object name, Task alias) and 'Description'. The 'Settings' section shows 'Task logic type' set to 'No value' and 'Atomic transaction' as an option.

High-level Roadmap



MCP

