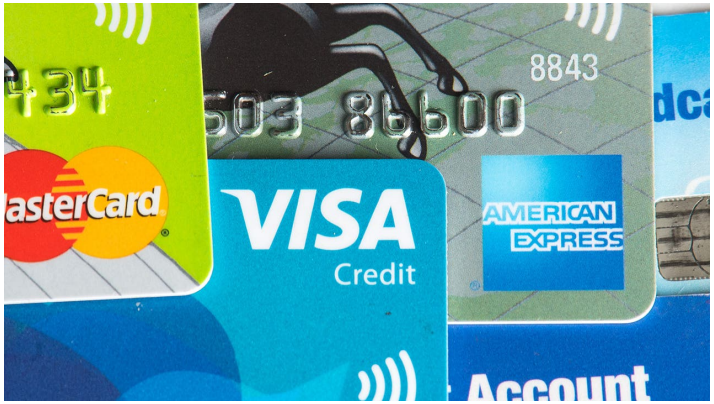
Insurance Portfolio Management

Michael Genesereth
Computer Science Department
Stanford University

Insurance Policies



Example

INSURANCE
POLICY
SHOULD I GET
RENTAL CAR
INSURANCE?
Tips for Bu
8843
VISA
Credit
AMERICAN
EXPRESS

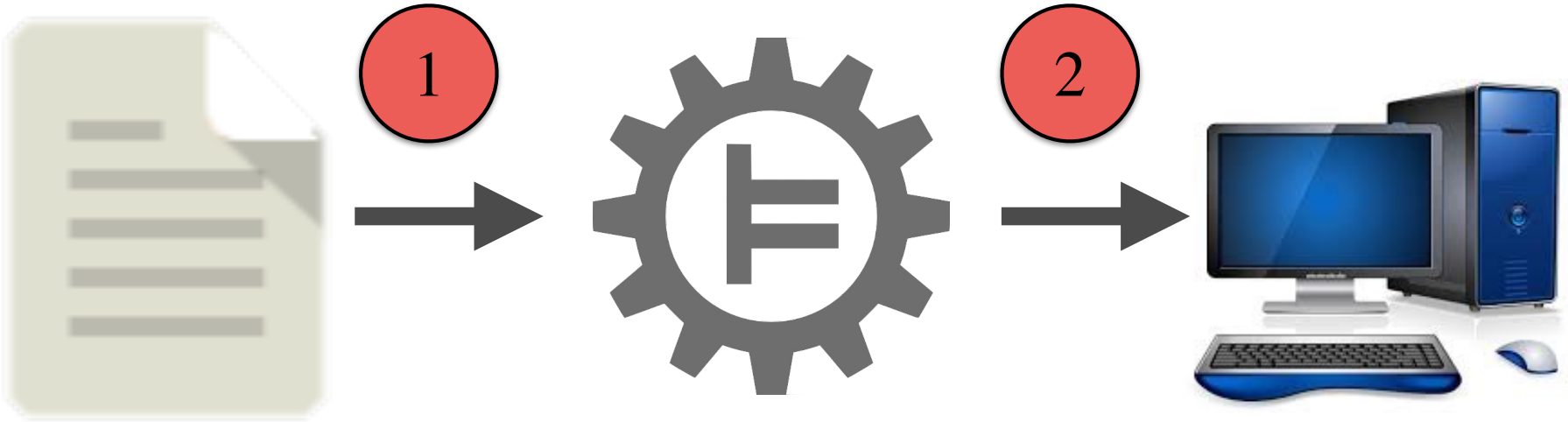
Insurance Portfolio Management

Insurance portfolio management (IPM) is the process of managing *overlapping insurance policies* with an eye to *minimizing insurance costs* while *ensuring adequate coverage*.

Complexity of Insurance Policies

Policies are complex, incomplete, inconsistent.

Computable Contracts



From Text to Computable Contracts to Automation

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Products

Click on the link to **view** available insurance products.

People

Click on the link to **view** or **add** people you would like to include on your policies.

Policies

Click on the link to **view**, **add**, or **analyze** policies.

Properties

Click on the link to **view** or **add** properties that are insured or that you wish to insure (automobiles, houses, etc.).

Claims

Click on the link to **view**, **add**, or **analyze** claims.

Events

Click on the link to **view** recorded events (accidents, fires, etc.) or to **record** new events.

Feedback

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Policies

Policy	Insurer	Type	Insuree	Begin	End	Actions
policy1234567821	chubb	chubb_hospital_cash	steve_squirrel	2021_01_01	2021_12_31	
policy1234567822	axa	axa_travel_policy	sally_squirrel	2021_01_01	2021_12_31	
policy1234567831	codex	codex_plana	steve_squirrel	2021_01_01	2021_12_31	
policy1234567832	codex	codex_planb	steve_squirrel	2021_01_01	2021_12_31	
policy1234567833	codex	codex_planc	steve_squirrel	2021_01_01	2021_12_31	
policy1234567834	codex	codex_pland	steve_squirrel	2021_01_01	2021_12_31	
policy1234567841	visa	visa_signature	sally_squirrel	2021_01_01	2021_12_31	

Add Policy

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Claim

Not covered

Claim: claim31 New
Repair: repair31 New
Collision: collision31 New
Vehicle: vehicle31 New
Agreement: rental31 New
Date: 2023_10_31

Repair

Id: repair31
Vehicle: vehicle31
Repair Shop: outback_auto_repair
Start Date: 2023_08_24
End Date: 2023_08_31

Vehicle

Id: vehicle31
Make: triumph
Type: sportscar

Collision

Id: collision31
Driver: steve_squirrel
Vehicle: vehicle31
Activity: racing
Country: usa
Date: 2023_08_24

Rental Agreement

Id: rental31
Vehicle: vehicle31
Driver: steve_squirrel
Locale: usa
Start: 2023_06_01
End: 2023_06_15

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Repair Shop: outback_auto_repair
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End Date: 2023_08_31

Vehicle

Id: vehicle31
Make: triumph
Type: sportscar

Collision

Id: collision31
Driver: steve_squirrel
Vehicle: vehicle31
Activity: street
Country: usa
Date: 2023_08_24

Rental Agreement

Id: rental31
Vehicle: vehicle31
Driver: steve_squirrel
Locale: usa
Start: 2023_06_01
End: 2023_06_15

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Collision

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Driver: steve_squirrel
Vehicle: vehicle31
Activity: street
Country: usa
Date: 2023_08_24

Rental Agreement

Id: rental31
Vehicle: vehicle31
Driver: steve_squirrel
Locale: ireland
Start: 2023_06_01
End: 2023_06_15

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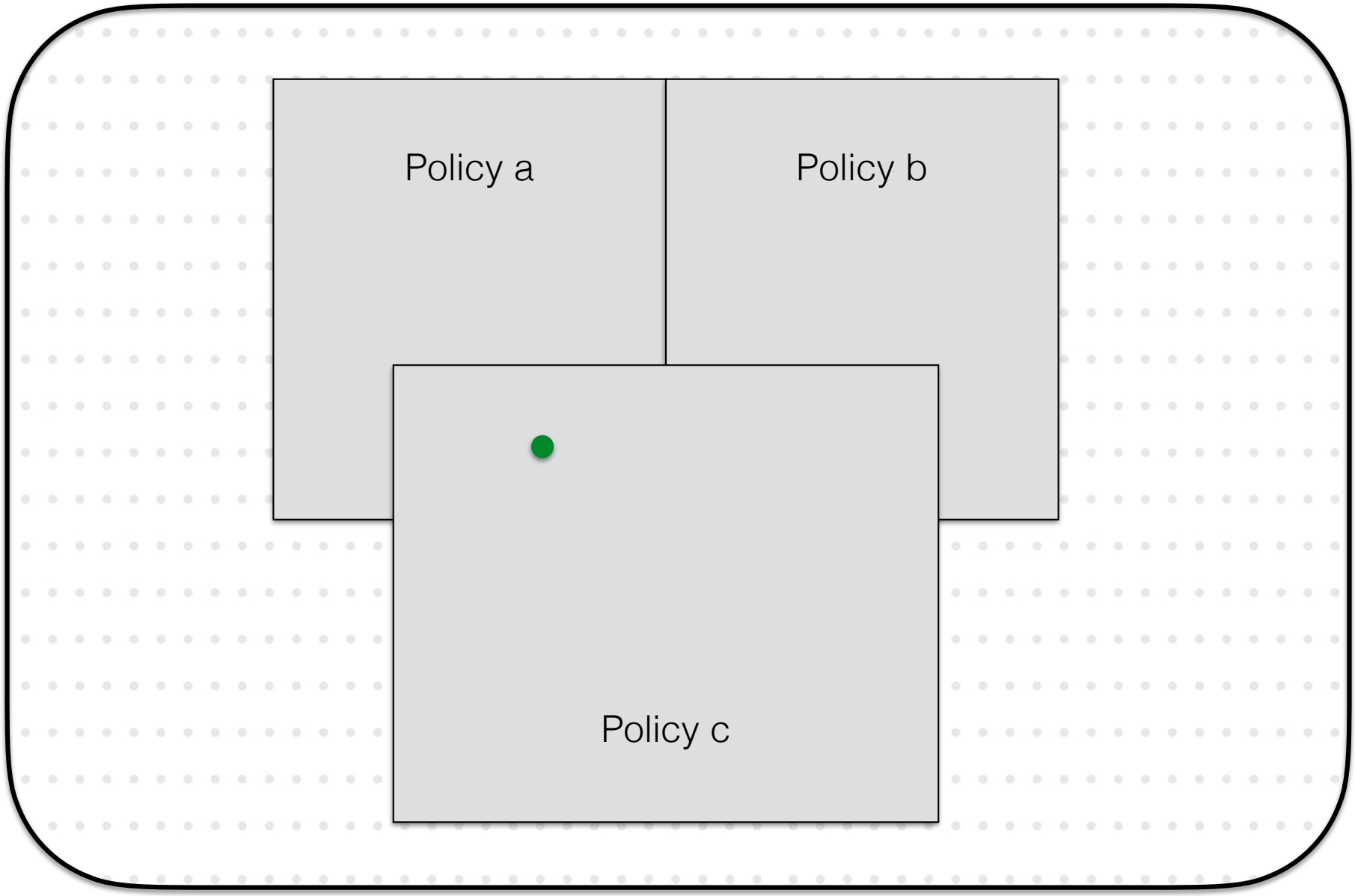
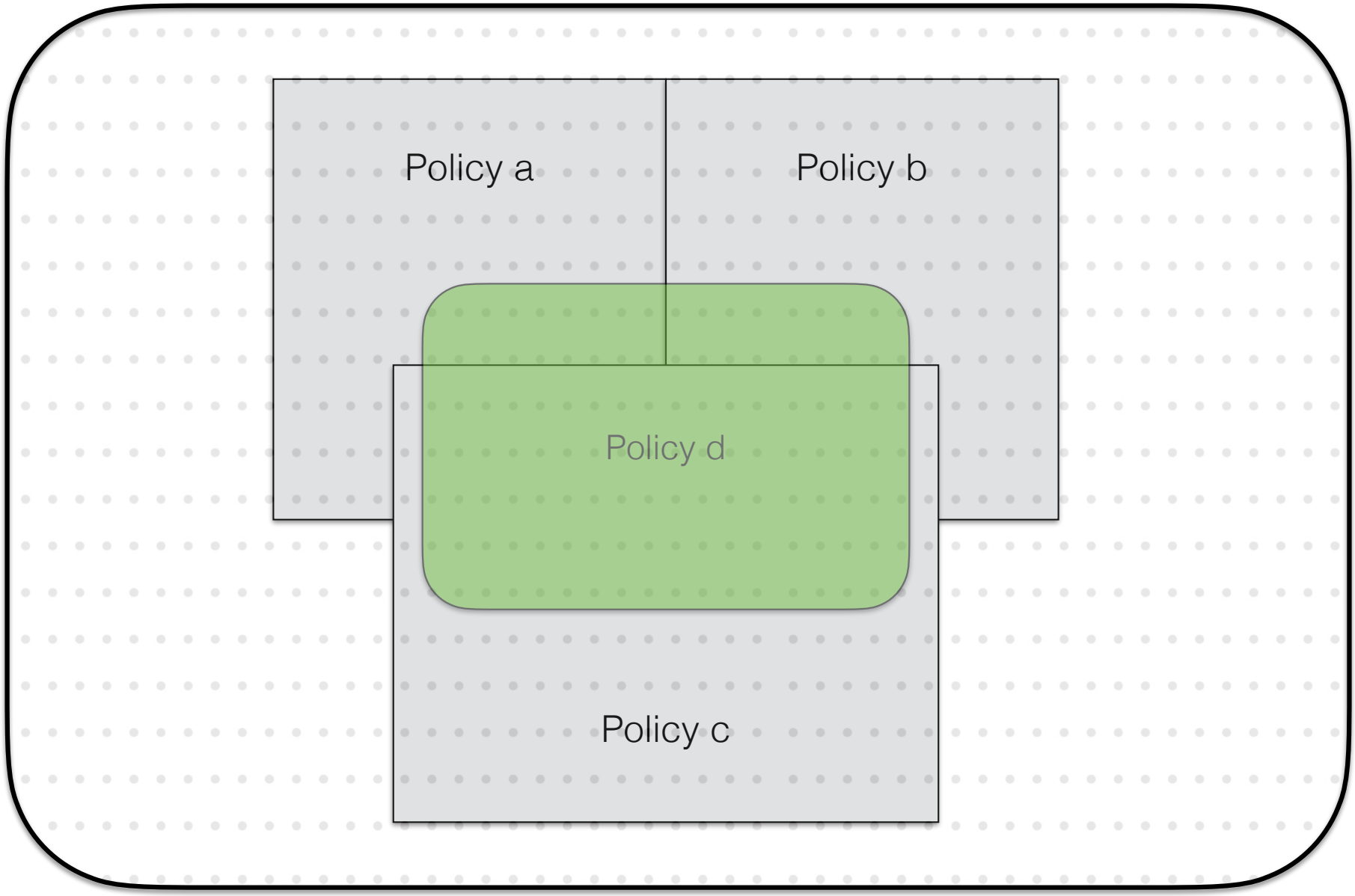
Claims Analysis



Portfolio Analysis



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Feedback

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Products | Policies | Claims | People | Properties | Events

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Feedback

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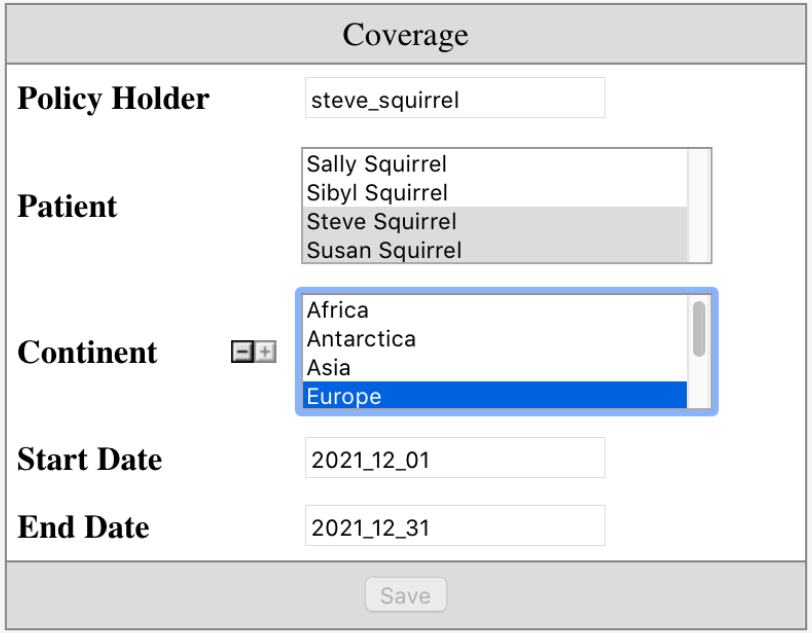
Feedback

From Policies to Requirements



Requirements Analysis

Desired Coverages

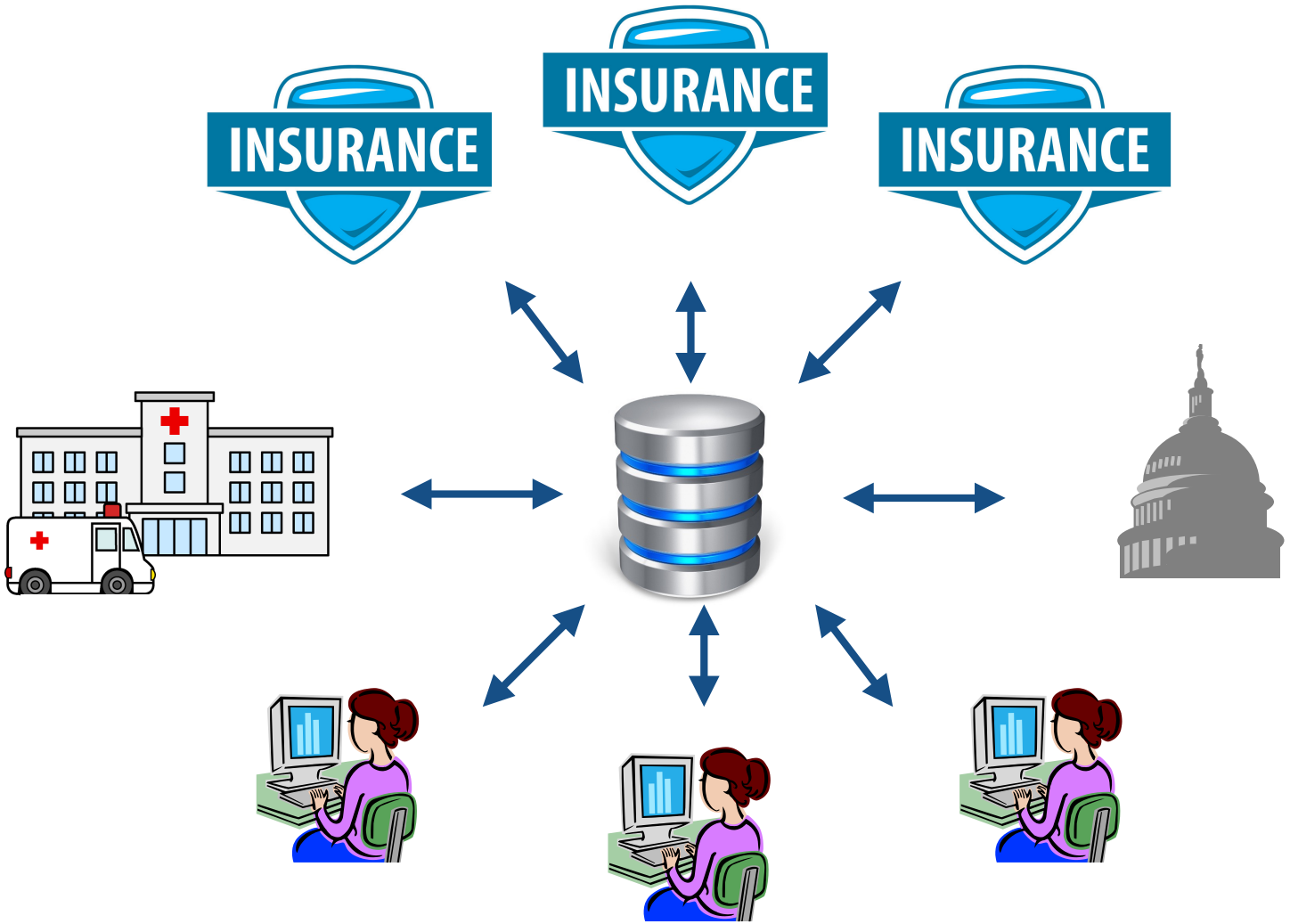
	Coverage	Description	Rules
☐	Goal 1	Insuree, spouse, and kids covered in USA	Rules
☐	Goal 2	Insuree covered for multiple trips to Japan and Korea	Rules
☐	Goal 3	Spouse covered for trip to Australia	Rules

Available Policies

	Policy	Description	Rules
☐	Policy a	Insuree, spouse, and kids covered in North America	Rules
☐	Policy b	Insuree covered anywhere in the world	Rules
☐	Policy c	Spouse covered anywhere in the world	Rules
☐	Policy d	Children covered anywhere in the world	Rules
☐	Policy e	Family covered in Europe	Rules
☐	Policy f	Family covered in South America	Rules
☐	Policy g	Family covered in Asia	Rules
☐	Policy h	Spouse covered in Oceania	Rules

Analyze Suggest

Computable Insurance Ecosystem



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