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SUMMIT

OpenShift.io Analytics

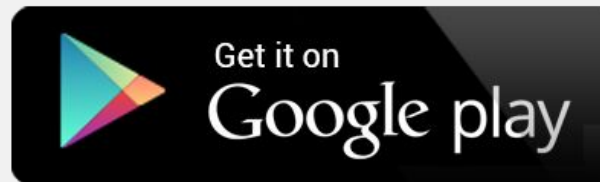
Actionable insights for the developer
Community

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Lead Product Manager

SriKrishna Papparaju
Sr. Principal Software Engineer

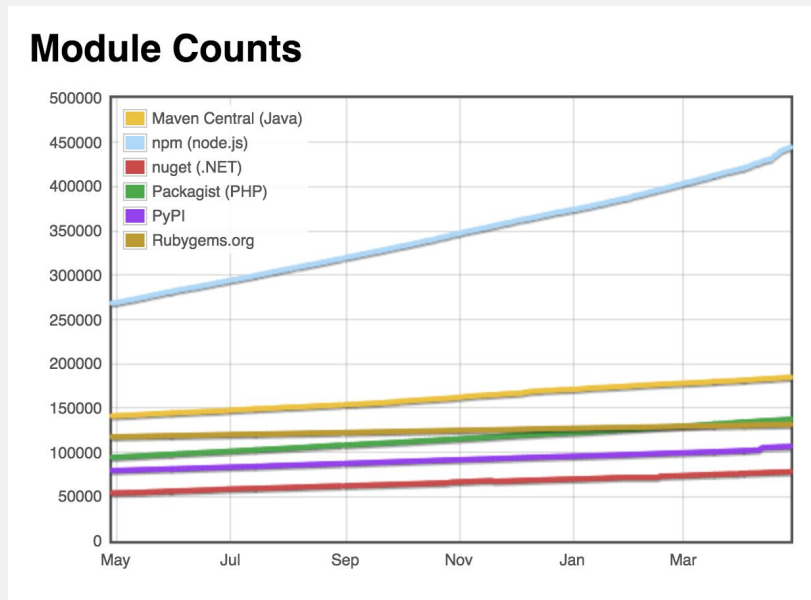


2002



2017

Today, developers have plenty of software components to choose ...



These software components grow everyday ...

	Apr 21	Apr 22	Apr 23	Apr 24	Apr 25	Apr 26	Apr 27	Avg Growth
Clojars (Clojure)	18694	18706	18706	18720	18732	18735	18743	8/day
CPAN	35138	35140	35142	35147	35152	35158	35163	4/day
CPAN (search)	35138	35140	35142	35147	35152	35158	35163	4/day
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Drupal (php)	37234	37245	37252	37257	37268	37286	37299	11/day
DUB (dlang)	995	995	997	998	999	1000	1002	1/day
Gopm (go)	18949	18952	18953	18963	18964	18966	18969	3/day
Hackage (Haskell)	11213	11217	11220	11226	11237	11243	11247	6/day
Hex.pm (Elixir/Erlang)	4022	4028	4034	4039	4045	4058	4064	7/day
Julia	1344	1348	1347	1347	1351	1352	1356	2/day
LuaRocks (Lua)	1426	1428	1428	1428	1428	1430	1430	1/day
Maven Central (Java)	184100	184211	184267	184374	184558	184682	184789	115/day
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npm (node.js)	438794	440564	441582	442183	443024	443826	444419	937/day
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Perl 6 Ecosystem (perl 6)	810	810	811	814	812	813	815	1/day
PyPI	106353	106427	106490	106590	106636	106726	106822	78/day
Rubygems.org	131348	131377	131404	131431	131471	131515	131552	34/day

How can a developer choose from so many software components ?

Maybe you the developer, choosing a software component that others in your organization are not currently using...

This is not a one time pain

How does a developer keep up with newer versions and the ever growing list of software components ?

Enter OpenShift.io Analytics

Actionable insights from self learning, ecosystem agnostic analytics platform

OpenShift.io Analytics

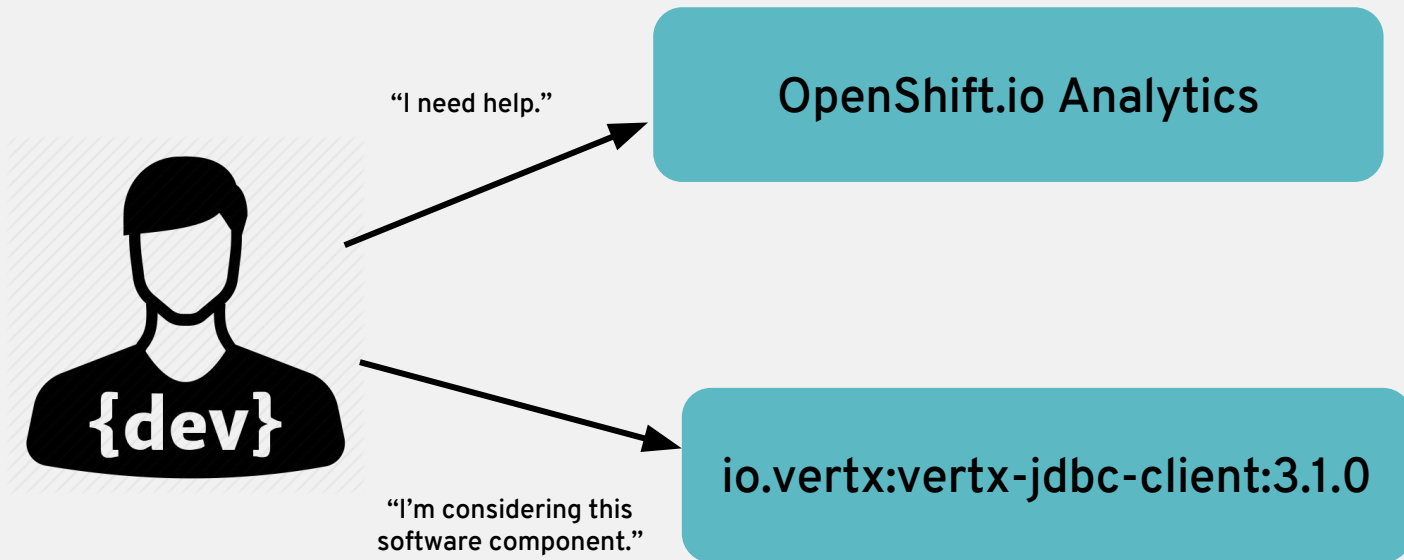
- Actionable insights
- Architecture
- Analytics behind actionable insights
- Integrations
- Roadmap

Actionable Insights:

Current use cases

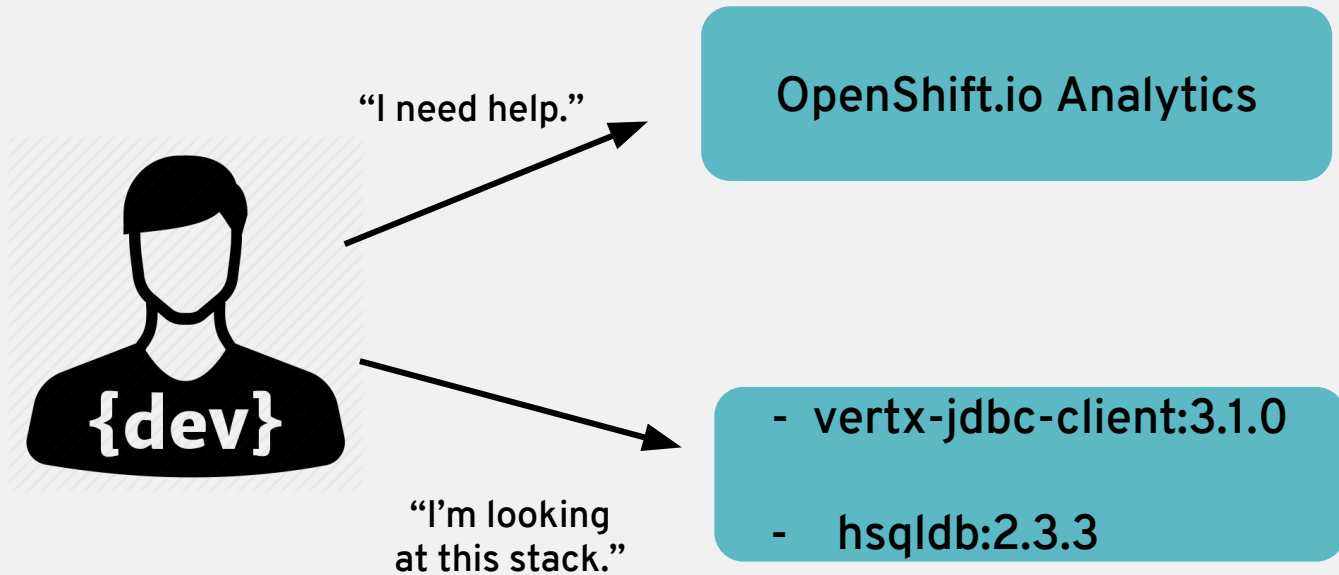
Actionable Insights:

For a software component



Actionable Insights:

For an application stack



Actionable Insights:

Demo

Architecture

- **Cloud Native with CI,CD**
- **Micro service based architecture built on OpenShift**
- **With failover between two OSD clusters**
- **Zabbix monitoring, triggers failover**

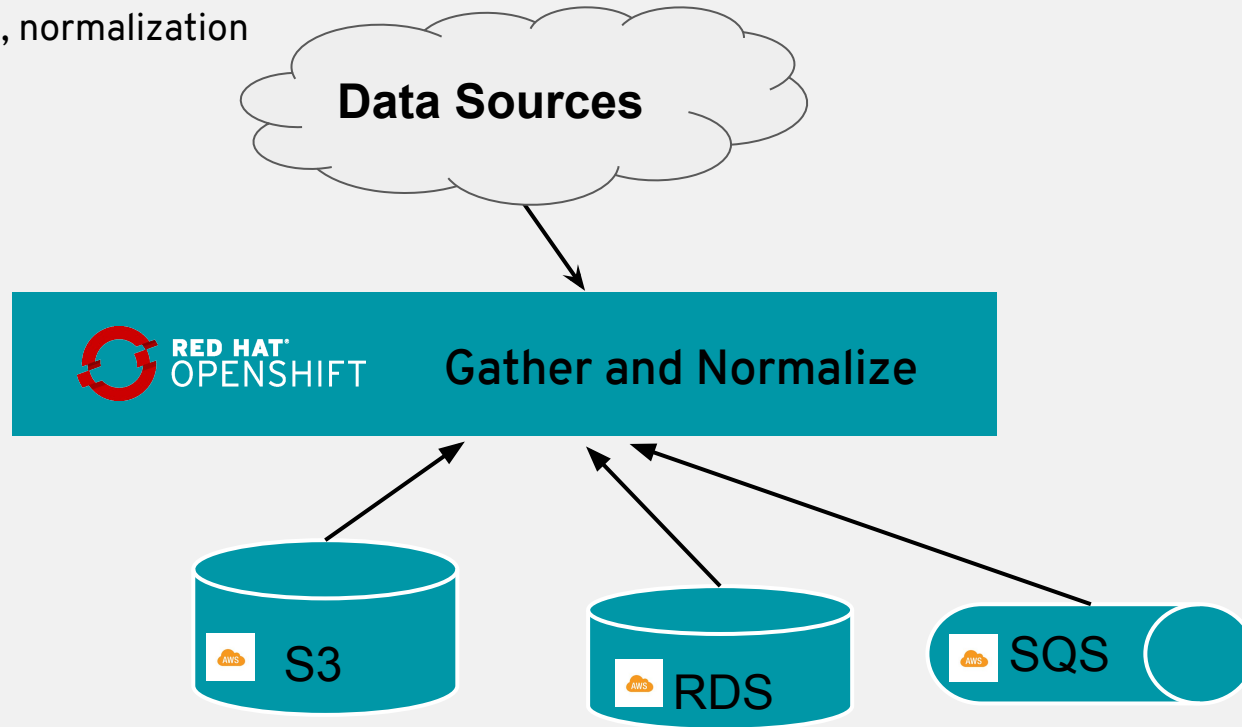
Architecture

A typical Big Data architecture



Architecture

Data gathering, normalization

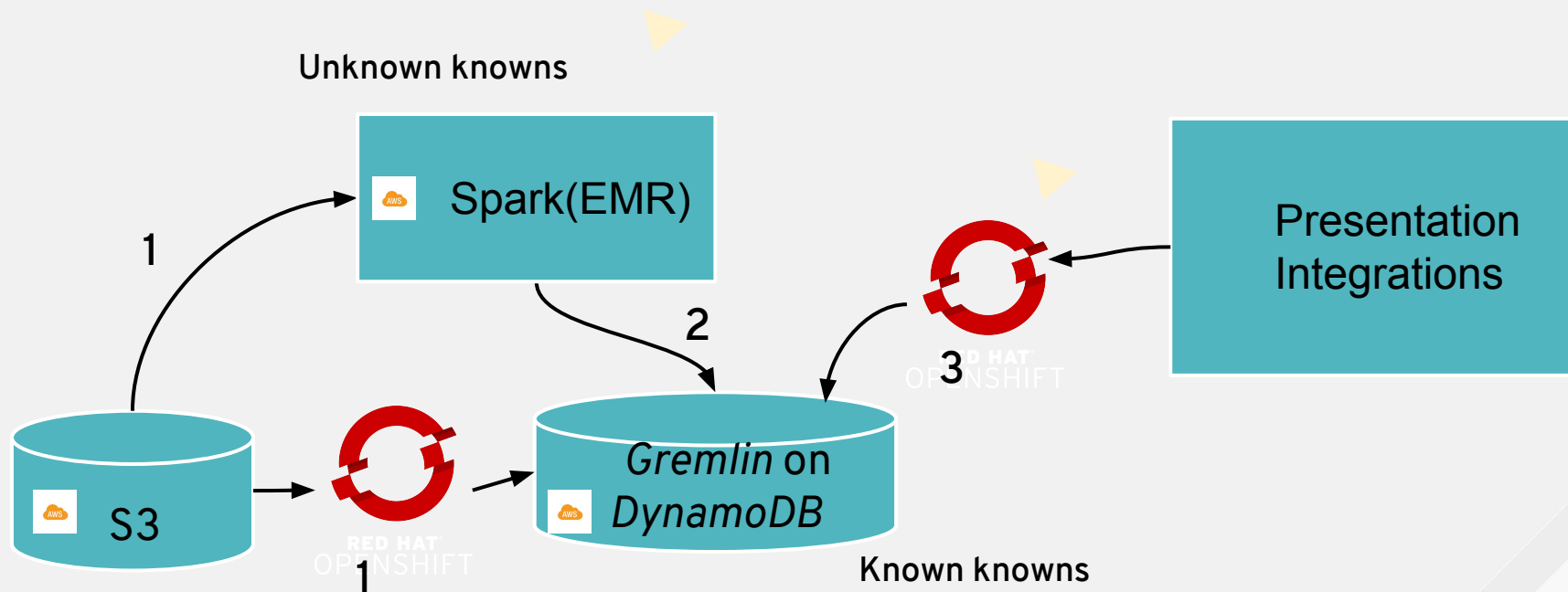


Architecture

Analytics

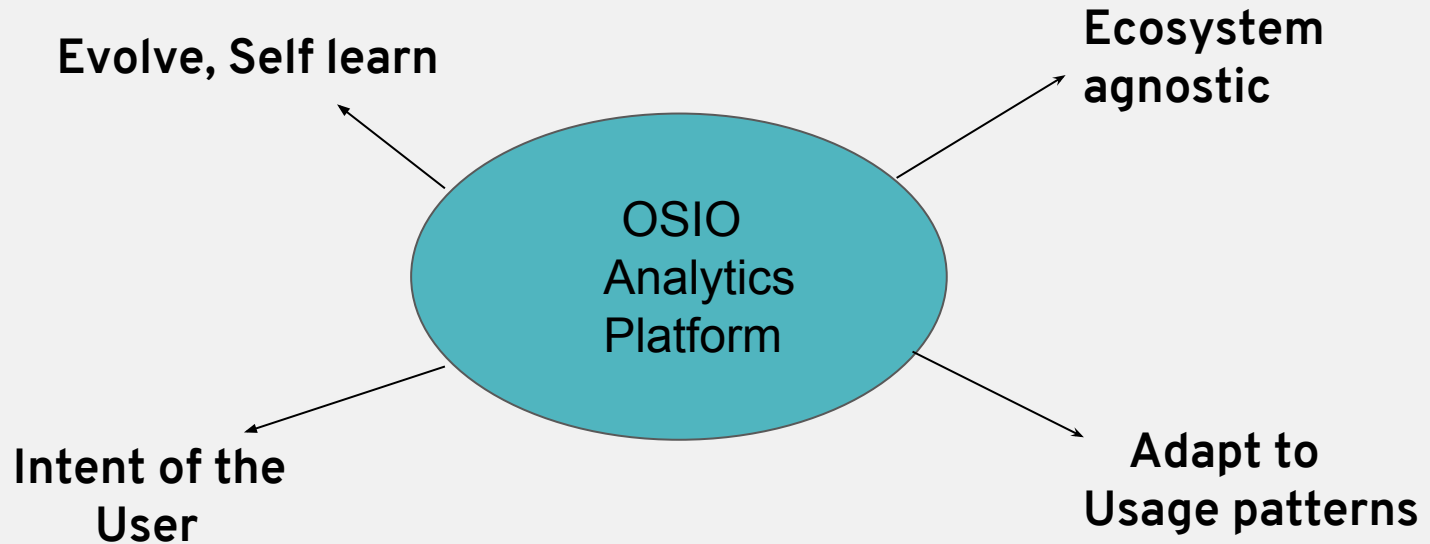
Analytics

Presentation



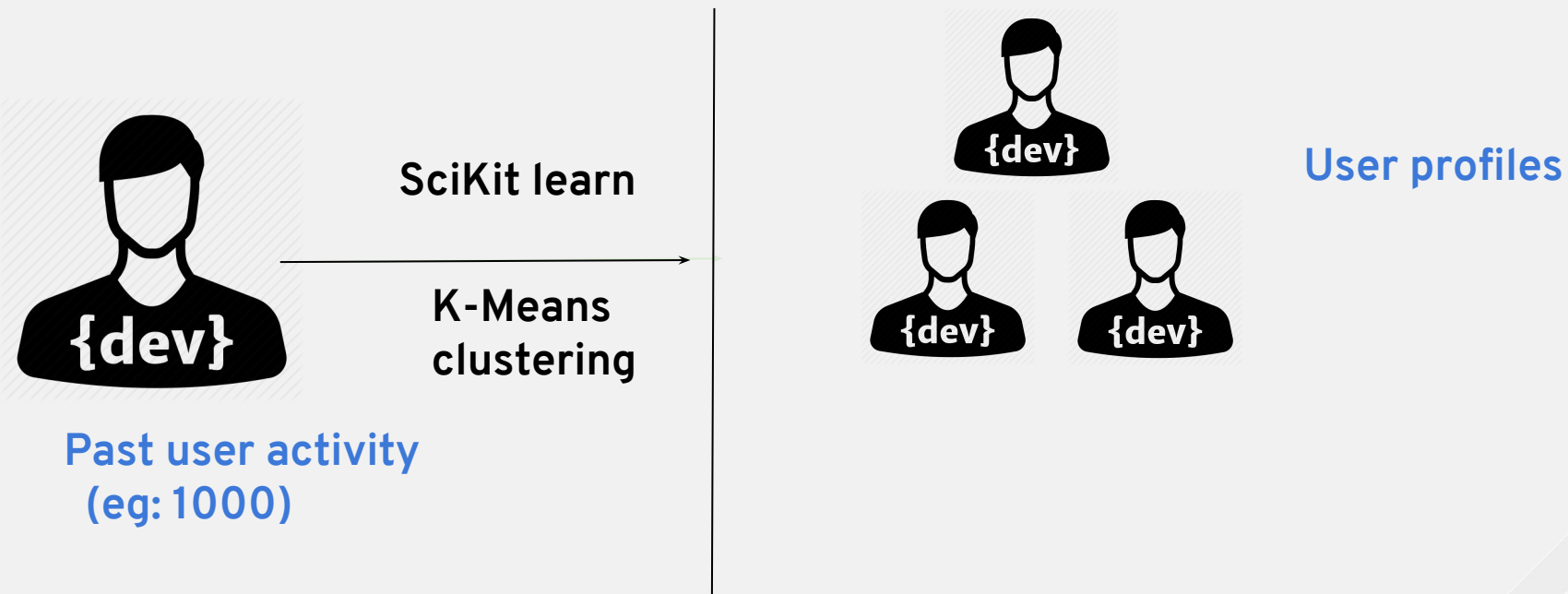
Analytics behind actionable insights

Themes



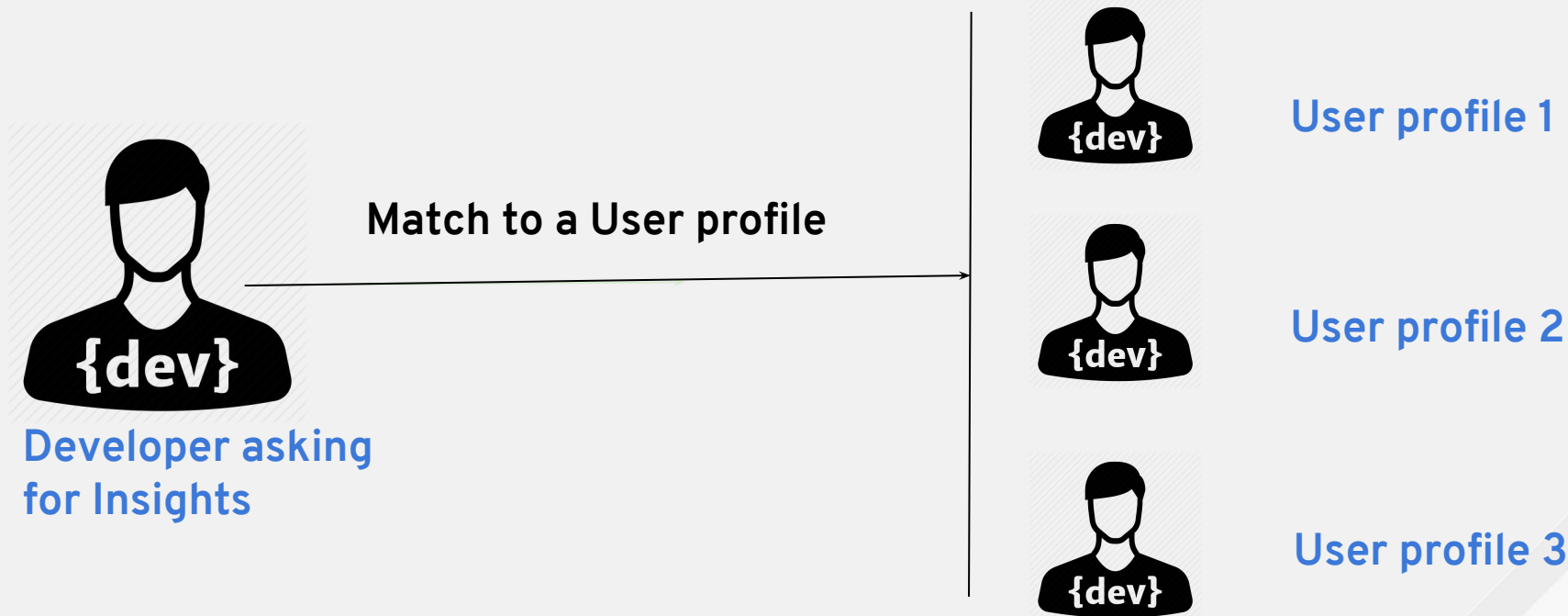
Analytics behind actionable insights

Themes: Adapt to usage patterns



Analytics behind actionable insights

Themes: How these user profiles are created ?



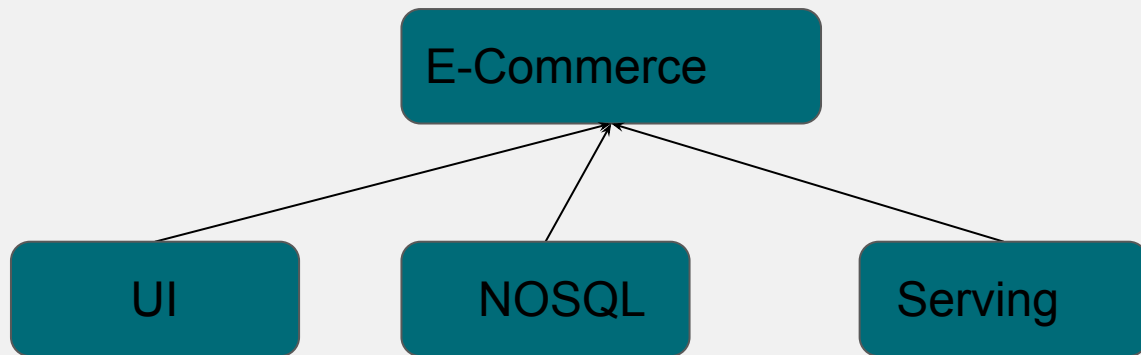
Analytics behind actionable insights

Themes: Intent of the user

- **Populate Probabilistic Graphs**
- **Step1: Populate a Reference architecture (Intent)**
- **Step2: Get the category a software component belong**
- **Step3: Assign probability based on data collected**
- **Step4: Create Probabilistic Graph models**

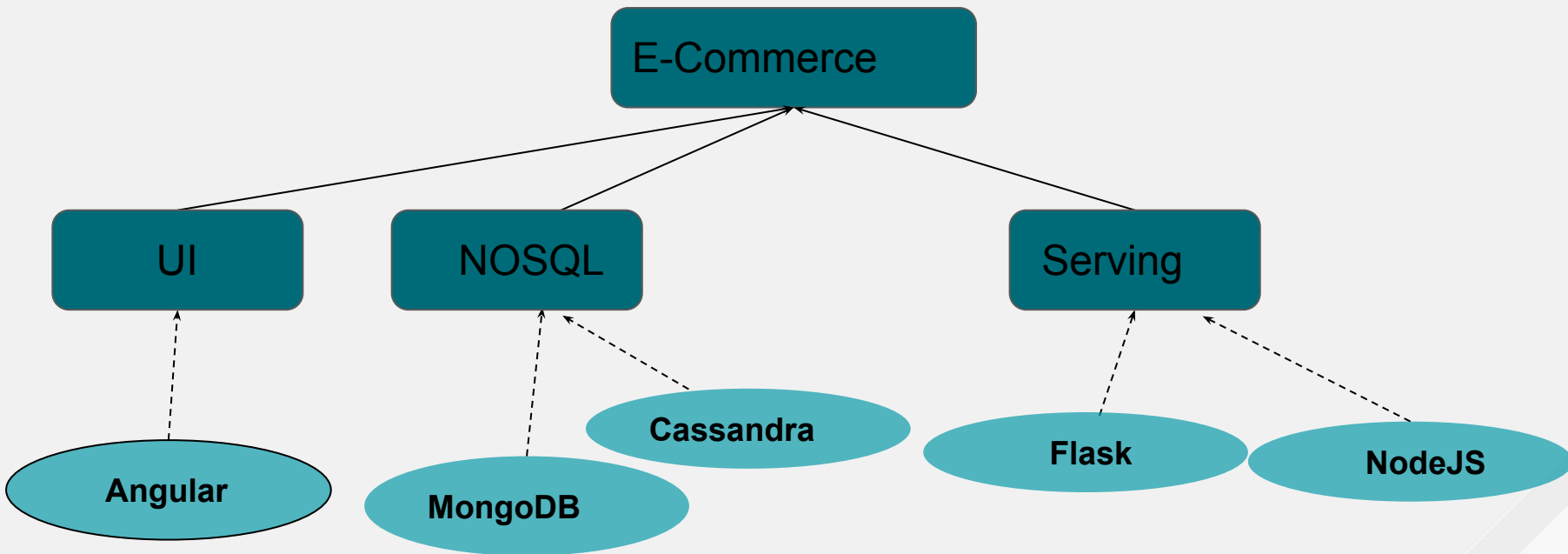
Analytics behind actionable insights

Step1: Populate a Reference architecture (Intent)



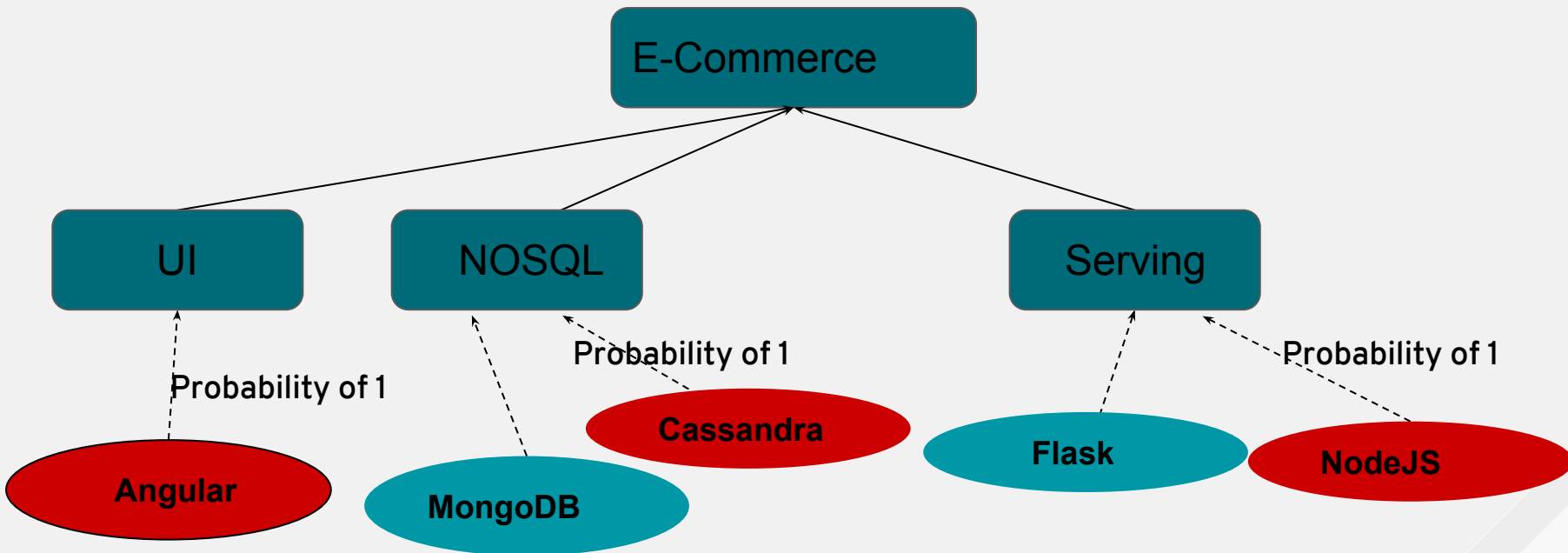
Analytics behind actionable insights

Step2: Get the category a software component belong



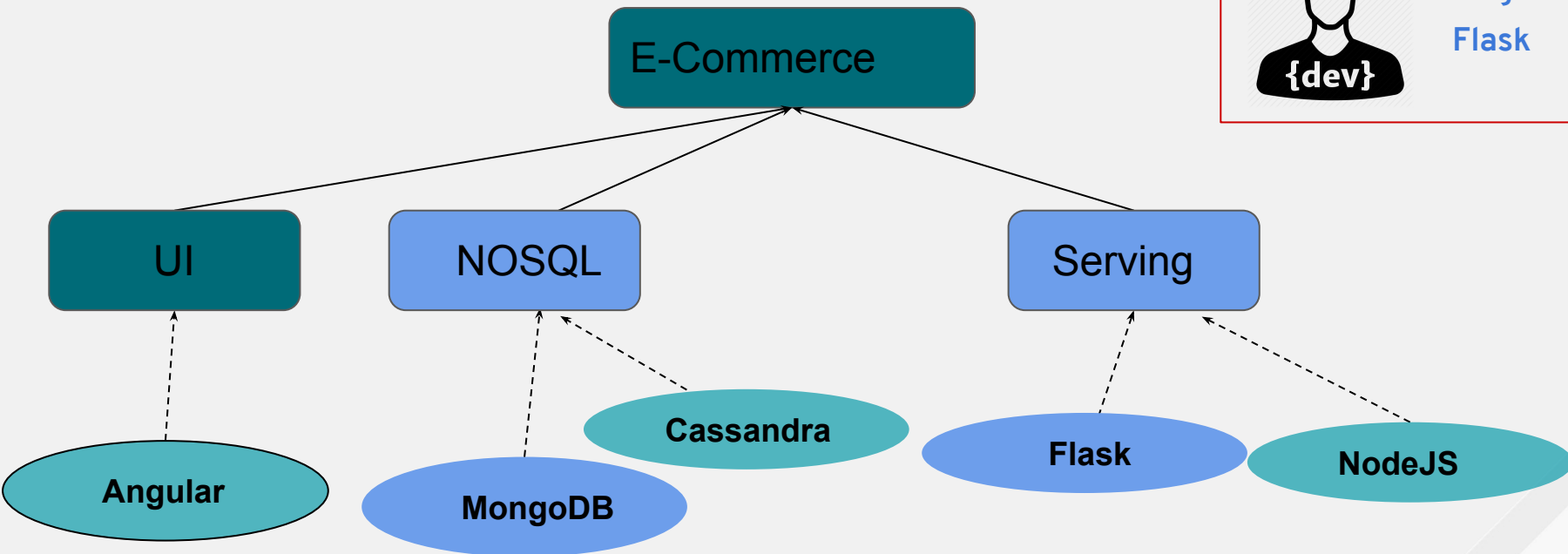
Analytics behind actionable insights

Step3: Assign probability based on data collected




Analytics behind actionable insights

Step4: Create Probabilistic Graph models (Bayesian network)

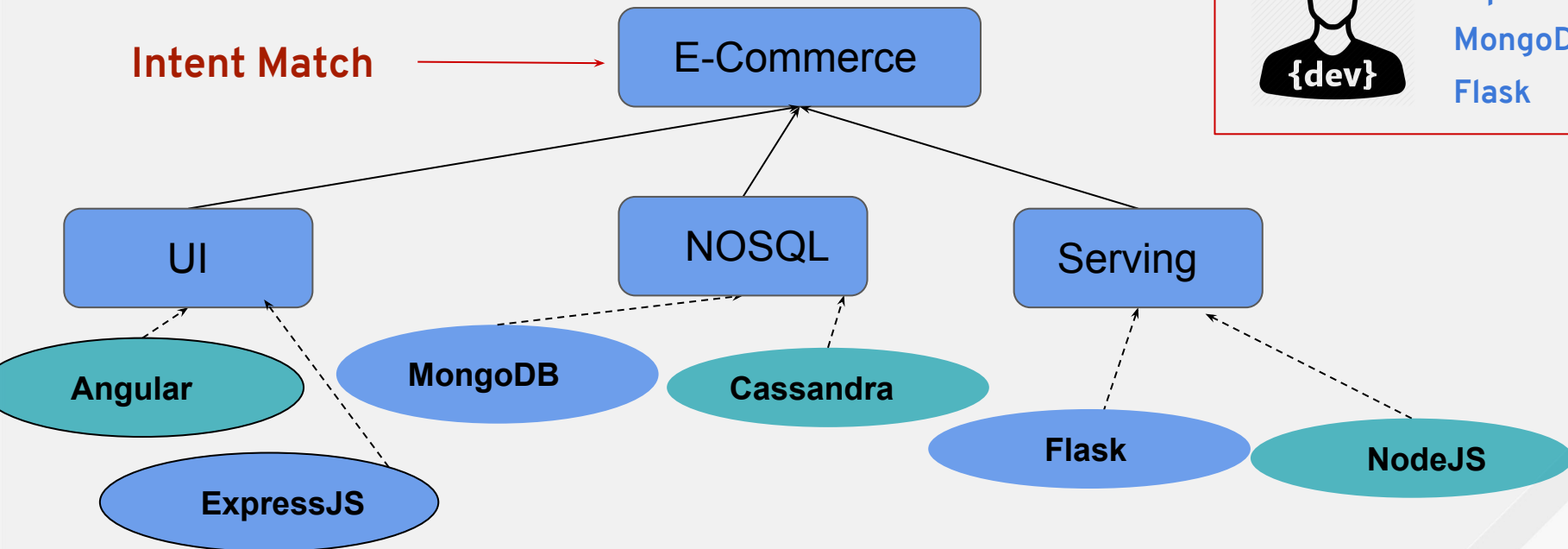


Analytics behind actionable insights

Step4: Create Probabilistic Graph models (Bayesian network)

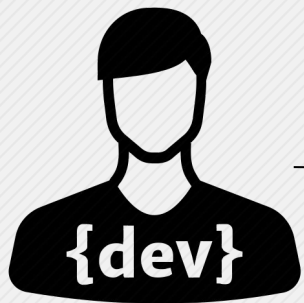


ExpressJS
MongoDB
Flask

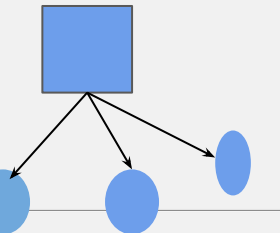
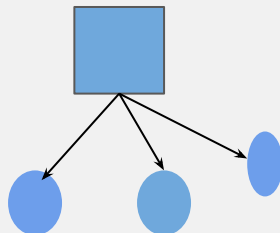
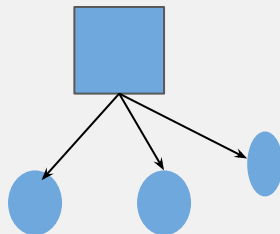


Analytics behind actionable insights

All themes together



Developer asking
for Insights

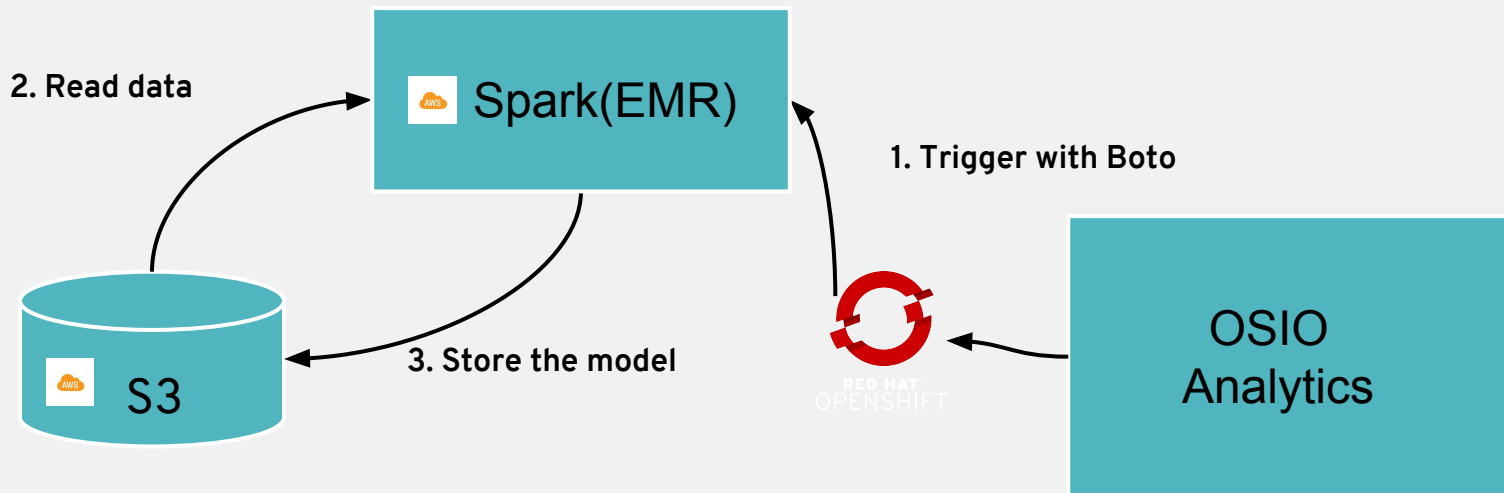


3 models for user profiles

+ 3 models for graphs

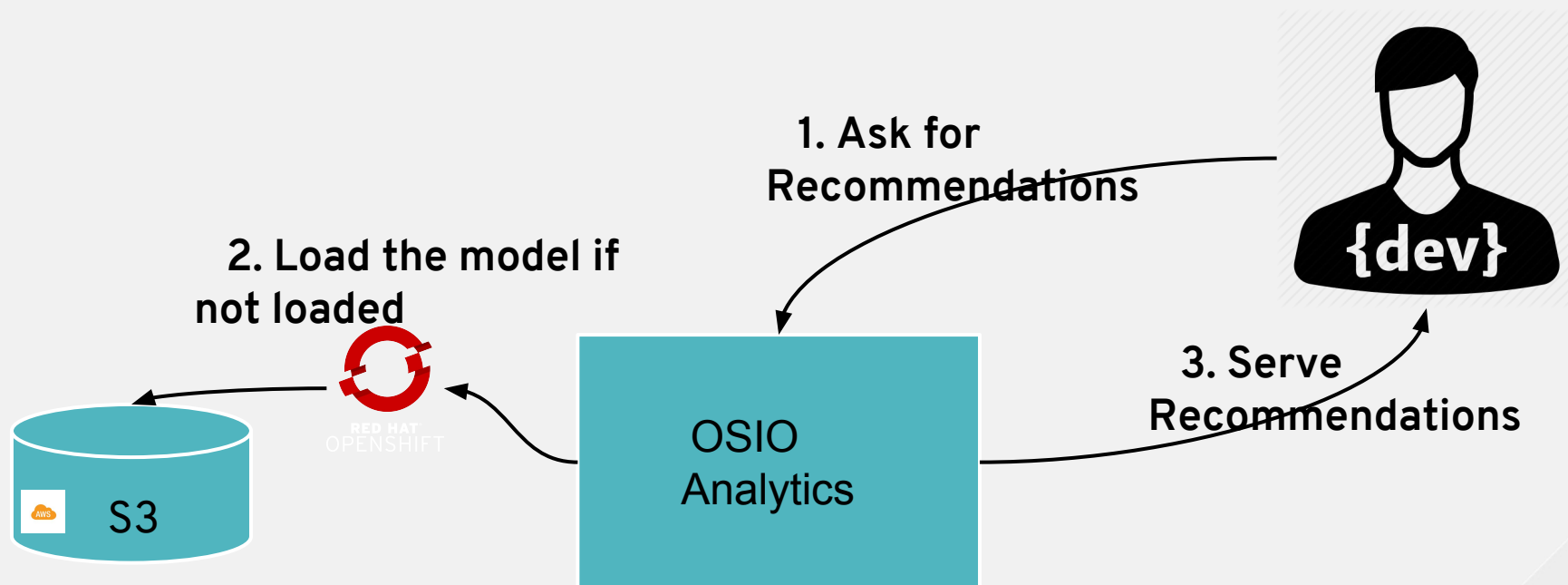
Analytics behind actionable insights

Deployment view (Model training)



Analytics behind actionable insights

Deployment view (Model scoring)





Analytics behind actionable insights

Demo

Demo flow

Themes: Compare two users (Software components)

Interaction --->

Pete 	Kivy <i>(UI framework)</i>		
Kishna 	Sqlalchemy <i>(ORM mapper)</i>	Concurrent.futures <i>(concurrency)</i>	Kivy <i>(UI framework)</i>

Demo flow

Themes: Compare two users (Application stacks)

[Interaction --->](#)

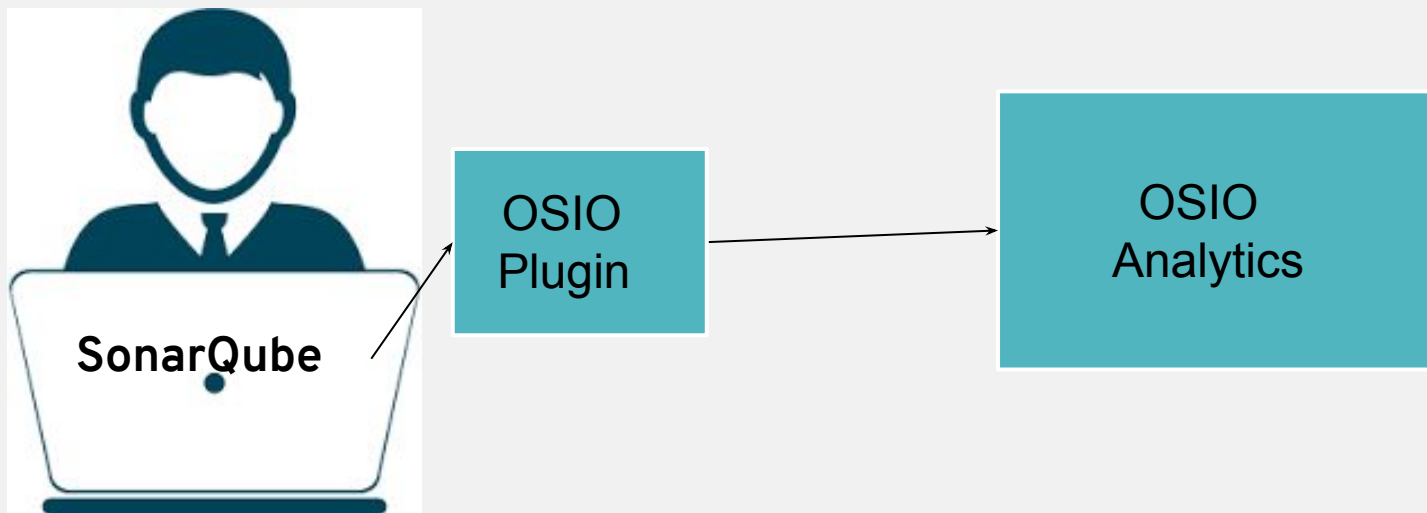
<p>Pete</p> 	<p>Pandas Scikit-learn Flask</p>	
<p>Kishna</p> 	<p>Pandas Bumpy Scipy</p>	<p>Pandas scikit-learn Flask</p>

Integrations

- Eclipse Che thru Language server protocol
- Jenkins
- SonarQube
- Free form query
- Integrate with REST
- Ansible

Integrations

SonarQube



Integrations

Free form query

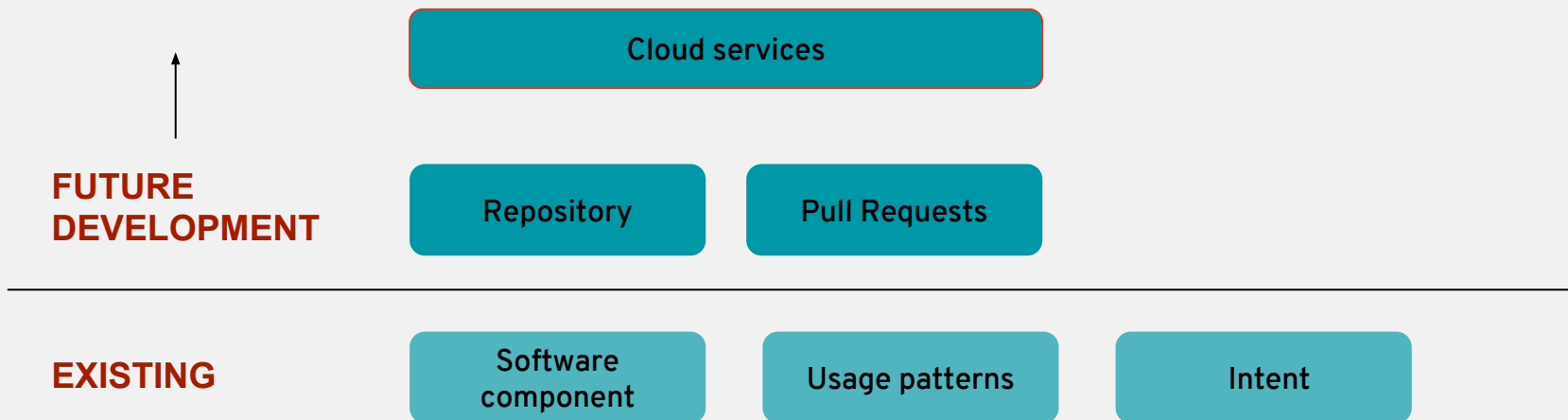
Demo

RoadMap

- Expand the set of data sources
- Add more integrations
- Expand use cases for actionable insights

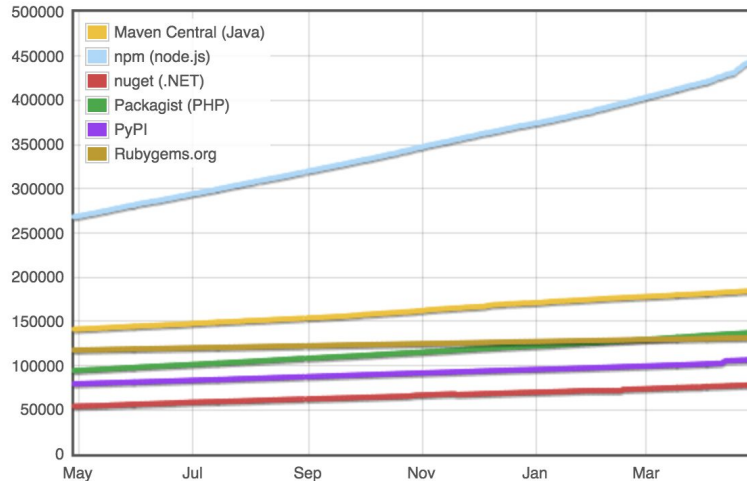
RoadMap

- Expand use cases for actionable insights



We developers, can handle this

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Thank you all .. team members

Arunkumar Srisailapathi
Bargava Subramanian
Bohuslav Kabrda
Frido Pokorny
George Acton
Geetika Batra
Harjindersingh Mistry
Jaivardhan Kumar
Jiri Popelka
Jyasveer Gotta
Manjunath Sindagi
Matthias Lubken

Michal Srb
Mitesh Patel
Pavel Kajaba
Saket Choudhary
Saleem Ansari
Samuzzal Choudhury
Sarah Masud
Shubheksha Jalan
Tomas Hrcka
Tuhin Sharma

Opening to the Community...

<https://github.com/fabric8-analytics>

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THANK YOU



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