

# Toot.ai

Product specification

# Requirements and Functional domains

- Ontology learning (Recording)
- Knowledge representation and reasoning (Validation)
- Responsible / explainable AI (Acting)

# Roles

- Ops engineer
- SysAdmins
- Freelancers (to bring new tech to classical tech enterprises)
- Tech companies (to have financial savings on their classical stacks)
  - CFO
  - CTO
  - HR
- Consultant agencies (to bring new tech to classical tech enterprises)
- Non-profit organizations/companies (to create shared value directly; to have financial savings on their classical stacks)
- Philanthropist (to create shared value directly)

# Features

- Record user action in a situation; learn from its patron
- Update the knowledge with the user preference
- Validate the knowledge in human readable format
- Describe a solution in text
- Infer a proper solution from the knowledge
- Carry out the solution

# Technology

- Python as a programming language to exploit the AI packages it offers
- [Resource Description Framework](#) (RDF)<sup>[2]</sup> and [Web Ontology Language](#) (OWL) for knowledge
- Graph database (Neo4j, Amazon Neptune, Azure Cosmos DB)
- Cloud platform (AWS, Azure)

# User Story

- As a Google Maps user, I want to update the given directions with my preferences because I know the better road
- As a pizza lover, I want to have a pizza to my preference and not the people I'm similar to, so that I have a say over what I eat directly
- As a DevOps engineer in a tech company, I want to record my actions in solving an (disk space) issue, so that the system does it for me

# Jobs-to-be-Done

## What are Jobs-to-be-Done?

- Dr. Clayton Christensen: Disruptive Innovation Theory

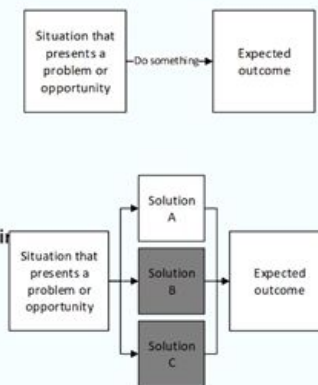
*"When people find themselves needing to get a job done, they essentially hire products to do that job for them"*

- **Jobs-to-be-Done** is a collection of principles that helps to discover and understand interactions between **customers**, their **motivations** and the **products** they use. (2016)

Job is shorthand for Job-to-be-Done

Template: "Help me <verb> <noun phrase>."

Example: "Help me organize events"



## Jobs – Event ticketing case

*Job-1: Help me organize a multi-podium event with an attractive line-up of artists.*

*Job-2: Help me arrange secure payments for the visitors of my event*

*Job-3: Help me organize a variety of event types*

*Job-4: Help me build a community of visitors of my events*

Open research question: Should we distinguish **primary jobs** and **secondary jobs**?

Primary Job: Help me organize a variety of event types

Secondary Job: Help me build a community of visitors of my events

The secondary job is part of the primary job.

# Jobs

Example: Help me organize a multi-podium event with an attractive line-up of artists.

1. Help me save my preferences as knowledge in how I want to solve a particular technical task
2. Help me validate my preferences in the knowledge base
3. Help me carry out the mundane manual task automatically

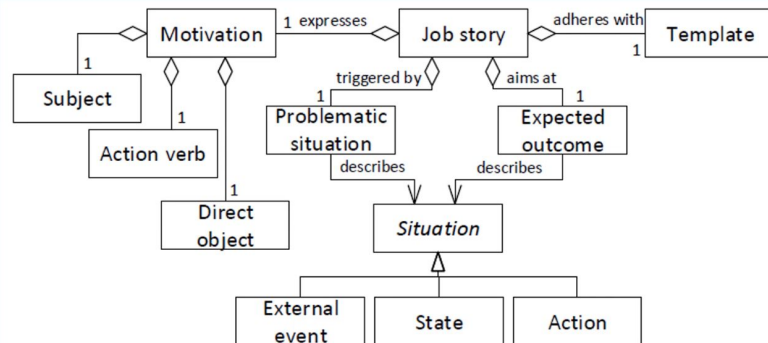


# Epic stories - about a situation

***When [situation], I want (to) [motivation], so that (I can) [expected outcome]***

Emphasize the **motivational and situational context** that drives **customer behavior**.

## Conceptual model of Epic Stories



## Epic Stories – Event ticketing case

*Job-1: Help me organize a multi-podium event with an attractive line-up of artists.*

*Epic:*

*“When I am organizing a multi-podium event and I am contracting artists to configure the line-up, I want to keep a good overview of the artist configuration on the podiums, so that I can see the options for an optimal experience of the event visitors”*

*Job-2: Help me arrange secure payments for the visitors of my event*

*Epic:*

*“When I am organizing any type of event, I want to my prospective visitors to have an adequate number of secure payment options, so that I have no problems with fraud and cumbersome customer services.”*

# Epic stories

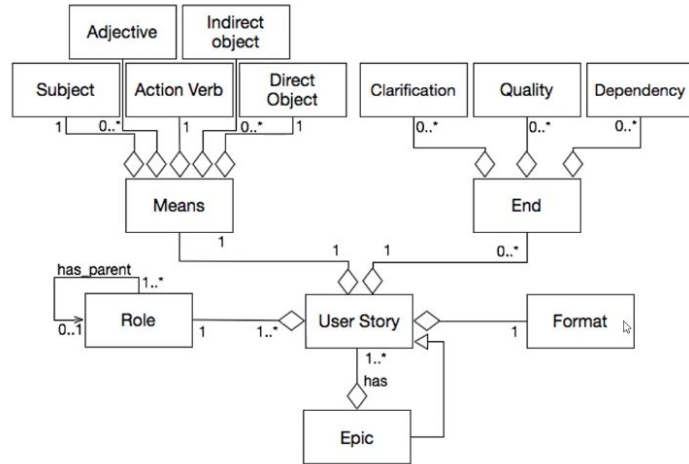
***When** [situation], **I want (to)** [motivation], **so that (I can)** [expected outcome]*

Emphasize the **motivational and situational context** that drives **customer behavior**.

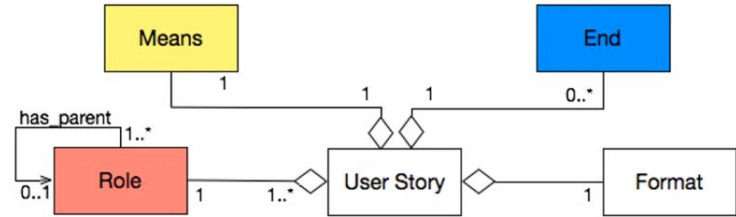
1. Job: Help me save my preferences as knowledge in how I want to solve a particular technical task
  - a. Epic Story:
  - b. Epic Story:
2. Job: Help me validate my preferences in the knowledge base
  - a. Epic Story: When I am about to let my assistant carry out a task for me I want to make sure that .....
  - b. Epic Story:
3. **Job: Help me carry out the mundane manual task automatically**
  - a. Epic Story: When there is a mundane manual task assigned to me, I want my assistant to carry it out, so that I can focus on carrying out important tasks.
  - b. Epic Story: When there is a repetitive task assigned to me, I want my assistant to recognise the repetition, so that it can handle it for me.
  - c. Epic Story: When I am not capable of doing a task, I want my assistant to cover the lacking abilities, so that I can enjoy regular level of an activity. (Disabilities)

As a **role**, I want to **action**, (so that **benefit**)

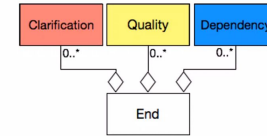
# User stories



"As a **User**, I want to **search for new events by favorited organizers**,  
so that **I am the first to know of new events**"

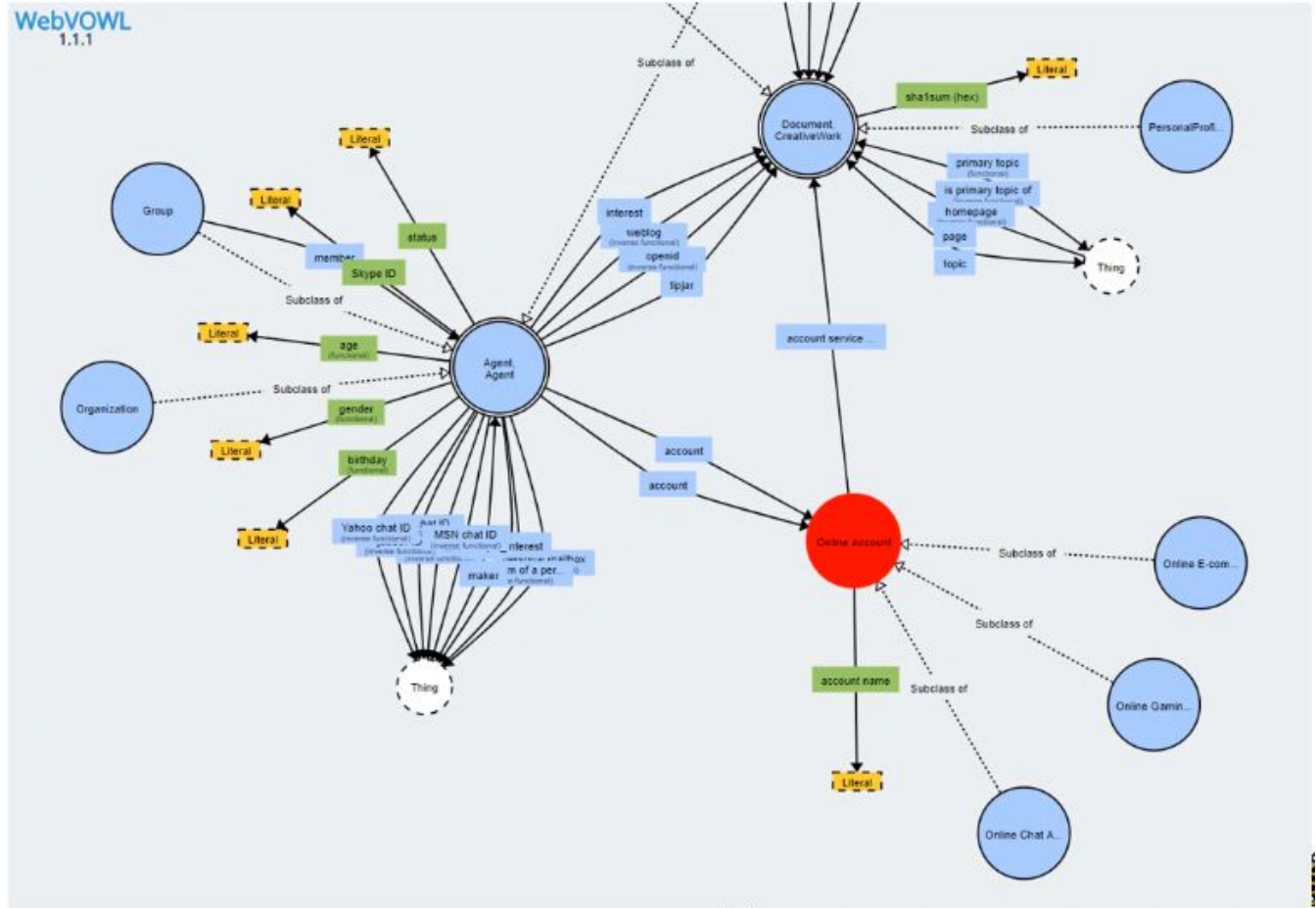


"so that I am **the first to know of new events**"



- Stories from practitioners:
  - Too long
  - Unnecessary information
  - Too little information
  - Inconsistent
  - Irrelevant
  - Ambiguous

# Ontology Tooling



# User stories - about an action

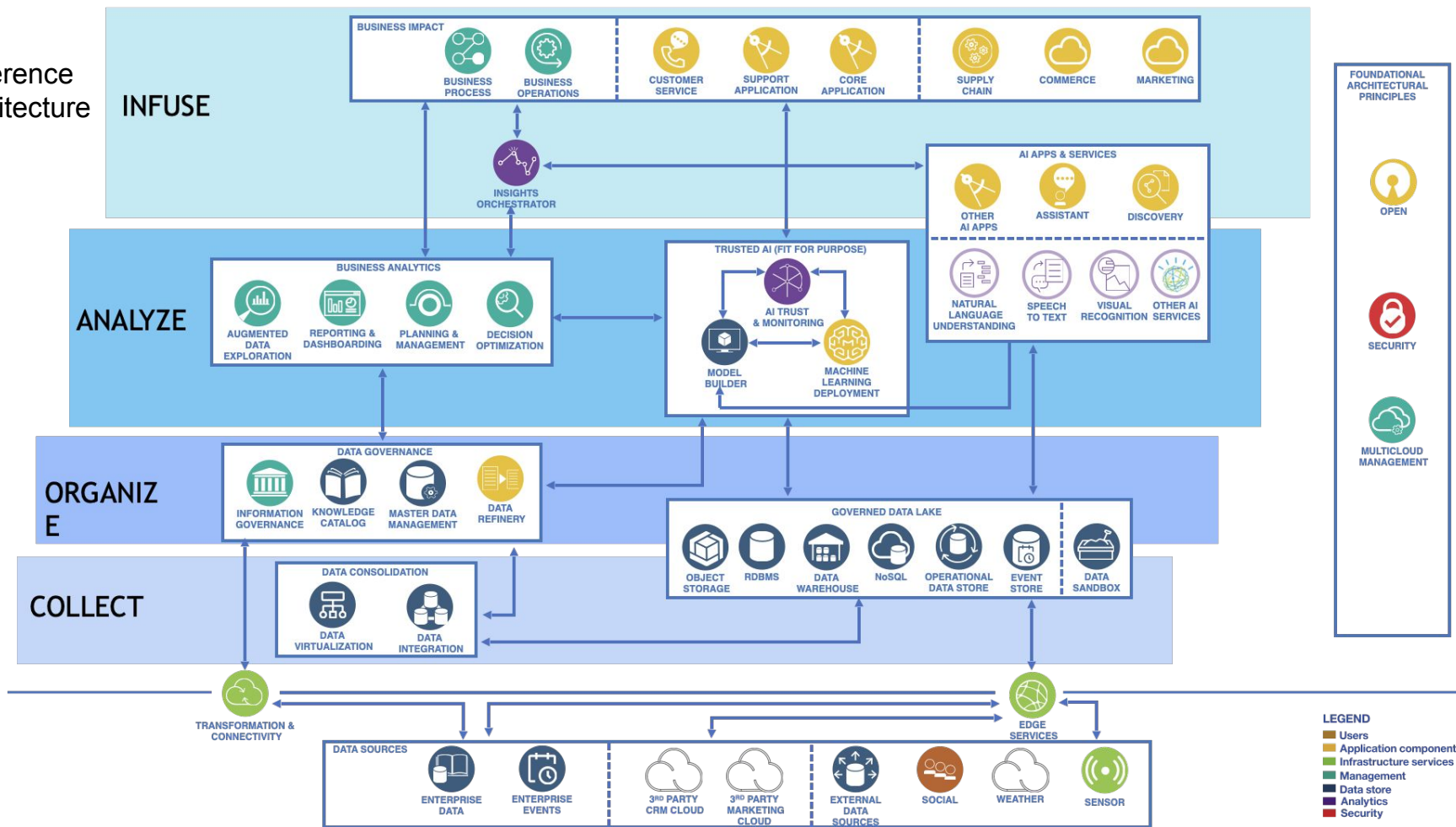
each is for different functionality

As a **role**, I want to **action**, (so that **benefit**)

"As a **Visitor**, I want to **search for new events by favorited organizers**,  
so that **I am the first to know of new events**"

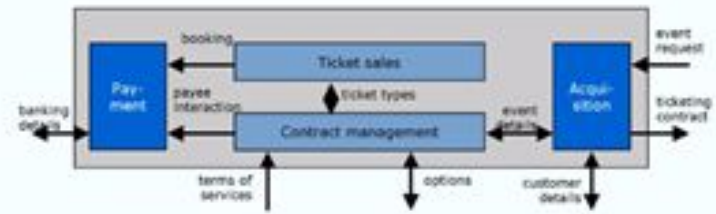
- Epic Story: When there is a mundane manual task assigned to me, I want my assistant to carry it out, so that I can focus on carrying out important tasks.
  - As a freelancer, I want to have a personal assistant manage my time for me, so that I can focus more on customer requests.
  - As an engineer, I do not want to deal with disk space issues, so that I can develop new features / sleep during the night.
  - As a CFO of a company, I want to save money on (overtime) salary, so that I can have a better budget.
  - As a HR person of a company, I want my people to be healthy, so that I have lower employee turnover.
- Epic Story: When there is a repetitive task assigned to me, I want my assistant to recognise the repetition, so that it can handle it for me.
  - As a freelancer, I want to ROBOT, so that I can focus on more customer requests.
  - As an engineer, I do not want to deal with disk space issues, so that I am happier.
- Epic Story: When I am not capable of doing a task, I want my assistant to cover the lacking abilities, to that I can enjoy regular level of an activity. (Disabilities)
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# Reference architecture





- Scenario: continuous process
  - as overlay on FA



- Epic Story: When there is a mundane manual task assigned to me, I want my assistant to carry it out, so that I can focus on carrying out important tasks.

