



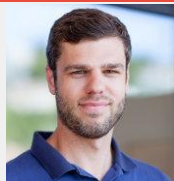
Introduction to Flowable

Filip Hrisafov (@filiphr)
Jose Antonio Alvarez (@jaam_eu)

Short Introduction

Filip Hrisafov

- Core Software Architect at Flowable
- Flowable core dev
- MapStruct project lead



Jose Antonio Alvarez

- Head Solutions Architect at Flowable
- Flowable core contributor
- 11 years experience in process management



Agenda & Goals



- Explaining all that Flowable can do in 60 mins is ... impossible
- Short History
- Open Standards (BPMN, CMMN, DMN)
- A glimpse of what you can do

- And hope to inspire you to look deeper!

Flowable Open Source Project

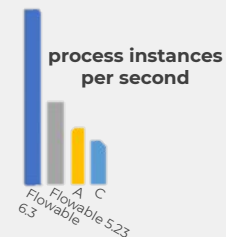
Native BPMN, CMMN and DMN engines

- High performance, high scale
- Years of real world use



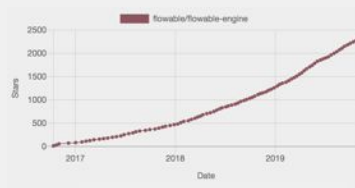
Speed, scalability and innovation

- Fastest engines available
- Lightweight



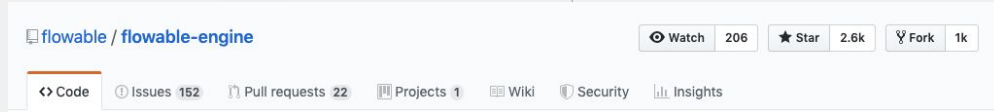
Community is key

- Credibility through engagement & contributions
- Usage all over the world and in all kind of industries

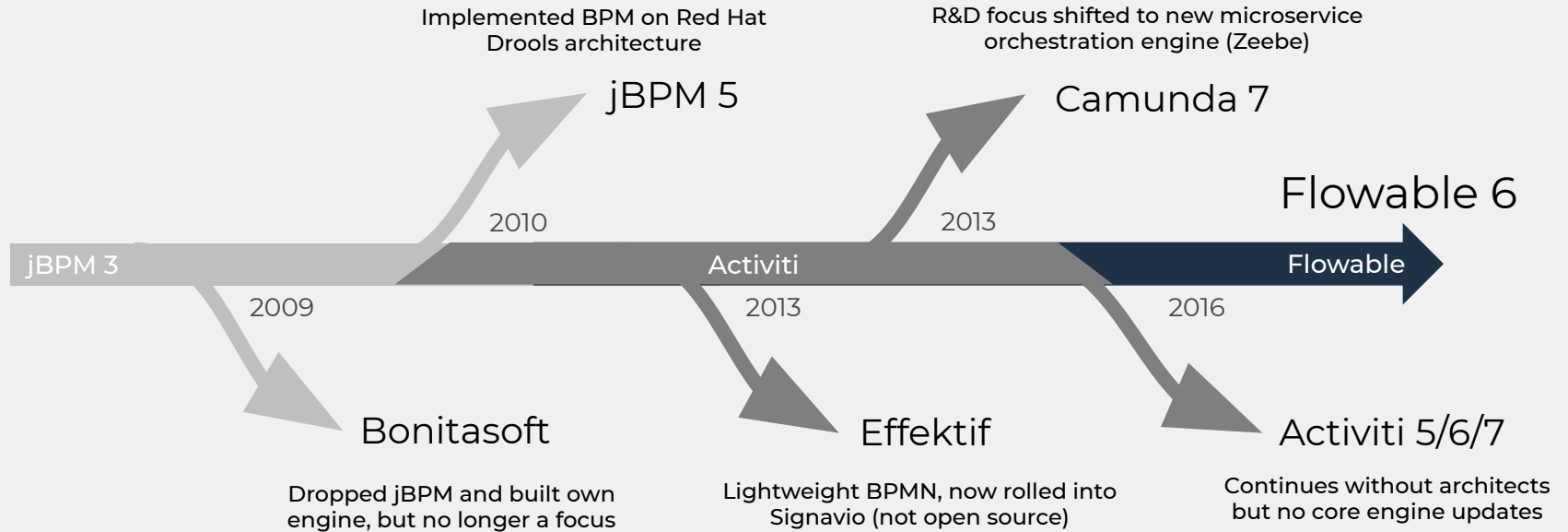


Long heritage of Open Source BPM

- Origins since 2010 in Activiti and jBPM
- Established 2016 by Alfresco co-founder and Activiti team



Flowable Family Tree



Case and Business Process Management

The heart of Digitalization



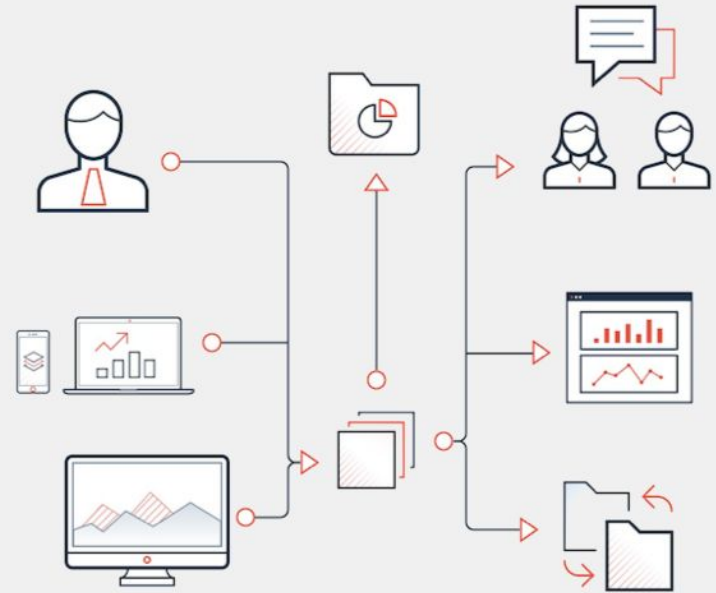
Case management

Manage complex business activities that require a mix of human and electronic actions, such as an incoming application, a submitted claim, a complaint, or incident management

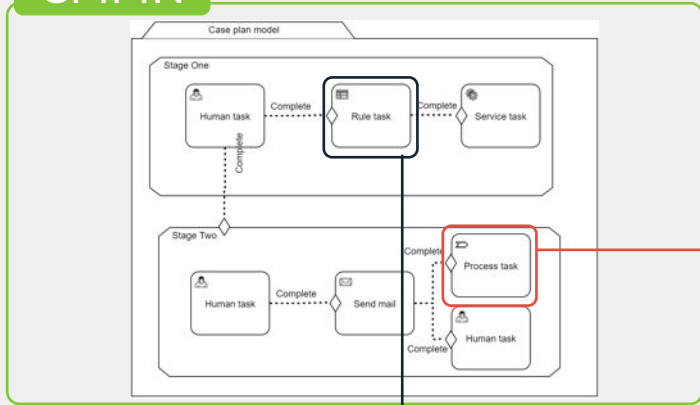


Business process management

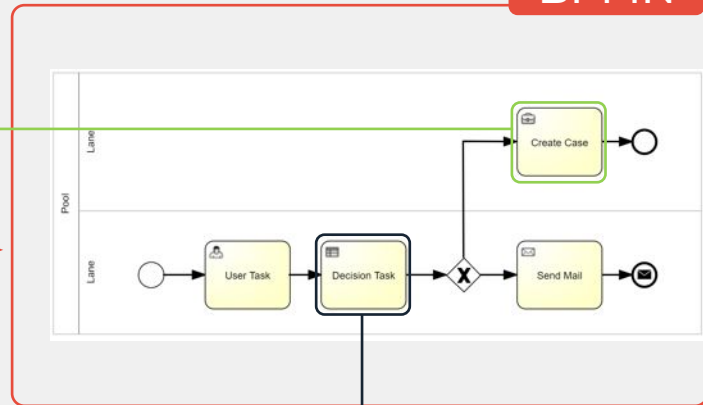
Coordinate or orchestrate the behaviour of people, systems, information, and things to produce business outcomes. Processes are typically structured and repeatable



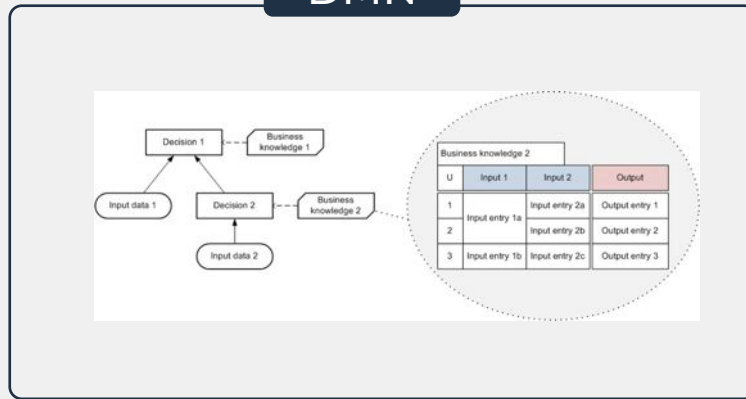
CMMN



BPMN



DMN

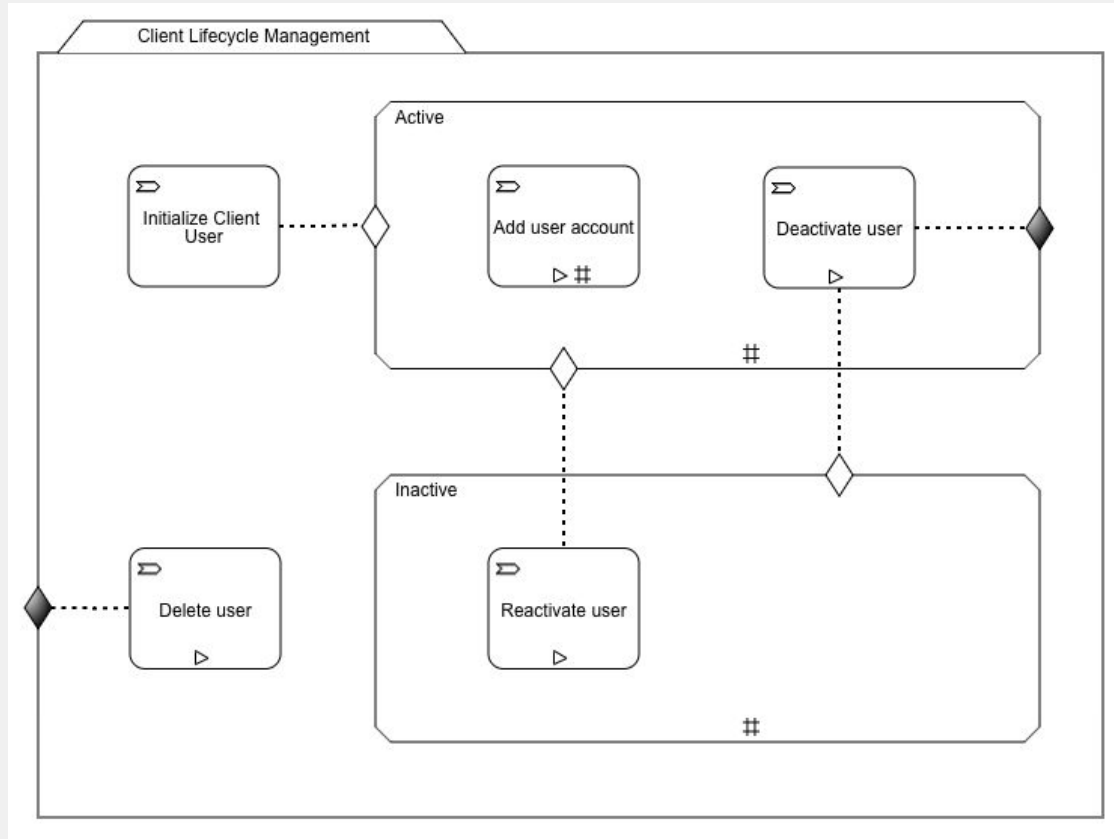


Open Standards

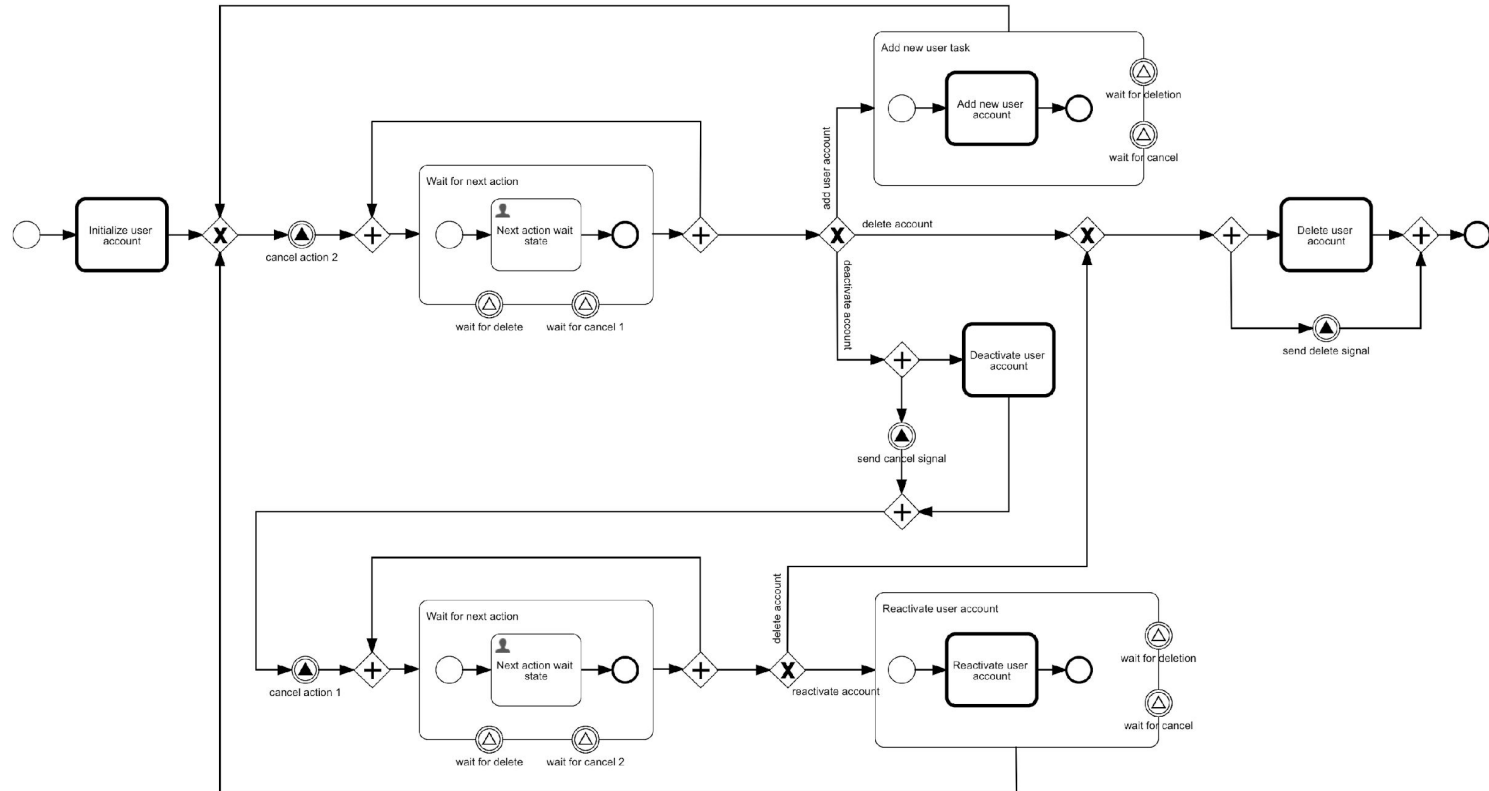
BPMN vs. CMMN – the Basics

- **BPMN**
 - one or more tokens “flowing” through a process model
- **CMMN**
 - more like “event – condition – action” paradigm
- *Should I choose one over the other?*
 - No!
 - Use them both in combination!

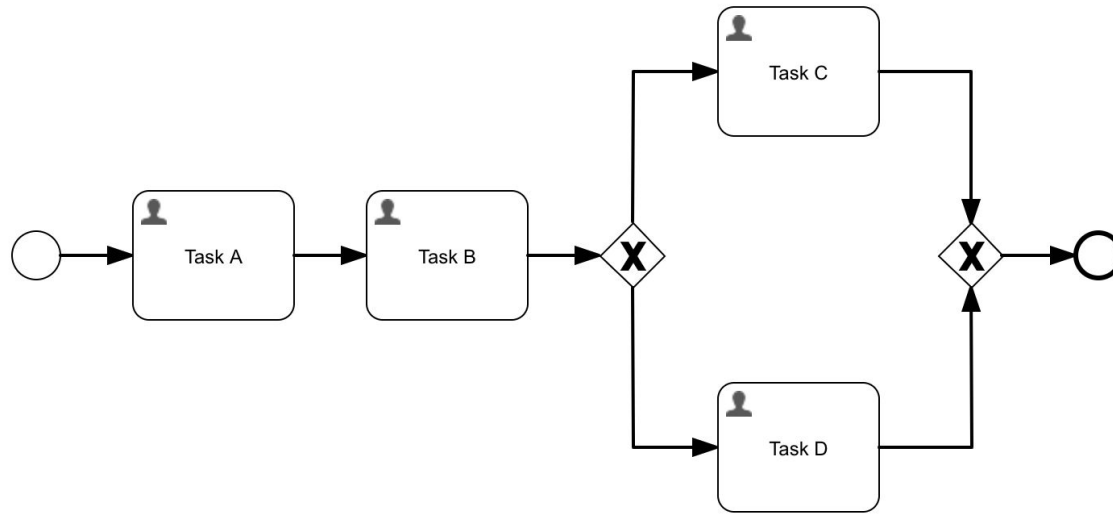
Example as a Case



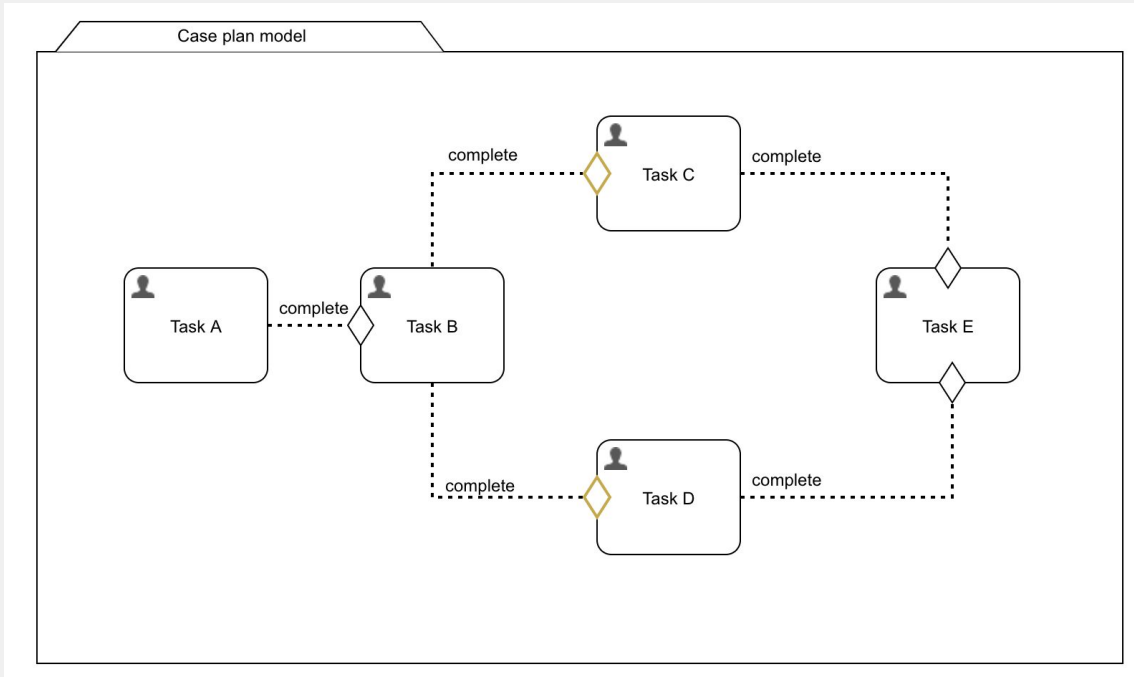
Same Example as a Process



Simple Process Flow



Same flow as Case





Why use a workflow engine?

- The engine handles orchestration/coordination
 - Visual representation
 - Transaction delimitation and handling
 - Error handling/Retry mechanism
 - Auditing / history log
-
- No need for complex and big processes to benefit from Flowable

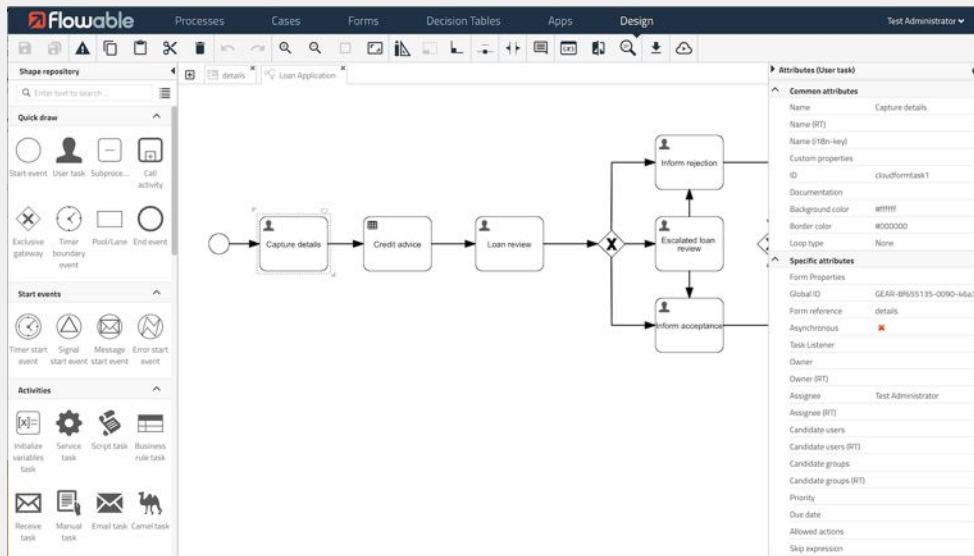


Modelling vs. Coding

- The hardest part about our job is *translating requirements*
 - A picture says more than thousands words
 - A visual model is the common meeting ground

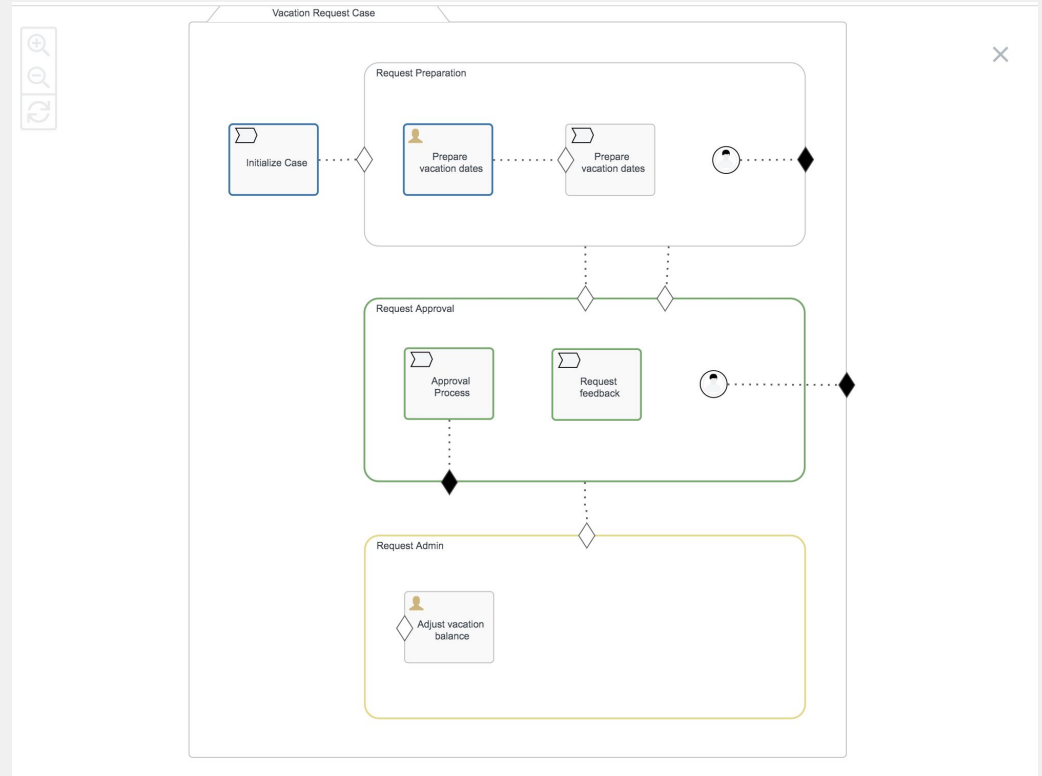
Modeling centric

- Visual representation of business requirements
- Understood by analysts and devs
- Orchestration logic not hidden in code



Runtime state

- Visual representation of runtime state
- Current activities
- Completed activities
- State data (variables, identity links, event subscriptions) always available



Flowable OSS Architecture

Flowable
Modeler

Flowable
Task

IDM

Admin

REST API

BPMN
Engine

CMMN
Engine

DMN
Engine

Basic
Form
Engine

Basic
Content
Engine

Engine Specific Services

Job Service

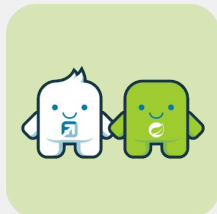
Task Service

Identity Service

Variable Service

Persistence Service

Flowable Spring Boot support



- Lots of starter modules
- Auto deployment of process, case, decision resources
- Creation and injection of all engines and services

```
<dependency>
  <groupId>org.flowable</groupId>
  <artifactId>flowable-spring-boot-starter</artifactId>
  <version>6.5.0</version>
</dependency>
```

```
@SpringBootApplication
public class MyApplication {

    public static void main(String[] args) {
        SpringApplication.run(MyApplication.class, args);
    }

    @RestController
    public class InsuranceRestController {

        private RuntimeService runtimeService;

        @Autowired
        public InsuranceRestController(RuntimeService runtimeService) {
            this.runtimeService = runtimeService;
        }

        @PostMapping("/insurance-claim")
        public String start() {
            return runtimeService.createProcessInstanceBuilder()
                .processDefinitionKey("myProcess")
                .variable( variableName: "someData", value: "Hello")
                .start()
                .getId();
        }
    }
}
```



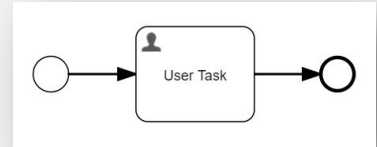
Demo: order processing in online store

1. Flowable receives a purchase order from a customer
2. Lock the items in inventory
3. Employee confirms shipment handover to post office
 - Customer receives a confirmation mail
4. Two weeks later, customer receives a mail to rate the articles

Models, Definitions, Instances

A **model** is like the mold or source code of what you want to create:

- The BPMN model in Design exports to an XML format
- The Form model in Design exports to a JSON format



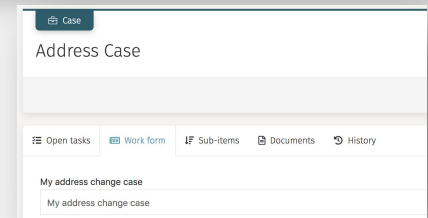
Definitions are created based on models when they are **published**.

- Process Definition for an Expense Process
- Case Definitions for a Repair Case

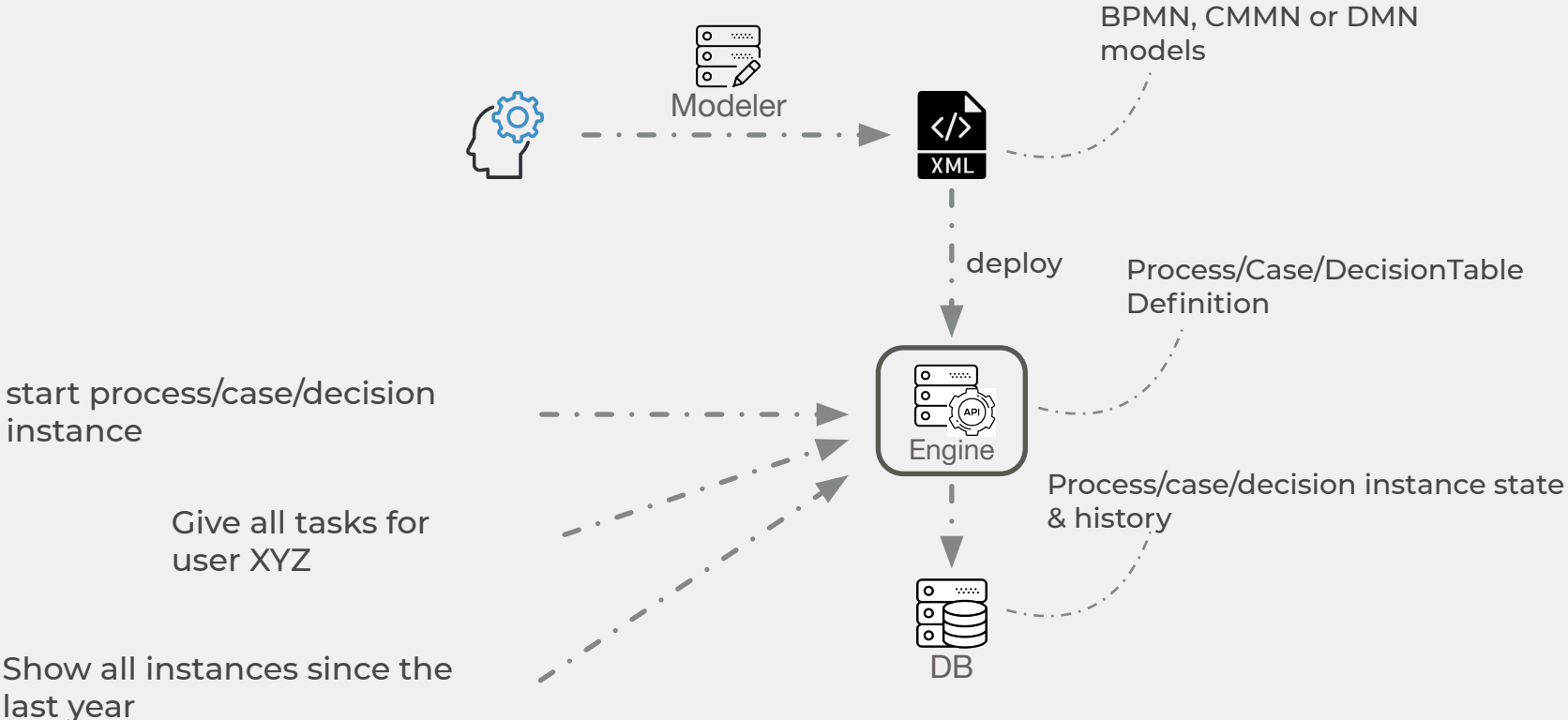
```
{
  "id": "CAS-b7a57963-5088-11e9-b6a3-0242ac120003",
  "url": "https://dev-work.flowable.io/flowable-work/cmm-api/cmm-repository/case-definitions/CAS-b7a57963-5088-11e9-b6a3-0242ac120003",
  "key": "addressCase",
  "version": 8,
  "name": "Address Case",
  "description": null,
  "shortId": "",
  "deploymentId": "CAS-b79e2661-5088-11e9-b6a3-0242ac120003",
  "deploymentUrl": "https://dev-work.flowable.io/flowable-work/cmm-api/cmm-repository/deployments/CAS-b79e2661-5088-11e9-b6a3-0242ac120003",
  "resource": "https://dev-work.flowable.io/flowable-work/cmm-api/cmm-repository/deployments/CAS-b79e2661-5088-11e9-b6a3-0242ac120003/resource/addressCase.cmm",
  "diagramResource": null,
  "category": "https://flowable.org/cmm",
  "graphicsMetadataDefined": true,
  "startFormDefined": true
}
```

Instances can be created based on definitions after that.

- Concrete Process Instances for expense reports
- Concrete Case Instances for Repair Cases



Some concepts



Get your processes under control

- Resources for the OSS Project (flowable.org)
- Resources for Enterprise Support (flowable.com)
- Enterprise trial (flowable.com/trial)
- OSS Engines (github.com/flowable/flowable-engine)
- Demo for this presentation
(<https://github.com/jaam/flowable-jug-demo>)
- Forum (forum.flowable.org)
- Latest news

 @flowablebpm, @filiphhr and @jaam_eu