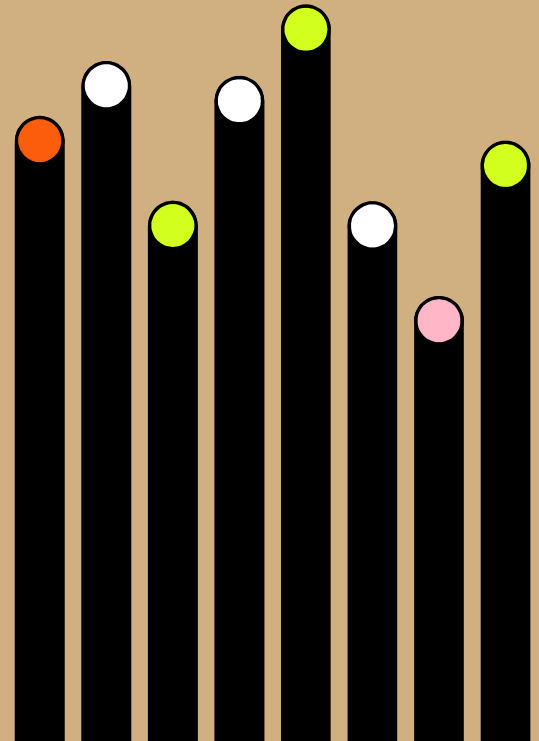


CAMUNDA
CON 2023

Fully Automated Instant Loan Approval Processes Orchestrated With Camunda

Speaker: **Rajesh Kumar Dharmalingam**



Technology Impact - A New Era of Human Evolution

“We are just an advanced breed of monkeys on a minor planet of a very average star. But we can understand the universe. That makes us something very special.” - **Stephen Hawking.**



Image by [Peace.love.happiness](#) from [Pixabay](#)



Reinventing how we live



Transforming Dreams to Reality



Exploring the space



...more

Technology Transforming The Banking Experience

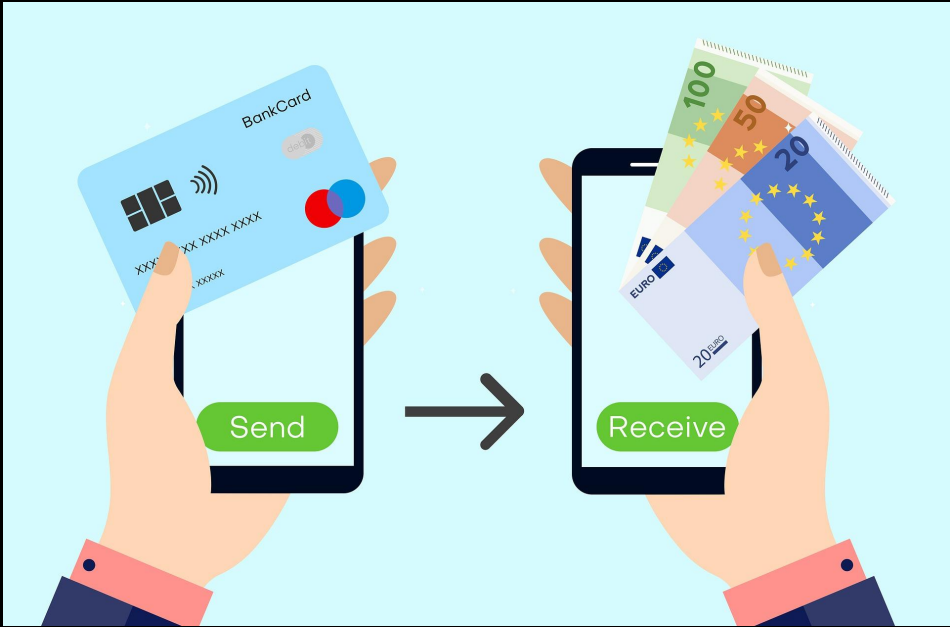


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Challenges in Loan Application & Processing at Banks



Application form filling



Performing background check



Eligibility criteria



Repayment capability



Validating Financials



...more

Speed Matters in Financial (Lending) Services!



Competitive
advantage



Risk
Assessment



Customer
Experience



Market
Conditions



Move fast, Learn
fast, Evolve

A typical loan approval process



Create Customer Profile

- Form filling
- Profile creation
- Existing customer?



Collect Documents

- KYC docs
- Bank statements
- Financial statements
- Tax docs
- ...more



Screen Customer profile

- KYC/eKYC
- Background check
- Screen Shareholders, Directors
- ...more



Screen Credit Bureau Data

- Credit score
- Ongoing loans with other banks
- Credit history
- ...more



Screen Bank Statements

- Transaction categorisation
- Ratio analysis
- Payment behaviour



Screen Financial Statements

- Profit & Loss
- Balance sheet
- Tax submissions



Exposure

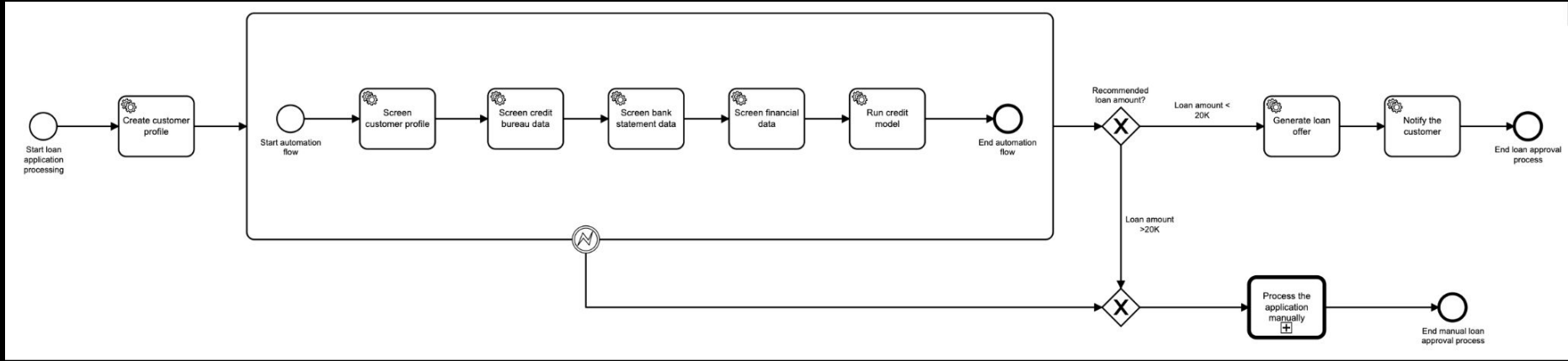
- Ongoing loans
- Repayment history
- Outstanding payments
- ...more



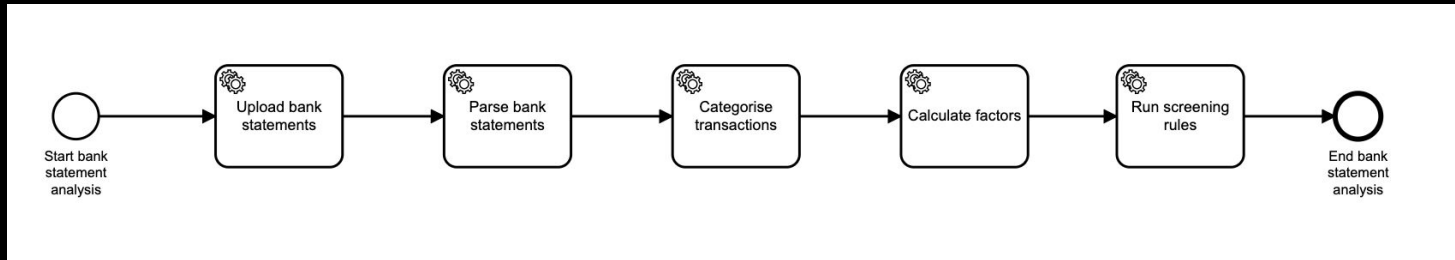
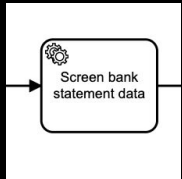
Offer Generation

- Pre-offer
- Communications
- ...more

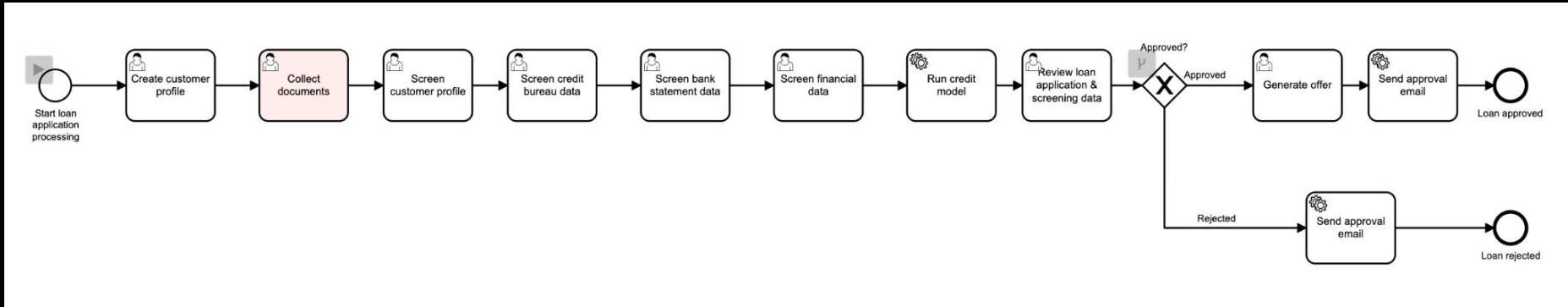
Automated loan approval process



Every task is a workflow in itself!

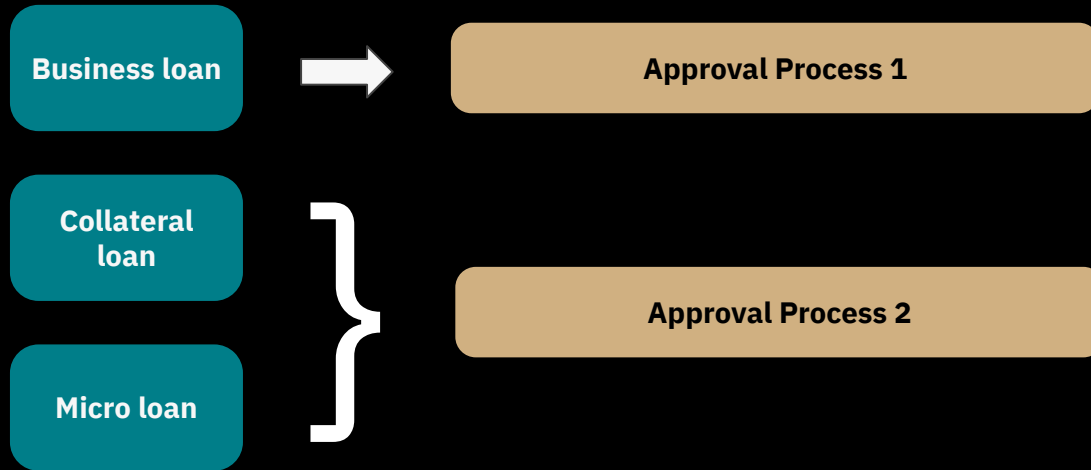


Manual loan approval process



- “Form Key” is used to render the custom UI forms in an Angular application.
- Role based access control (RBAC) by leveraging “Candidate Groups”.
- Reporting, SLA calculation made easier.

Product configuration



```
{  
  "camunda_process_key": "Process1",  
  "is_automation" : true,  
  "enable_credit_model" : false,  
  "allowed_products": [  
    "SG-PRODUCT_1", "SG-PRODUCT_7"  
  ],  
  .....  
}
```

- Leveraging gateways/conditions for minor changes in the process
- Sub processes enables reusability

Rules Engine

How can I solve this?

- Customer (company) should be operational for 12 months
- Minimum annual revenue > 100K USD
- Customer should not have existing loan with us
- Monthly average bank balance > 50K USD

Potential problems:

- The more the number of criteria, the more the code we write.
- Changing the values needs code change and deployment. Criteria/Rule cannot be changed frequently.
- Tight coupling of business rules with the code/application
- Better to have business rules understood by and maintained by the users directly.

Rules Engine (Cont...)

“Production Rule System – Organize logic through a set of production rules, each having a condition and an action”

– Martin Fowler



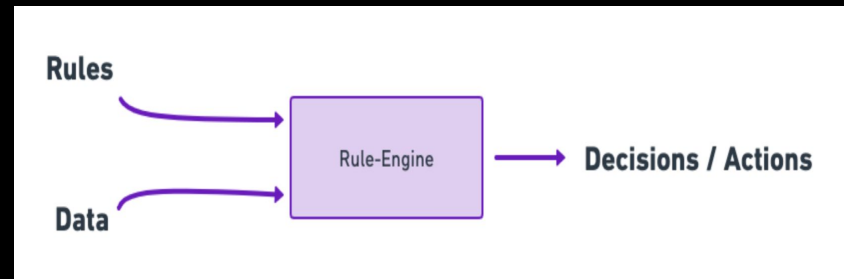
Rules Engine is a computational engine that has a set of rules, each of which has a condition and an action.



Rule = Condition + Action

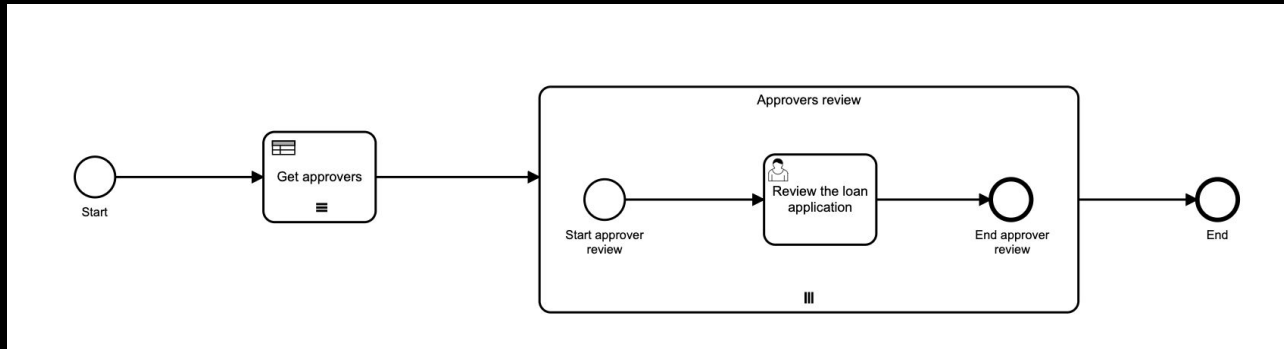
Eg: If you are overweight, Start running.

If you are overweight is the condition and ***Start running*** is the action. Together it is a ***rule***.

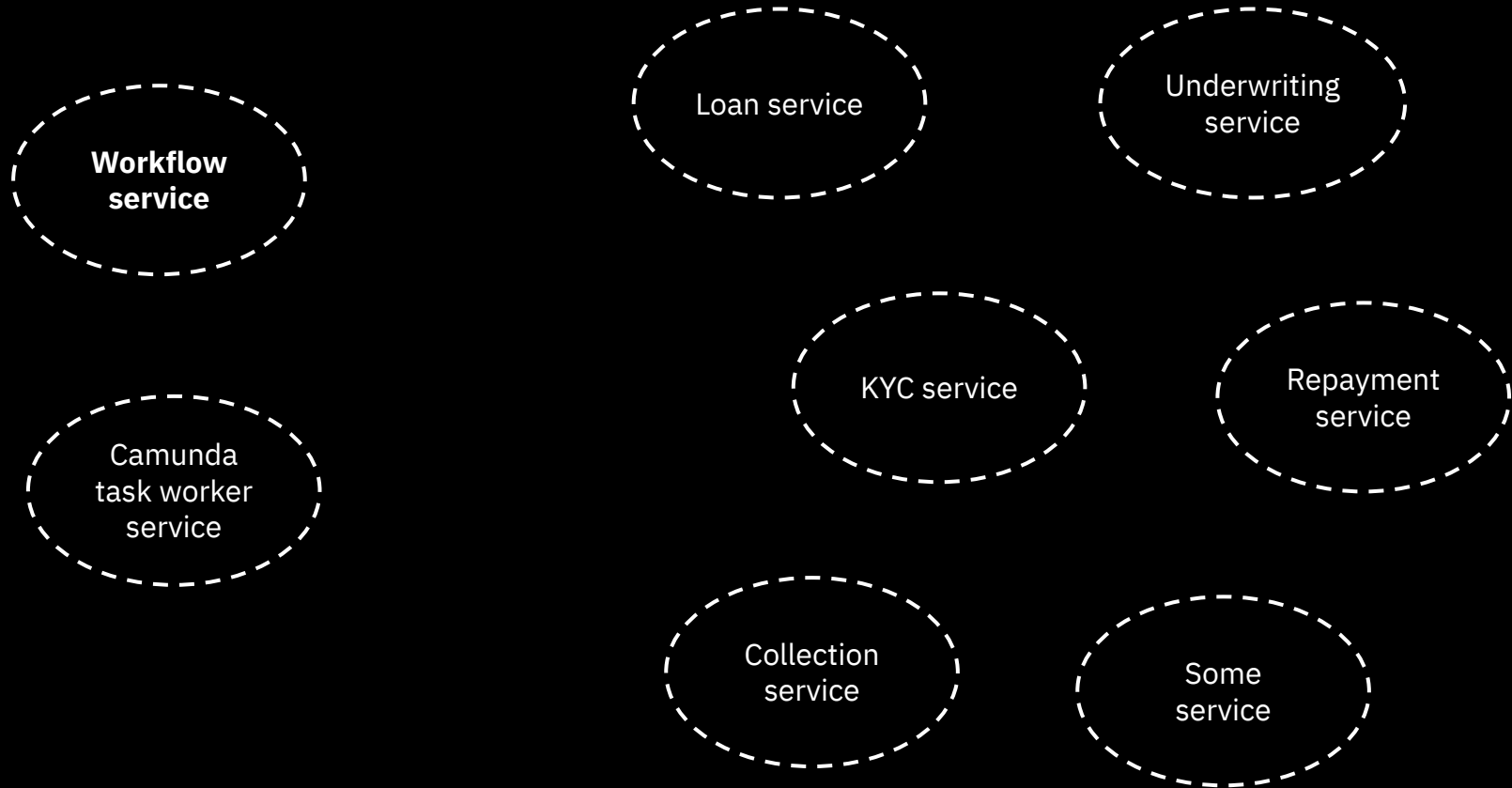


Approval Matrix with DMN

Approvers		Hit Policy:	Unique	
	When	And	Then	Annotations
	Loan amount	Credit rating	Approvers	
	string	string	string	
1	10000	"A"	"Rajesh,Sam"	
2	50000	"B"	"Rajesh,Sam,Jacob,Martin"	
3	50000	"A"	"Rajesh,Sam,Jacob"	
+	-	-		



We deployed Camunda as a microservice



Customer Experience is a competitive advantage



Photo by [Blake Wisz](#) on [Unsplash](#)

Instant approval



Your loan application is approved.

Automated (Instant) loan approval vs Manual approval process



Risk Appetite



Approval Policy



Efficiency, TAT &
Cost



Maturity of credit
models



Product Offering

Few Lessons learned!



No BPMN Monolith(s)



Simple design is always better



Less scripting (in the bpmn)



Idempotency of REST APIs
(context: service tasks)

Enabling Automation with Process Orchestration



Q&A

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