Class Notes

Think about some activity that you encounter in real life that follows the production process.

What does that process do at each stage?

Business Rules

“Do you have any criminal convictions that have not been pardoned?”

Presupposition: Some assumed true that not be “You have criminal convictions”

”Have you stopped neglecting your children?”

“has it been more than 5 years since you last used drugs?”

“If the king of the united states is bald, then I’ll give $100.

If the applicant is not a US citizen or not over 18 or doesn’t have a SSN then reject their application

p = a US citizen

q = over 18

r = has a SSN

if not(p and q and r) then reject the application

if not p or not q or not r then reject

not the case that (if I’m in the car then I am driving) (P implies Q)

if I’m not in the car then I am not driving

Applying for a loan

External view

how the process looks to someone outside the system.

User stories, use cases.

Input and out of the process and not the actual logic

1. Fill out application
2. Submit application
3. Receive acceptance or rejection letter

We cannot write logic to the external view

Internal view

What the process looks like from the system perspective

Workflow

How does the “item” or “task” flow through system

what is being worked

item = loan application

1. Loans clerk reviews application for missing or incorrect information
    1. Confirm all fields filled out
    2. Name and address verified
    3. Employer contact info complete
2. If correct then application is given to a loans officer for evaluation
    1. Is credit score above the bank minimum
    2. is the credit to debt ration under the max allowed
        1. Use standard bank formula to compute c2d rat
    3. Is the liquidity ratio acceptable

3. If approve then letter is generated for approval
4. If reject a rejection letter is generated

Logic for sorting clothes

1. it was a decision making process, not a not logical
2. We couldn't externalize the logic of SME (subject matter expert)
3. Create an expert assisted system
    1. We automate everything *except* the decision logic
    2. At the decision point, we request an intervention by the SME
    3. Decision support systems
    4. ML tools
        1. Concept drift – tech changes, economy changes, society
        2. Data drift – population changes

Logic for creating a shopping list

What app should we build

1. Airline routing delay app
2. Constellation finder
3. Find and pay for parking at an event venue

Patient visit to a hospital

1. Goes to the ER
2. Processed for admitting Admission department
3. Show to a exam room
4. wait for a doctor

5. wait longer for a doctor ER department
6. doctor does a prelim exam - medical staff
7. wait again
8. sent sent to x ray - imaging dept
9. go back to exam room
10. wait more
11. nurse comes to take blood sample - lab
12. wait some more
13. doctor gives a prescription and drugs -pharmacy
14. discharged from hosp

Patient	Hospital	department
Shows up at ER	Admit Patient	Admiiting
Patient sits in exam room	Arranging doctor	Medical staff

Doing Laundry

1. Sort by colour into separate baskets
2. Option pretreat stains
3. Put items in wash
4. Add stuff – detergent, bleach, etc
5. Set cycle and start
6. Transfer to dryer and add fab soft
7. Set cycle and start
8. Move clothes from dryer basket
9. Fold and put

Hosting Thanksgiving Dinner

Steps in an TD.

1. Clean House
2. Guest Count
3. Menu items
4. Shopping
5. Dining setup
6. Extra food from outside
7. Cooking the meal
8. Serving and eating
9. Clean up.

Prepare

- Clean house
- Food Prep
- Plan the timing
- Get the recipes out

- set up dining area

user starts app and enters the name of a constellation, the app provides directions like angle to turn and inclination to see the constellation.

Example

1. Use is located at 39deg north, 120degrees west at midnight localtime on Jun 27, enters the name Orion and is told to turn quarter turn clockwise and tilt up 12 deg from horizon

2. User cannot supply location or time, then app displays error message

3. user enters impossible location coordinates, app displayes (193 deg north, 78 west)

4 Use enters invalid temporal coordinates June 45 2024

5. User enters invalid name “Ursa bear” app flags as errps

What app should we build

1. Airline routing delay app
2. Constellation finder
3. Find and pay for parking at an event venue

1. Identify and write a user story for app #3
    - From the user’s POV
    - Diagramming out a flow chart of the main success scenario
        - user selects venue using time and location data from phone
            - What if the venue is not listed?
            - What if location data not avail
        - Or have a list of events and just select ??
        - user selects price range
            - What if nothing is available in the price range
        - user selects special requirements

        - What if special requirements can't be accomodated
    - Preferred distance
        - What if nothing within the preferred distance
    - App provides location and price and payment options
    - user selects and makes payment
    - app provides map to location
    - "user selects Silverdome in Detroit. Selects $40 for max amount within 1/2 mile, want large spot for our camper. App provides direction to superPark for $35, can reserve with Credit Card, approve and pay and get receipt"
- Alternatives
    - Write an example for an alternative path

2. Posit a what a business process that corresponds to the user story

Process or parking a customer

- geolocation – where they want to park
- search parameters – what are we going to search?
- sort – prioritize what we find
- process user selection (could be to re-search or to abort)
- process payment using payment info
- Generate directions

Add in some decision logic of the search parameters (make up the rules) - flowchart

3. Posit a potential modular architecture.

Syntactic validation "does the data look right" – handled at the front end

Semantic validation "does the data mean something"-- at the logic level

john smith

fnu katheswaranathan

joshua Rodson

Amber Rodsdottir