

# PARADIGMS

OBJECT-ORIENTED

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**रापा** Learning

Knowledge As A Service  
**TRITECH**  **SAMVIT**

# TYPES – WHY ?

- (MENTI.COM)

# TYPES OF TYPE

- STATIC = STRONG TYPING / COMPILER ERRORS AND DETERMINED AT COMPILE TIME
- DYNAMIC = DETERMINED AT RUNTIME
- DUCK TYPING

# TYPES AS CLASSES

- (MENTI.COM)

# YOUR PREFERENCE

<https://forms.microsoft.com/Pages/ResponsePage.aspx?id=DQSlkWdsW0yxEjaJBLZtrQAAAAAAAAAAAAANAAY-7brxUQjk4TTVZU1hTWjNXQkZISTBCS0ZKWlg4US4u>

# WHAT IS OO ?

- DIVIDE SOLUTION INTO OBJECTS THAT HAVE BEHAVIOR AND ATTRIBUTES / STATES
- ENCAPSULATION, MODULARITY, POLYMORPHISM
- INHERITANCE
- ABSTRACTION / HIDING

# WHY OO ?

- REFLECTS SOMETHING IN THE REAL WORLD
- SECURITY – DATA-HIDING AND ABSTRACTION
- CODE RE-USE

# INTROS

- NAME
- INTERESTS – TECHNICAL AND FUN
- FAVORITE PROGRAMMING LANGUAGE



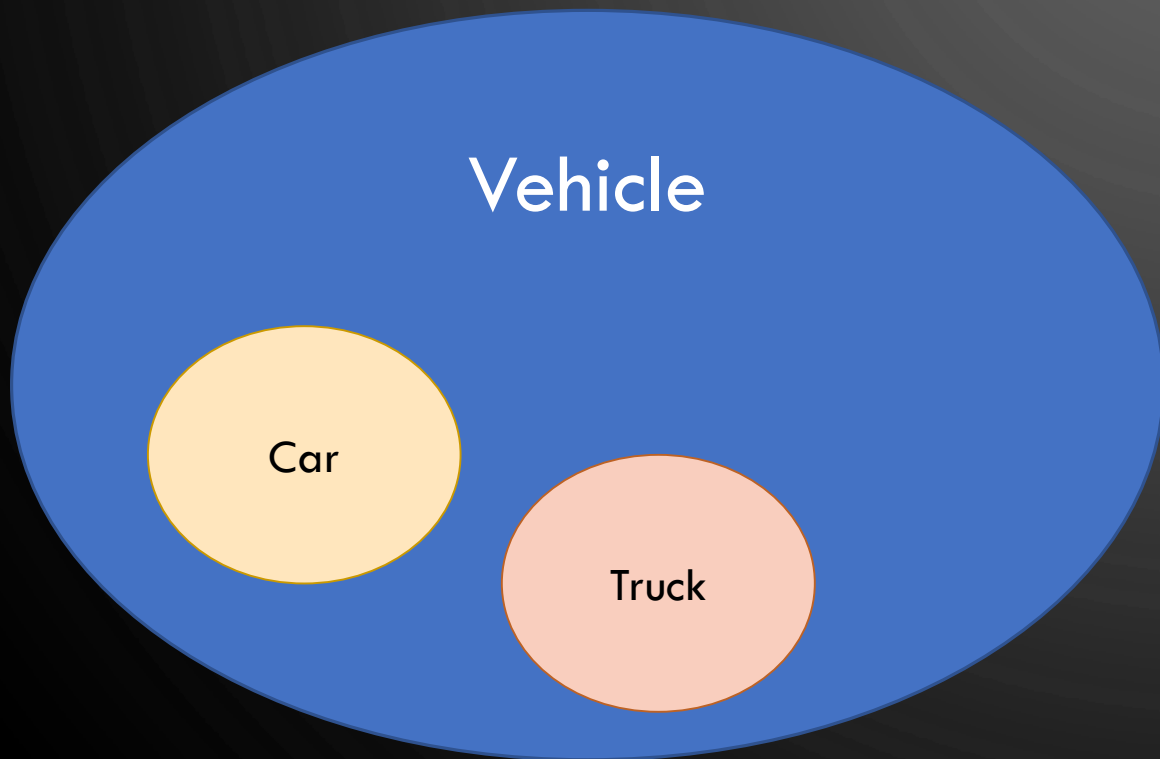
# RELATIONSHIPS - 1

<https://forms.microsoft.com/Pages/ResponsePage.aspx?id=DQSlkWdsW0yxEjaBLZtrQAAAAAAAAAAAAANAAY-7brxUNkVIMkgxS0lwMIZLSVJGRkQxWINJMEJMVS4u>

# TODAY'S SEQUENCE

- REVIEW OF BDD
- BDD IN FEATURE-REQUESTS
- START ON THE MUSE
- FINISH OO-THEORY

# SUBCLASSES alias SUBTYPES alias SUBSETS



Vehicle
<ul style="list-style-type: none"> <li>- carryingCapacity</li> <li>- torque</li> </ul>
<ul style="list-style-type: none"> <li>+ accelerate(amount)</li> <li>+ start</li> <li>+ stop</li> <li>+ identification()</li> </ul>

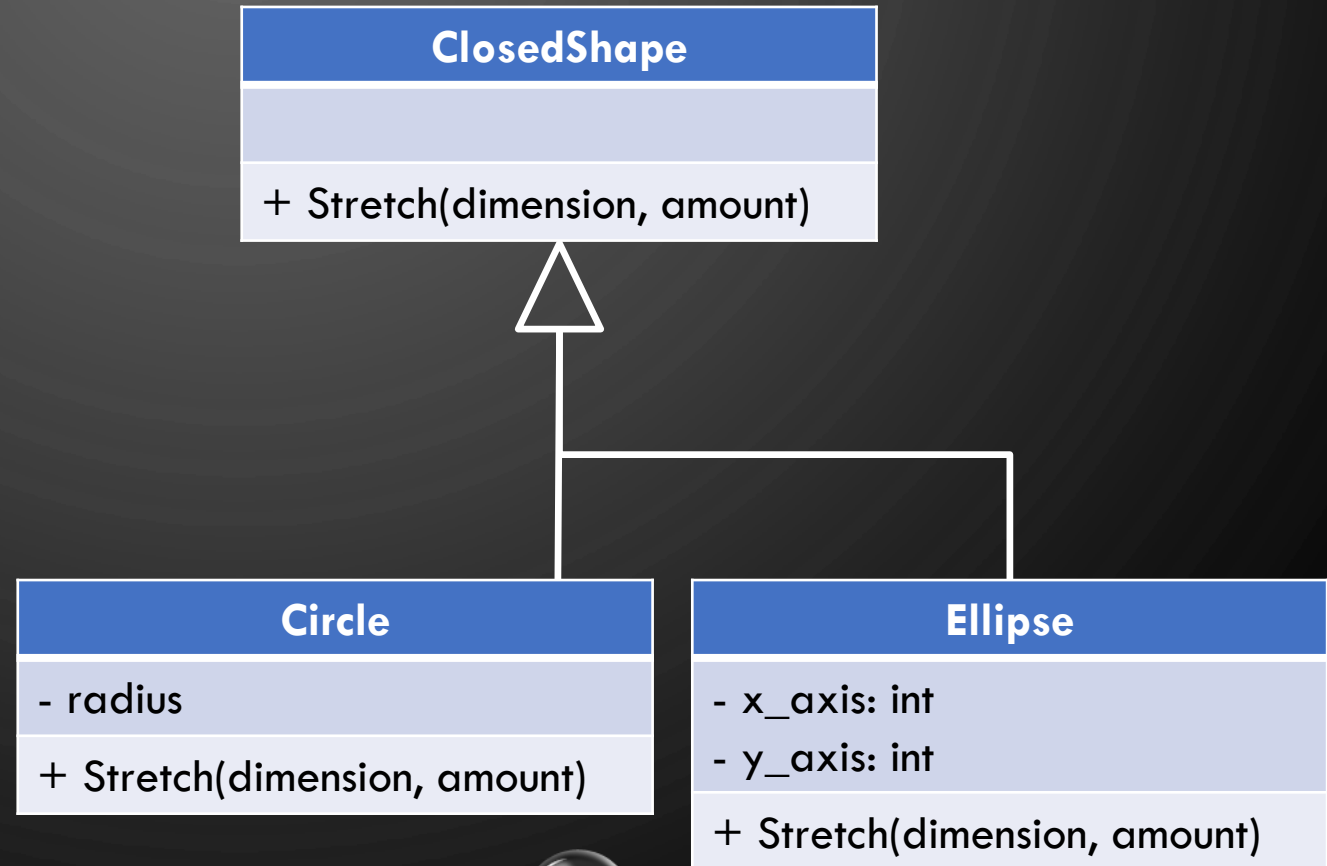
Car
-
<ul style="list-style-type: none"> <li>+AC</li> <li>+steering</li> <li>+windows</li> </ul>



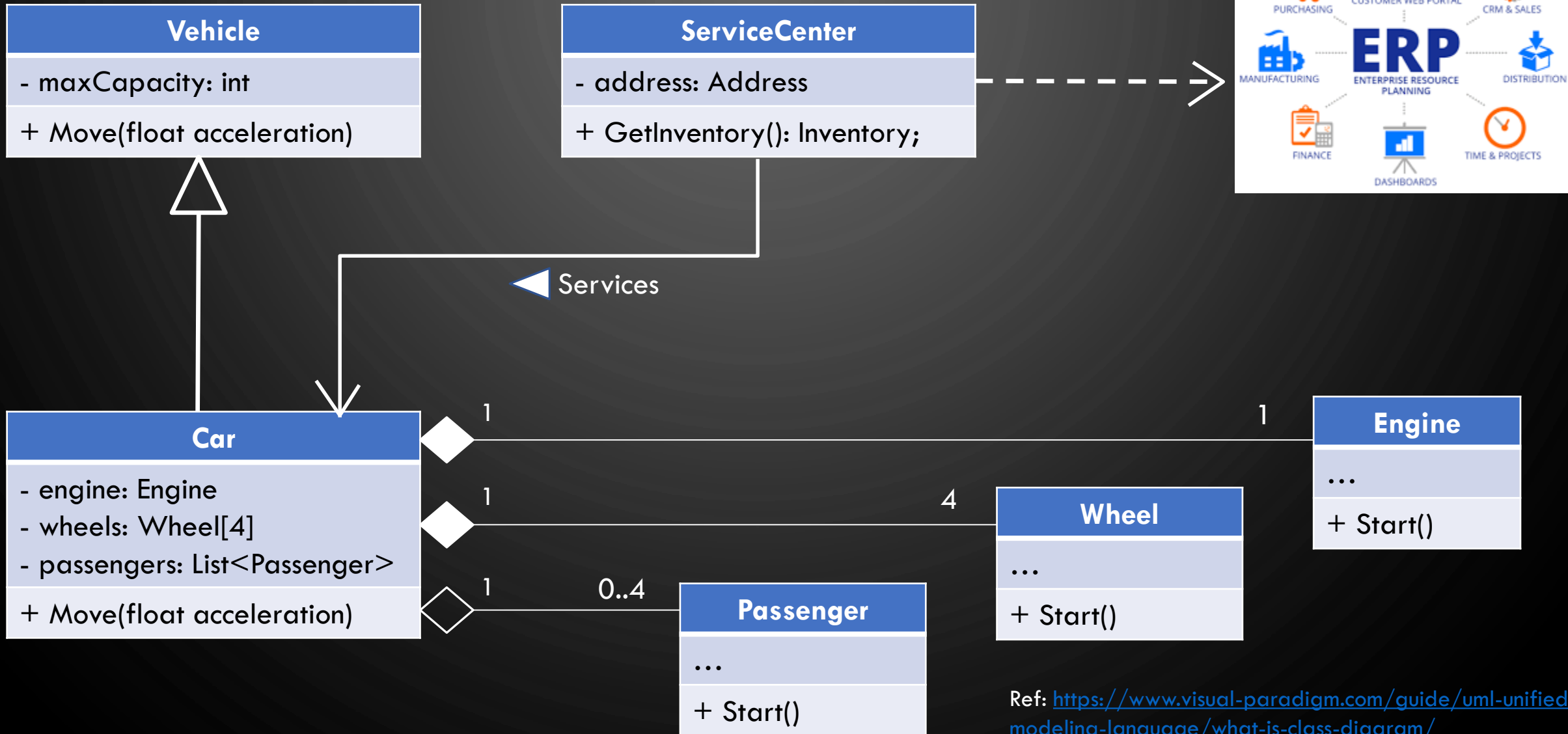
# CIRCLE/ ELLIPSE QUIZ

Ellipse
- x_axis: int
- y_axis: int
+ Stretch(dimension, amount)

Circle
- radius: int
+ Expand(amount)



# UML NOTATION 'STRUCTURAL'



# RELATIONSHIP BETWEEN A HOSPITAL AND ITS PATIENTS?

- HOSPITAL 'HAS' PATIENTS ??
- HOSPITAL AGGREGATES PATIENTS
- HOSPITAL TREATS PATIENTS
- HOSPITAL CURES PATIENTS
- HOSPITAL ADMITS PATIENTS
- HOSPITAL PROVIDES CARE TO PATIENTS

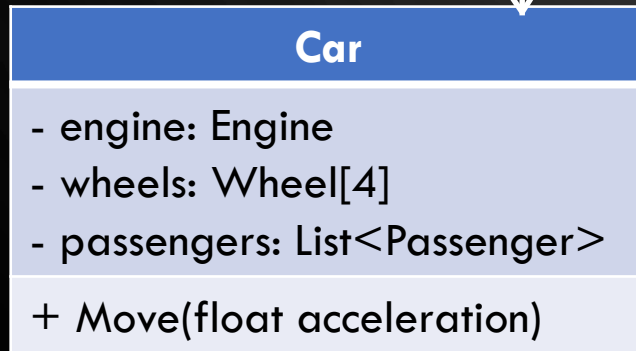
# RELATIONSHIP BETWEEN A SORTING ALGORITHM AND A COMPARATOR?

- SORTING ALGO REQUIRES COMPARATOR
- SORTING ALGO HAS RUN-TIME DEPENDENCY ON COMPARATOR
- SORTING ALGO USES / CALLS COMPARATOR

# COMING BACK...

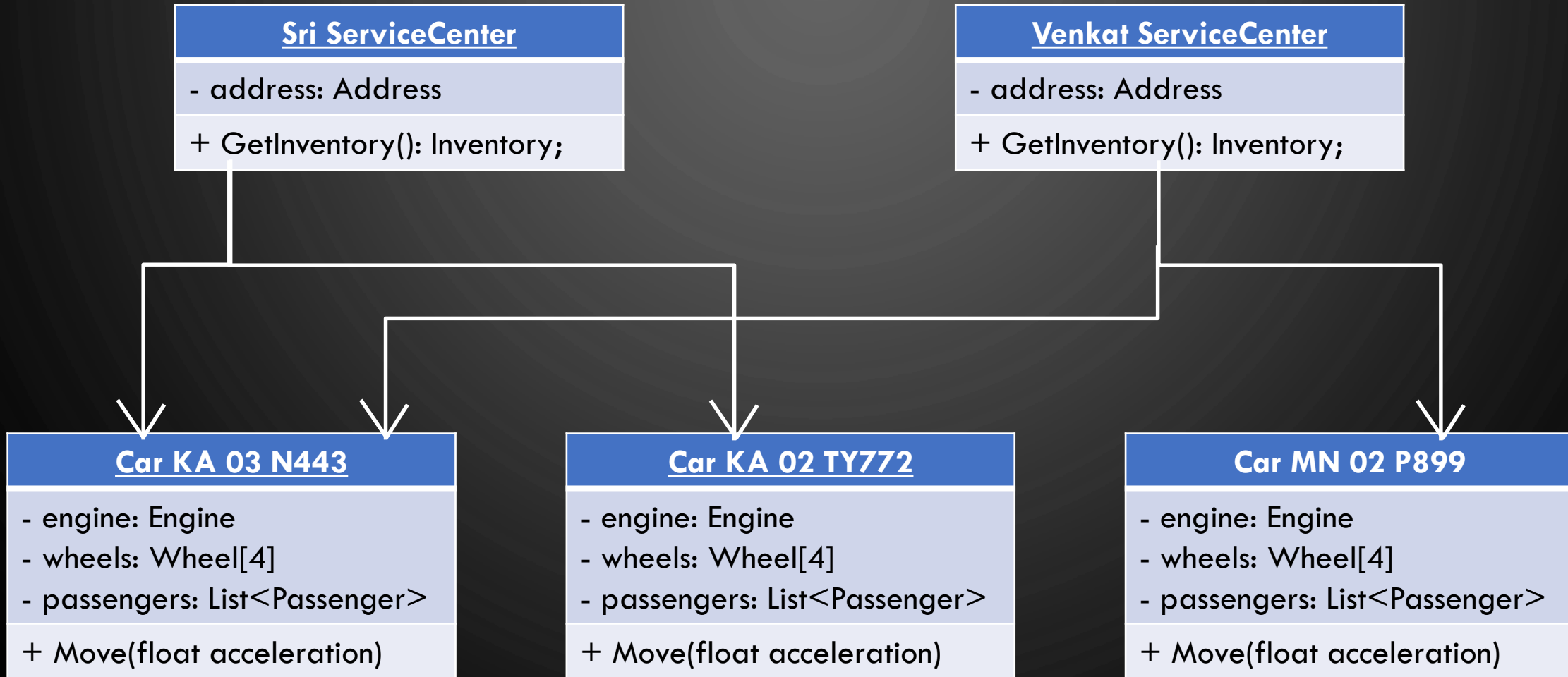


Services



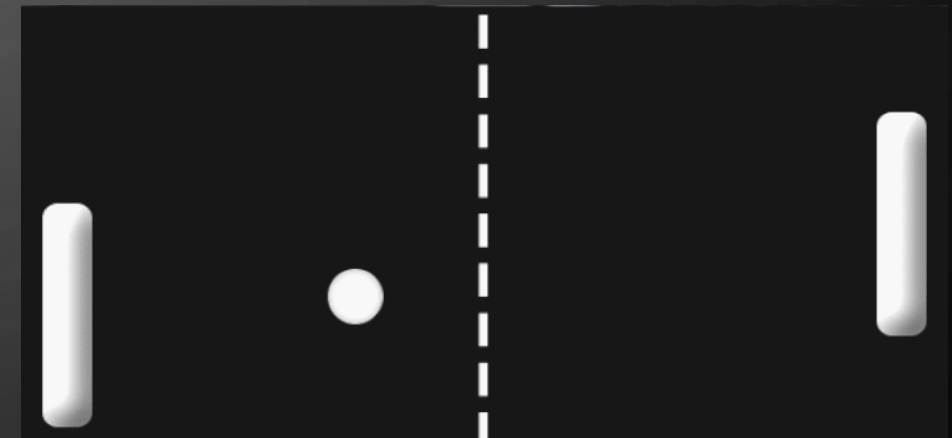


# UML NOTATION 'OBJECTS'



# CRC CARDS

UpdateScore()	
Responsibilities	Collaborators
Keep count of scores of two players	<module> notifies when a player scores



Ref: <http://agilemodeling.com/artifacts/crcModel.htm>

# PARADIGMS

FUNCTIONAL

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# TERMINOLOGY

- (MENTI.COM)

CHURCH ENCODING

LAMBDA CALCULUS

STATELESS

BNF

JAVASCRIPT

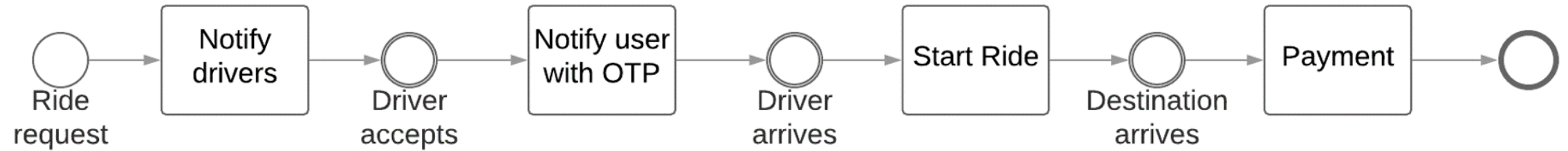
HASKELL

CLOSURE

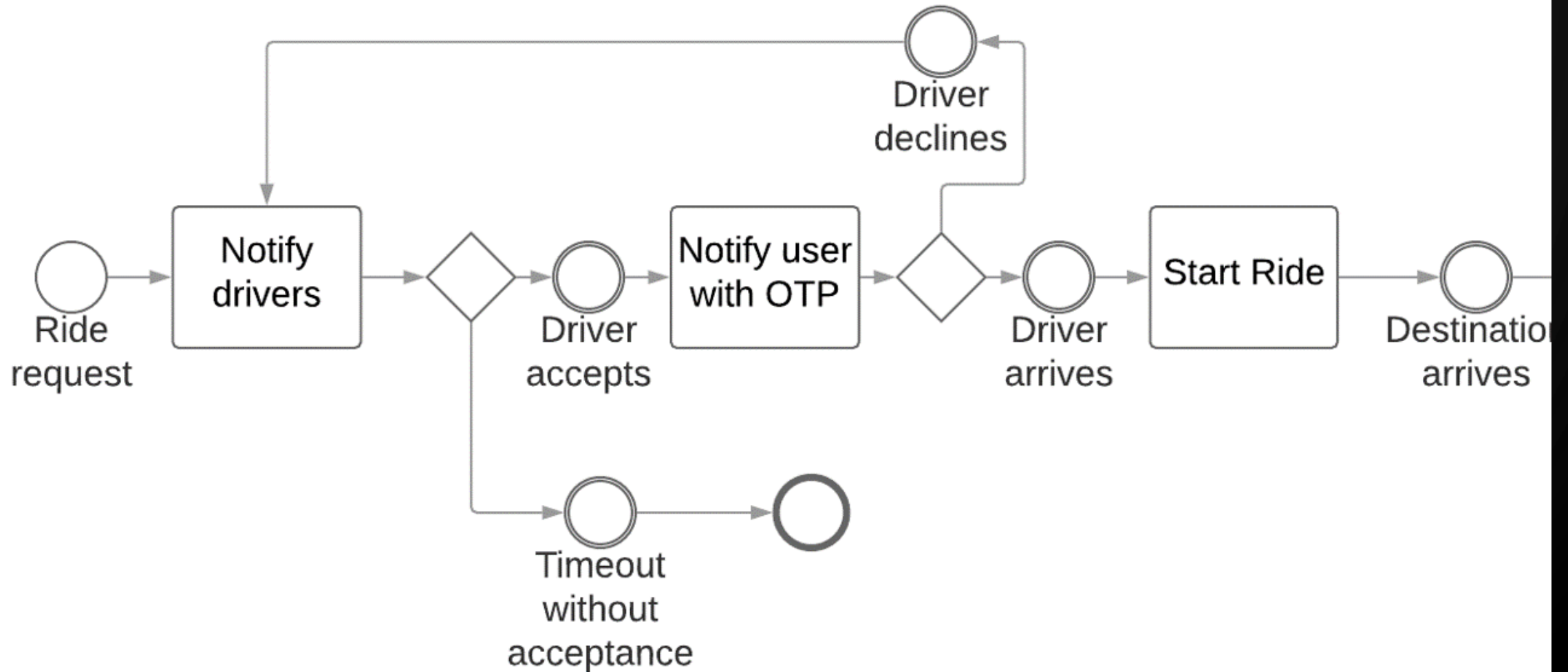




# CAB-BOOKING

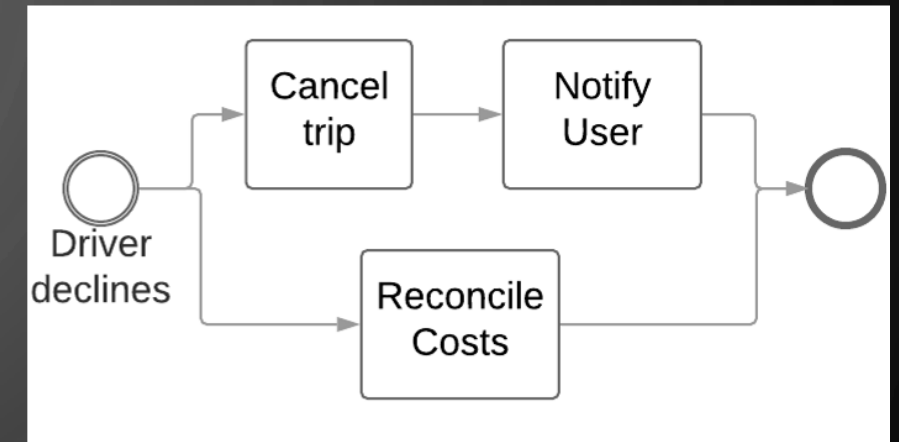
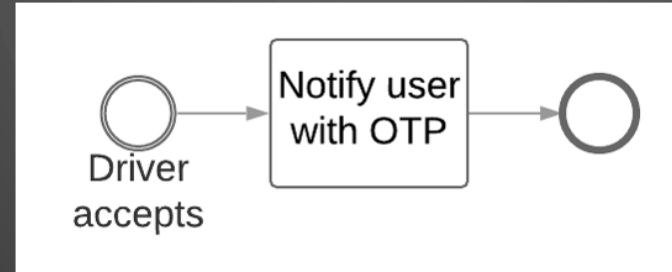
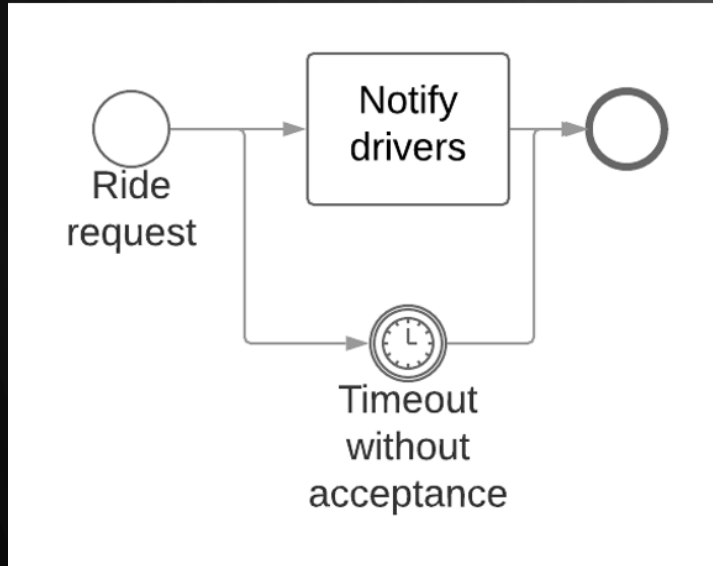


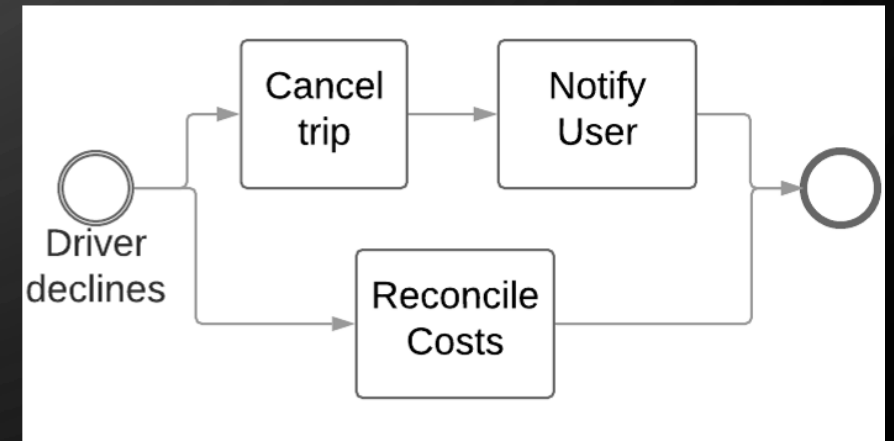
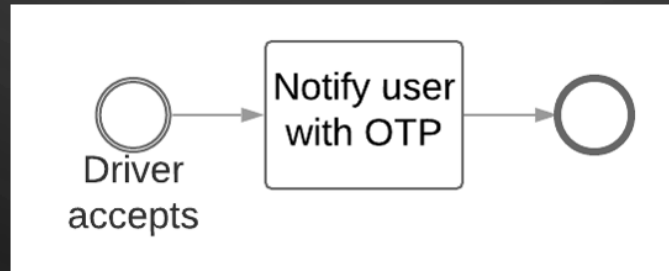
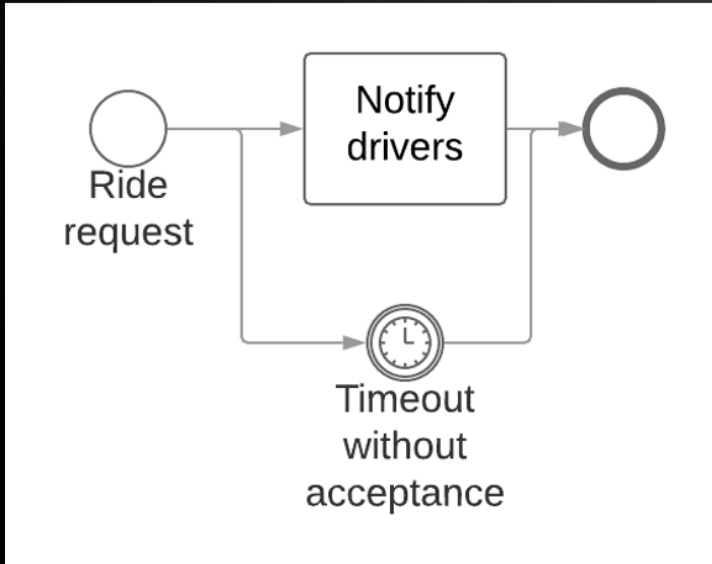
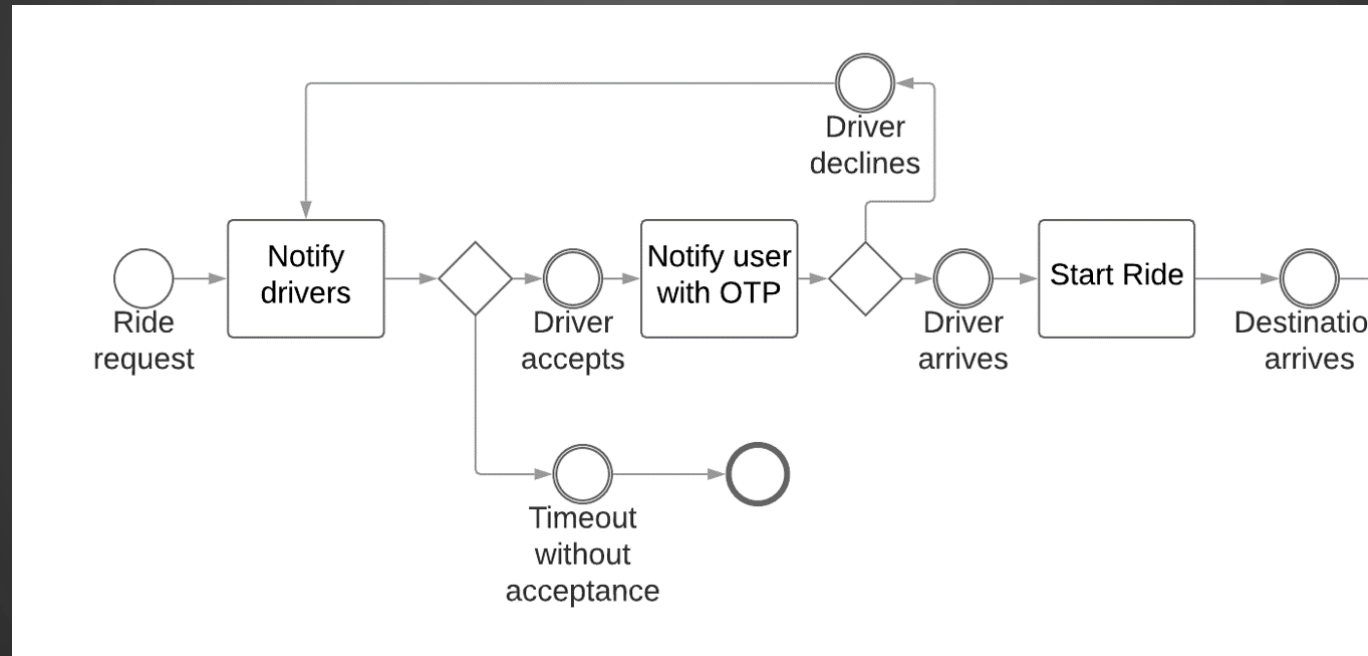
## ...CAN GET COMPLEX





# DECOMPOSE BY FUNCTIONALITY





# WHAT PARADIGM CHANGED?

- (MENTI)

# INTROS

- NAME
- INTERESTS – TECHNICAL AND FUN
- FAVORITE PROGRAMMING LANGUAGE

# COORDINATE DATA-TRANSFORMATIONS

