



# How to create your own communicative intention in VIB?

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# Tutorial purpose

## ■ Create a communicative intention « Not Bad » for Poppy

- One facial expression
- One gesture
- Two alternative head movements



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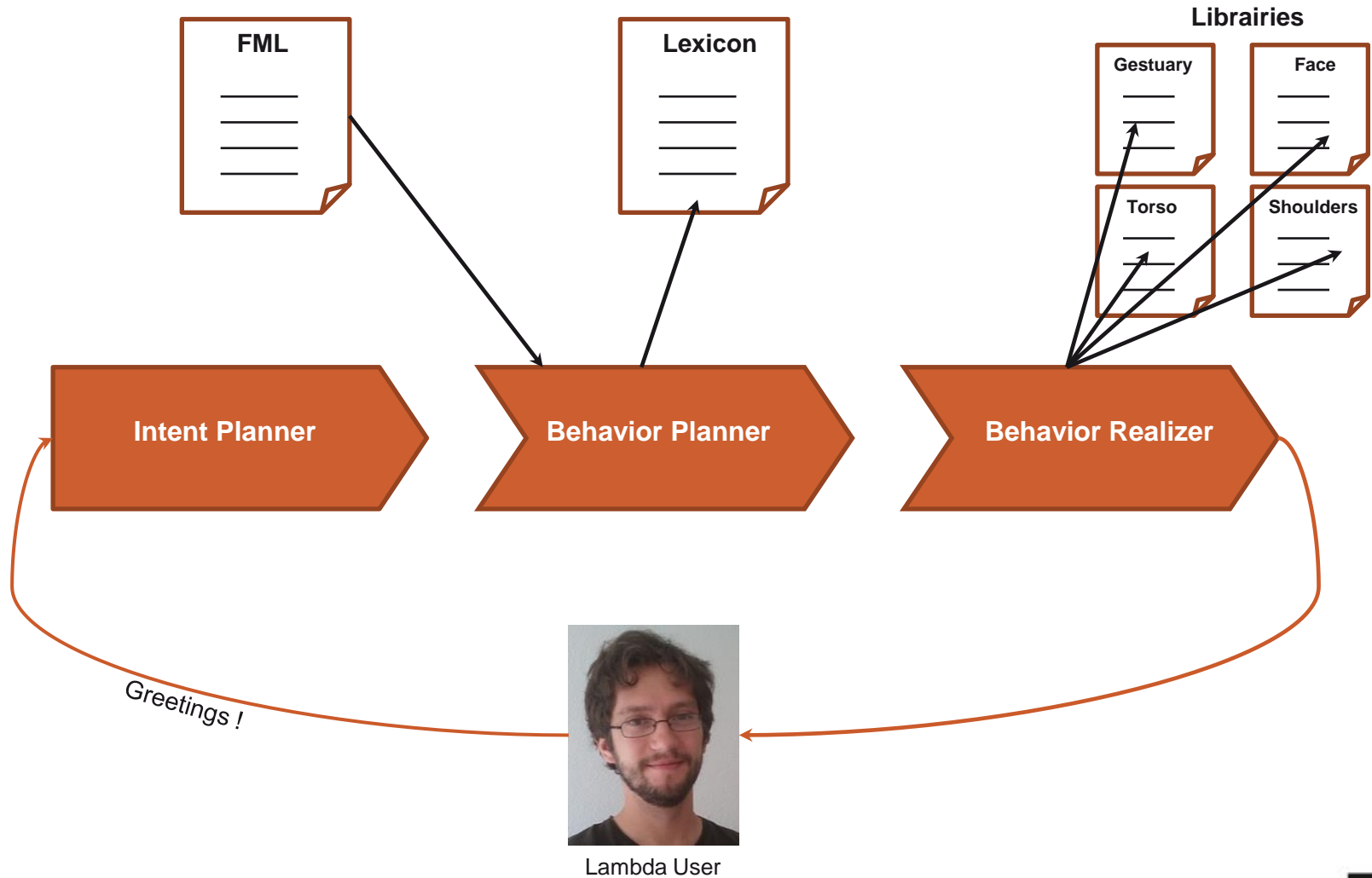
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OR

=



# Global Mechanisms

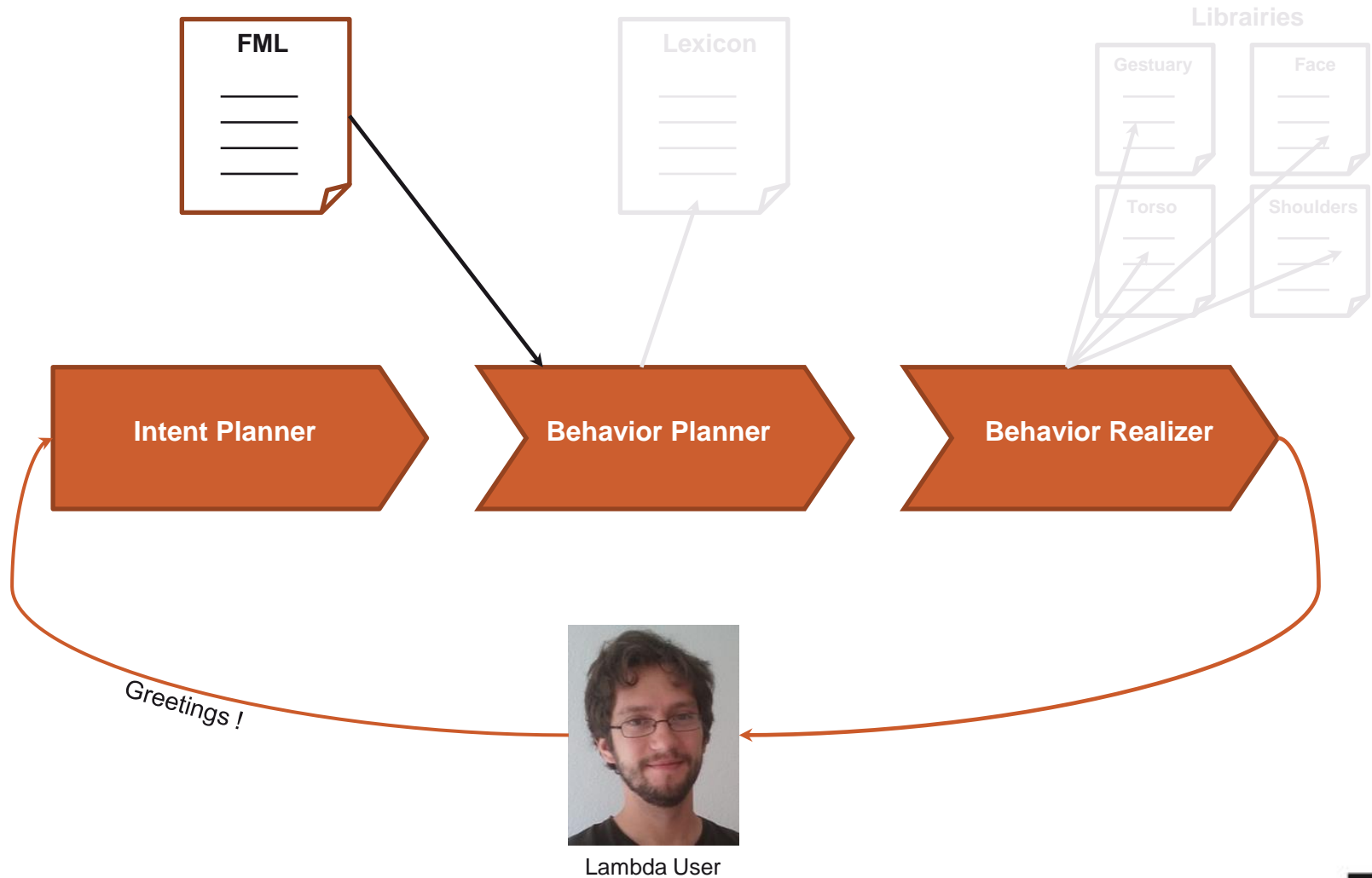




# XML Files



# FML File (1/2)

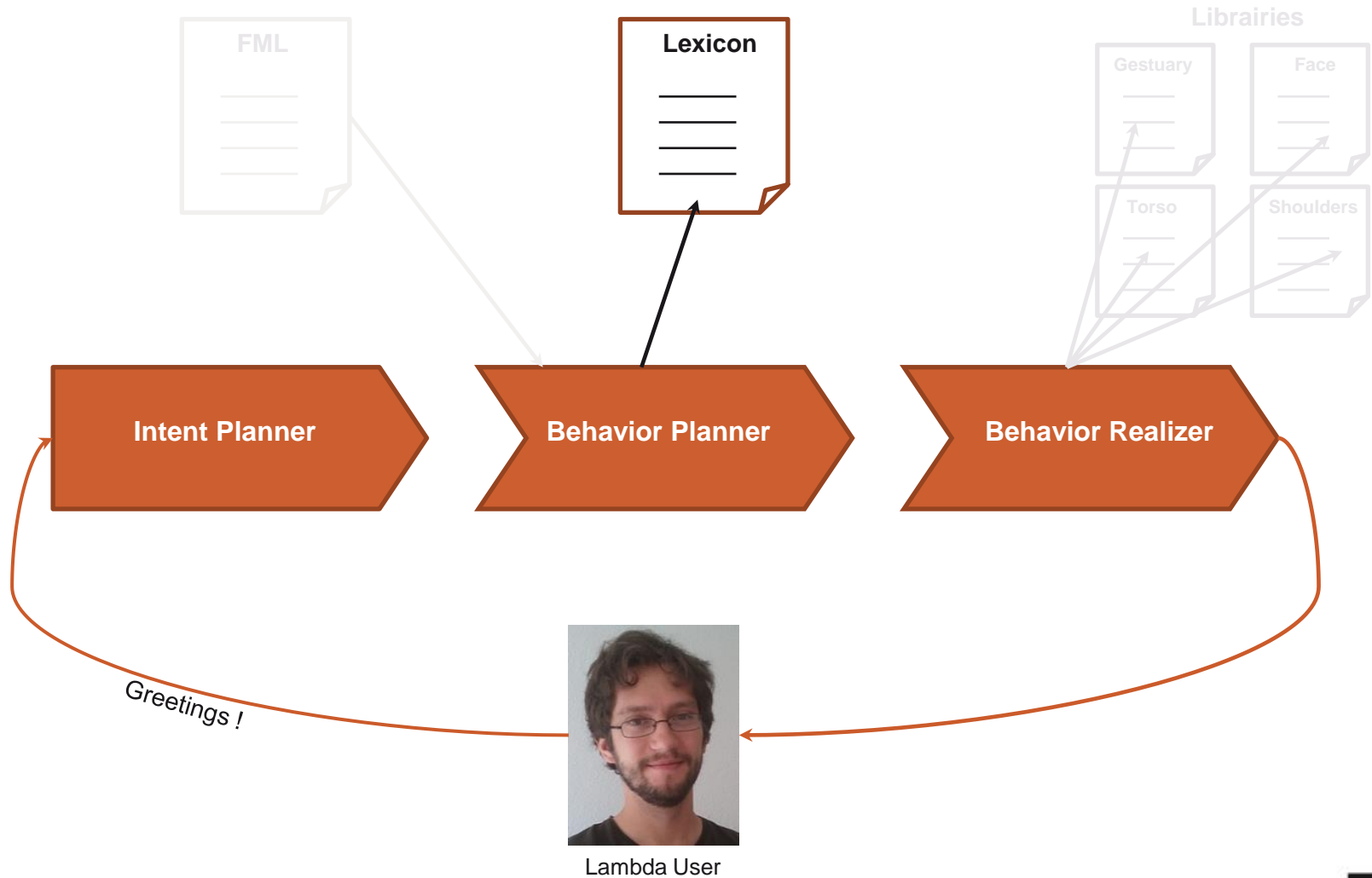


## ■ List of intentions to play

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<fml-apml>
  <fml>
    ...
    <performative id="e1" type="not-bad" start="0" end="e1:start+4" importance="1"/>
  </fml>
</fml-apml>
```

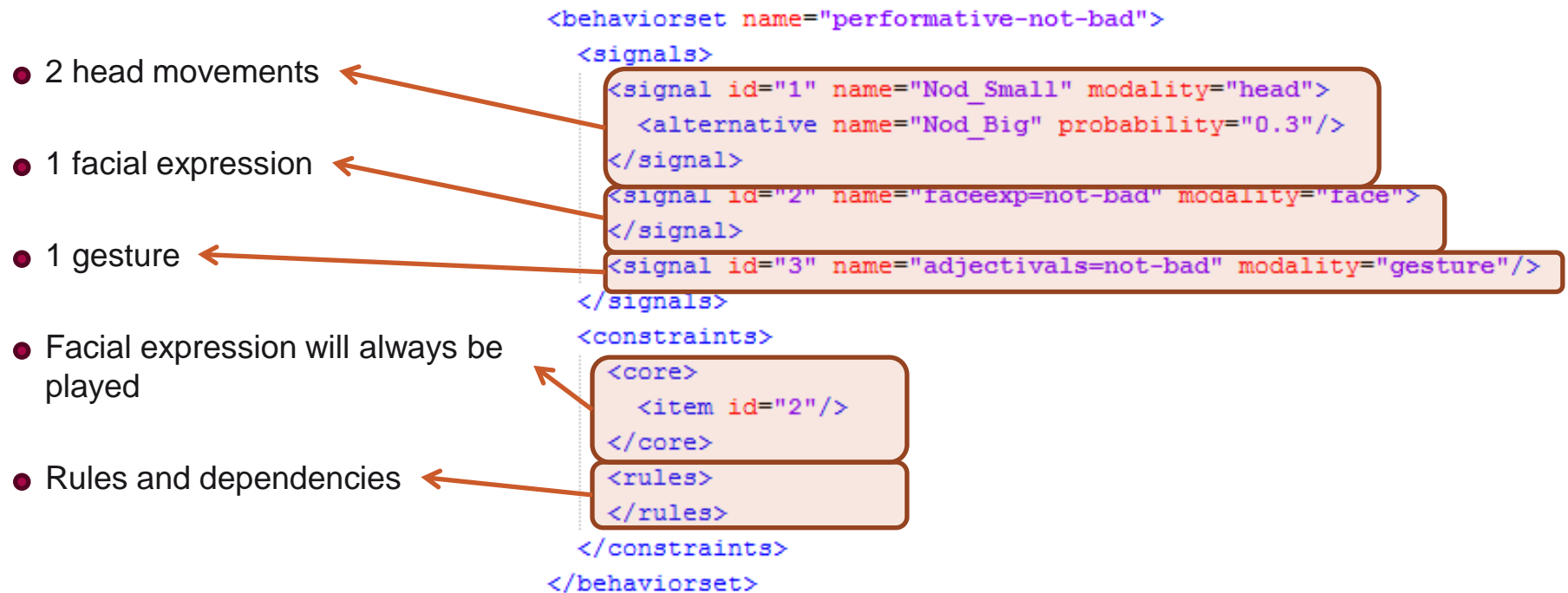
- Type of intention : performative, emotion, backchannel...
- Name of the intention
- Duration
- Importance = intervene in the computation on the number of modalities to be displayed

# Lexicon Files (1/2)



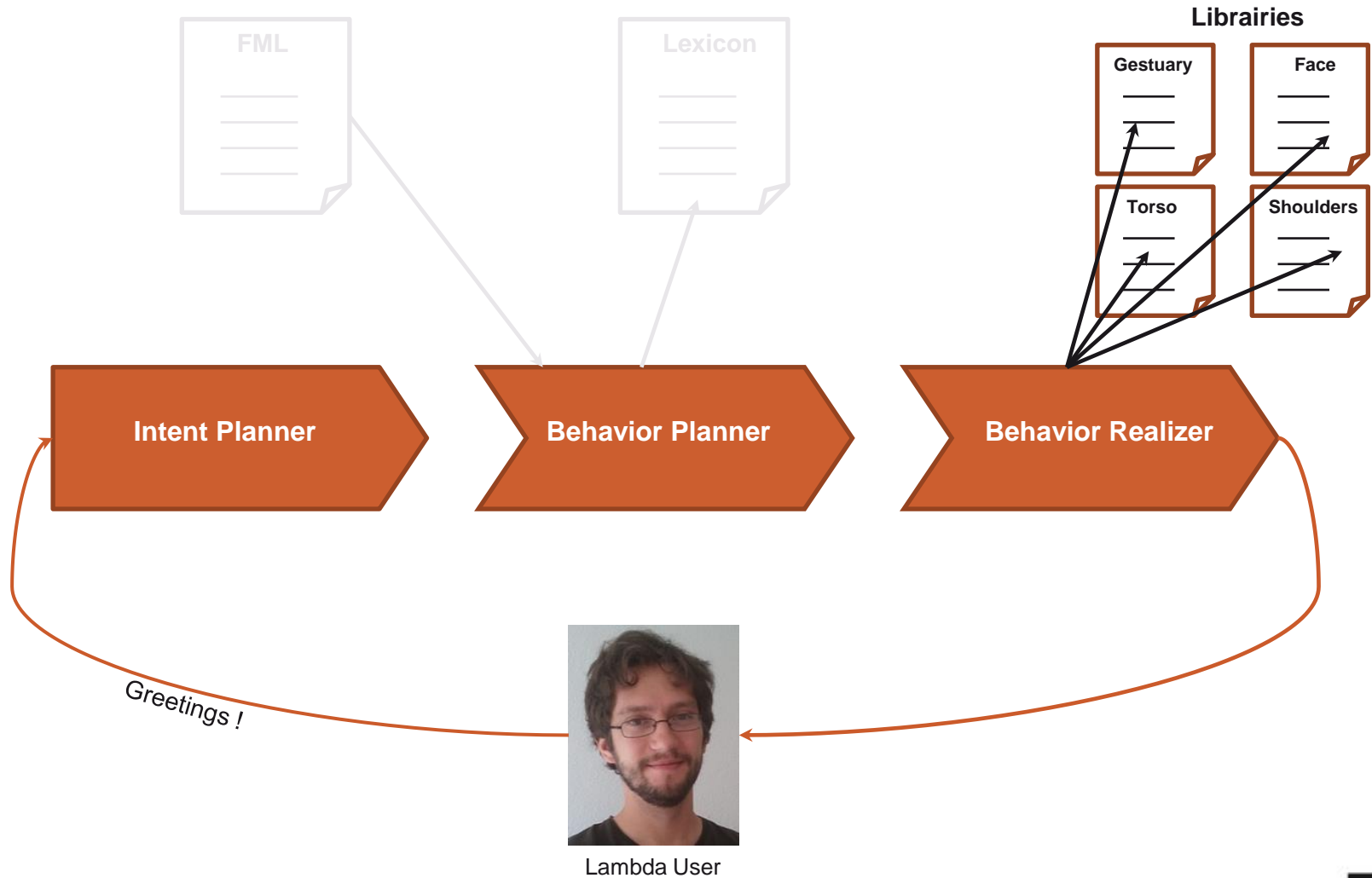
# Lexicon Files (2/2)

- Set of communicative intentions
- Describe each intention using different signals





# Library Files (1/2)



# Library Files (2/2)

## ■ Low level signals description

## ■ One library for each kind of signals (Torso, Head, Gestures...)

## ■ Facelibrary

- Transform facial expressions into combinations of AUs



```
<expression class="faceexp" instance="joy">  
  <action name="AU6"/>  
  <action name="AU12"/>  
</expression>
```

# Les librairies (2/2)

## ■ Gestuary

- Transform gestures into keyframes



```
<gesture category="deictic" id="you_Ges_B">
  <phase type="STROKE-START">
    <hand distanceFixed="true" fingersOrientationRatio="0.1"
      handShapeFixed="true" horizontalFixed="true"
      palmOrientationRatio="0.0" side="LEFT" verticalFixed="true">
      <verticalLocation>YUpperP</verticalLocation>
      <horizontalLocation>XC</horizontalLocation>
      <locationDistance>ZNear</locationDistance>
      <handShape>form_fist</handShape>
      <palmOrientation>INWARD</palmOrientation>
      <fingersOrientation>UP</fingersOrientation>
      <palmOrientationSupplementary>DOWN</palmOrientationSupplementary>
      <fingersOrientationSupplementary>AWAY</fingersOrientationSupplementary>
    </hand>
  </phase>
</gesture>
```

## ■ HeadGestures

- Describe head movements



```
<head id="Nod_Middle" lexeme="NOD">
  <KeyPoint type="strokeStart">
    <SagittalTilt direction="Upward" min="0.02" max="0.12"/>
  </KeyPoint>
  <KeyPoint type="strokeEnd">
    <SagittalTilt direction="Downward" min="0.02" max="0.1"/>
  </KeyPoint>
</head>
```

# So, how does it work ?

## FML

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<fml-apml>
  <fml>
    <performative id="e1" type="not-bad" start="0" end="e1:start+4" importance="1"/>
  </fml>
</fml-apml>
```

## Lexicon

```
<behaviorset name="performative-not-bad">
  <signals>
    <signal id="1" name="Nod Small" modality="head">
      <alternative name="Nod Big" probability="0.3"/>
    </signal>
    <signal id="2" name="faceexp=not-bad" modality="face">
    </signal>
    <signal id="3" name="adjectivals=not-bad" modality="gesture"/>
  </signals>
  <constraints>
    <core>
      <item id="2"/>
    </core>
    <rules>
    </rules>
  </constraints>
</behaviorset>
```

## Libraries

```
<head id="Nod_Big" lexeme="NOD">
  <KeyPoint type="strokeStart">
    <SagittalFilt direction="Upward" min="0.04" max="0.25"/>
  </KeyPoint>
  <KeyPoint type="strokeEnd">
    <SagittalFilt direction="Downward" min="0.04" max="0.2"/>
  </KeyPoint>
</head>
```

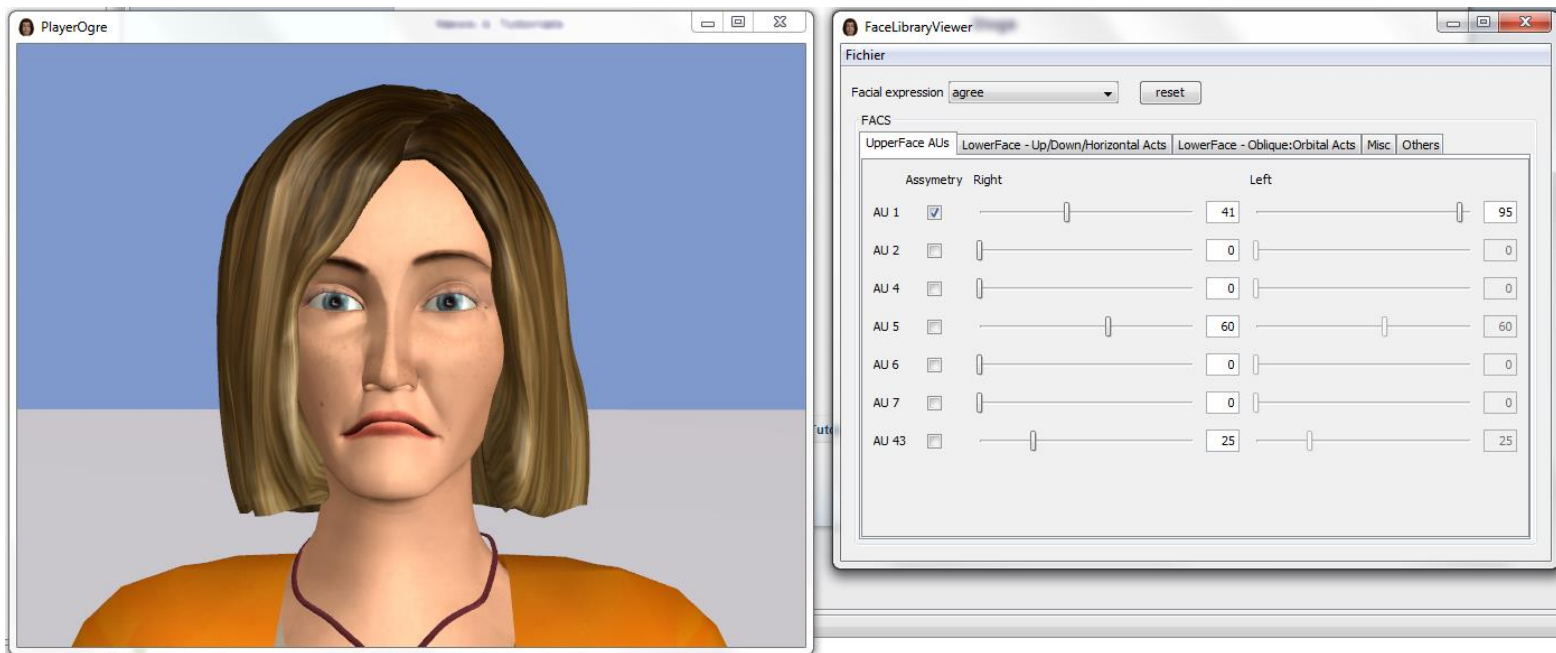


# Essential Tools



# Face Library Viewer

- Create your own facial expression
- Based on Action Units



# Gesture Animation Editor

## ■ Create your own gestures

