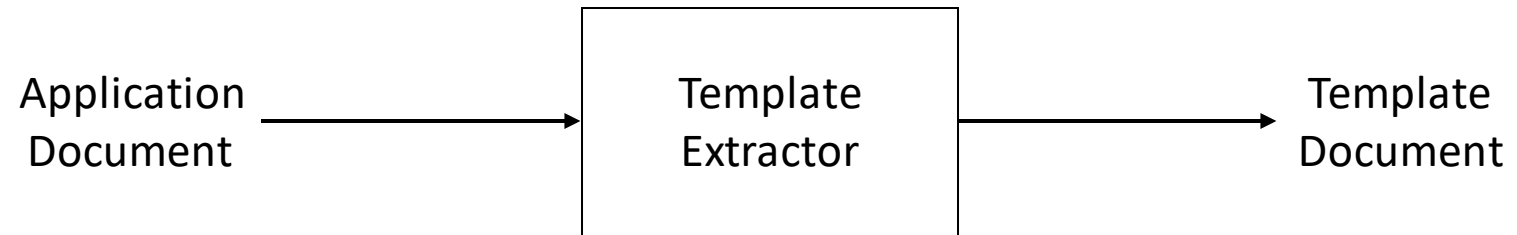
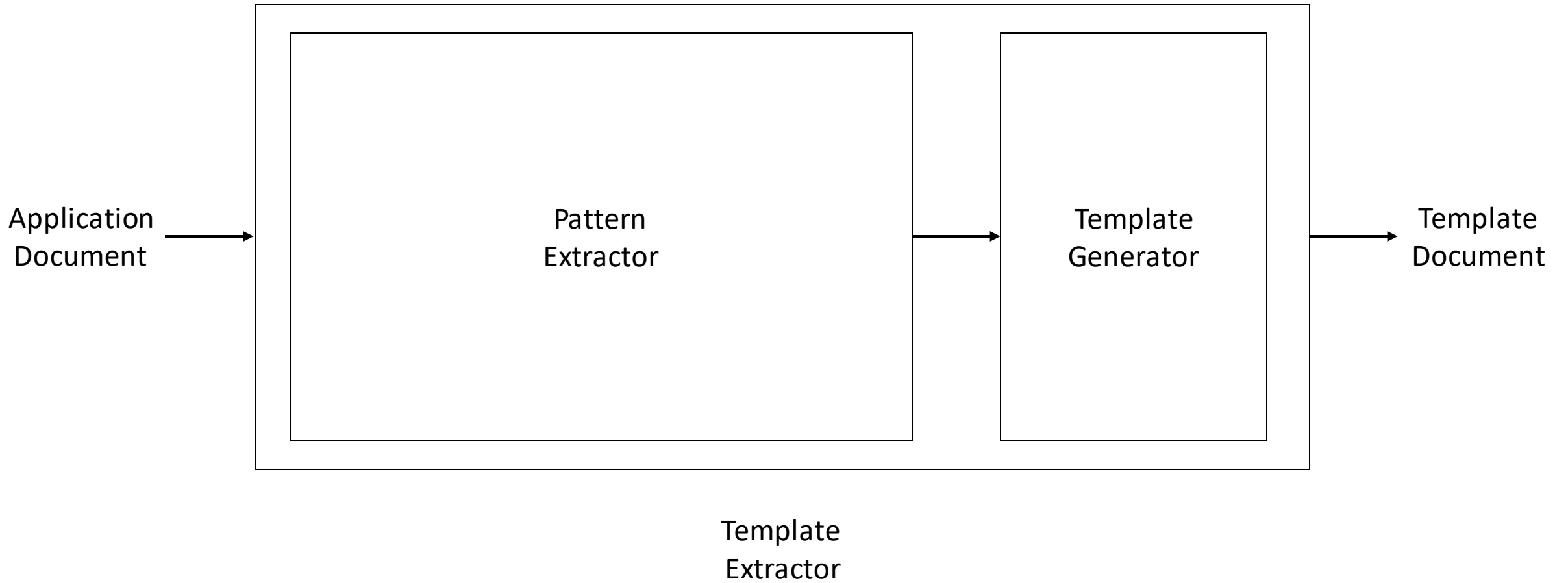


Automatic Template Extraction from [a single] Hypermedia Document

Eduardo Cruz Araújo

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- Patterns
 - Structural and Composition
 - Timing
 - Presentation
 - Interaction

Application Document



Media
Patterns
Extractor



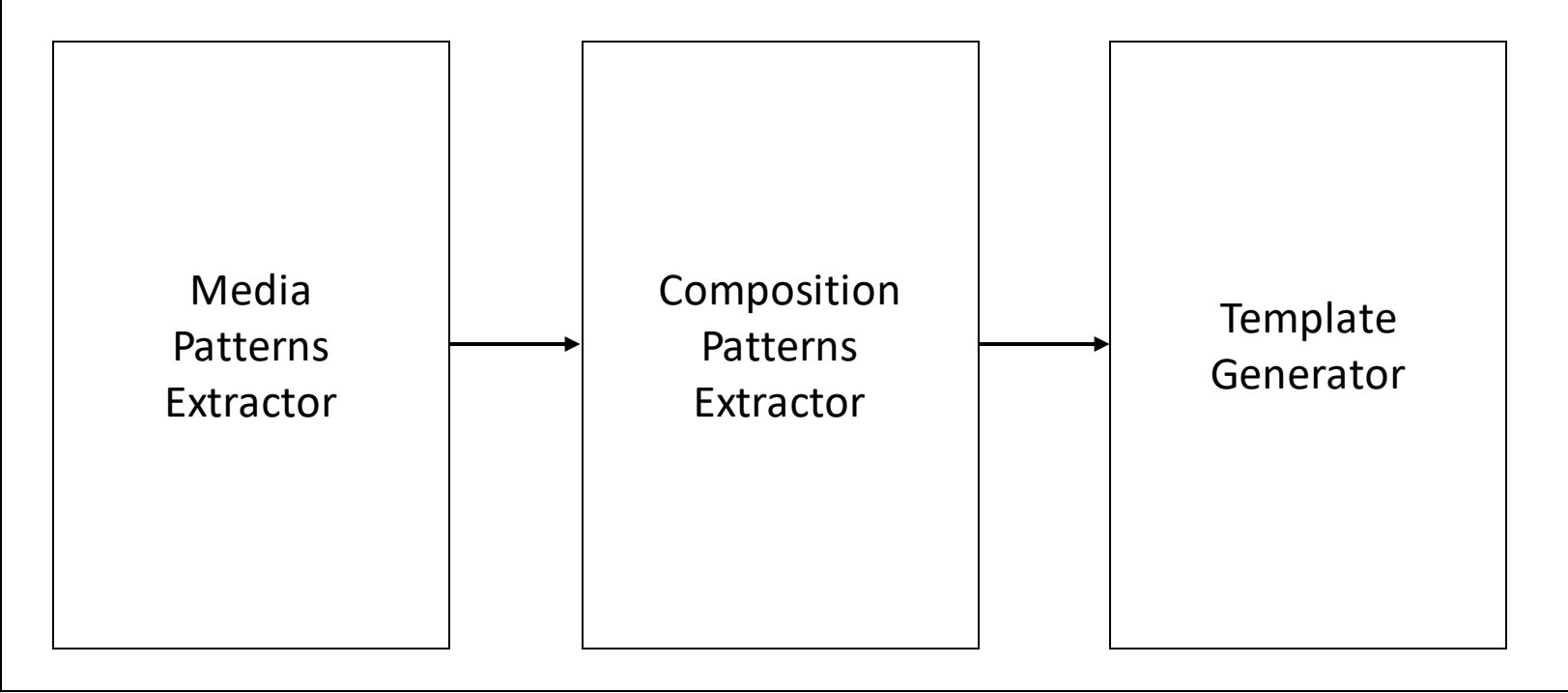
Composition
Patterns
Extractor



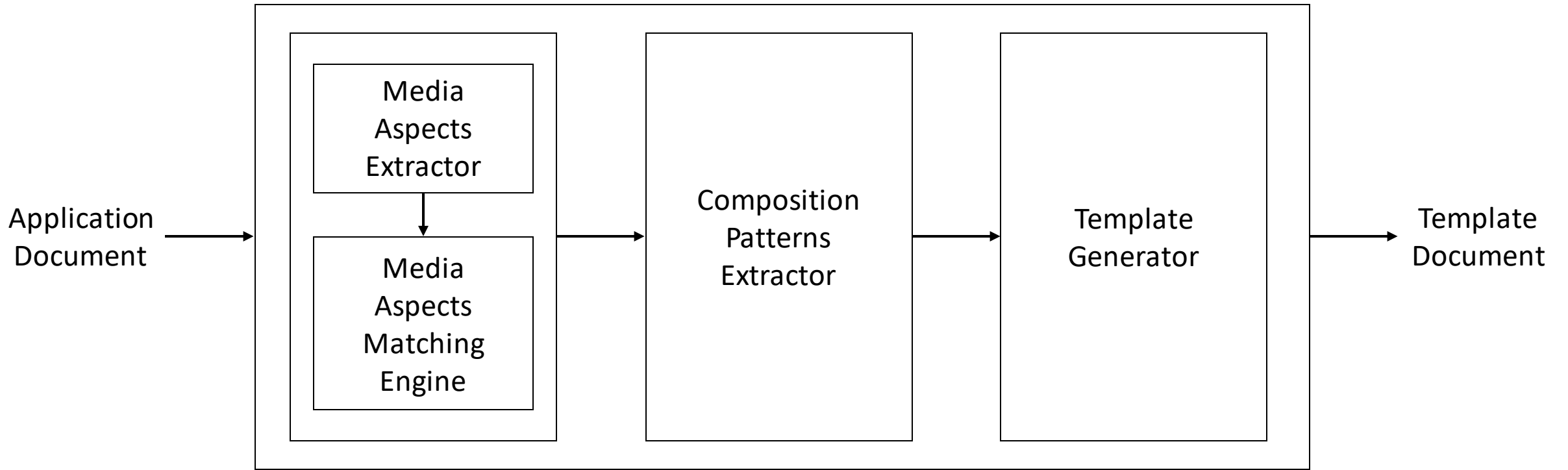
Template
Generator



Template Document



Template
Extractor



Template
Extractor

```
version="1.0" encoding="ISO-8859-1"?>
<ncl id="D002" xmlns="http://www.ncl.org.br/NCL3.0/EDTVProfile">
<head>
  <regionBase>
    <region id="rgImage" top="0%" left="0%" width="100%" height="100%"/>
  </regionBase>

  <descriptorBase>
    <descriptor id="dImage" explicitDur="3s"/>
  </descriptorBase>

  <connectorBase>
    <causalConnector id="onEndStart">
      <simpleCondition role="onEnd" />
      <simpleAction role="start" />
    </causalConnector>
  </connectorBase>
</head>

<body>
  <port id="pImage" component="mImage01"/>

  <media id="mImage01" src="media/IMG001.jpg" type="image/jpeg" descriptor="dImage"/>
  <media id="mImage02" src="media/IMG002.jpg" type="image/jpeg" descriptor="dImage"/>
  <media id="mImage03" src="media/IMG003.jpg" type="image/jpeg" descriptor="dImage"/>

  <link xconnector="onEndStart">
    <bind role="onEnd" component="mImage01"/>
    <bind role="start" component="mImage02"/>
  </link>

  <link xconnector="onEndStart">
    <bind role="onEnd" component="mImage02"/>
    <bind role="start" component="mImage03"/>
  </link>
</body>
</ncl>
```

MEDIA
ASPECTS

STRUCTURAL

```
version="1.0" encoding="ISO-8859-1"?>
<ncl id="D002" xmlns="http://www.ncl.org.br/NCL3.0/EDTVProfile">
  <head>
    <regionBase>
      <region id="rgImage" top="0%" left="0%" width="100%" height="100%"/>
    </regionBase>

    <descriptorBase>
      <descriptor id="dImage" explicitDur="3s"/>
    </descriptorBase>

    <connectorBase>
      <causalConnector id="onEndStart">
        <simpleCondition role="onEnd" />
        <simpleAction role="start" />
      </causalConnector>
    </connectorBase>
  </head>

  <body>
    <port id="pImage" component="mImage01"/>

    <media id="mImage01" src="media/IMG001.jpg" type="image/jpeg" descriptor="dImage"/>
    <media id="mImage02" src="media/IMG002.jpg" type="image/jpeg" descriptor="dImage"/>
    <media id="mImage03" src="media/IMG003.jpg" type="image/jpeg" descriptor="dImage"/>

    <link xconnector="onEndStart">
      <bind role="onEnd" component="mImage01"/>
      <bind role="start" component="mImage02"/>
    </link>

    <link xconnector="onEndStart">
      <bind role="onEnd" component="mImage02"/>
      <bind role="start" component="mImage03"/>
    </link>
  </body>
</ncl>
```

MEDIA
ASPECTS



TIMING


```
version="1.0" encoding="ISO-8859-1"?>
<id="D002" xmlns="http://www.ncl.org.br/NCL3.0/EDTVProfile">
<head>
  <regionBase>
    <region id="rgImage" top="0%" left="0%" width="100%" height="100%"/>
  </regionBase>

  <descriptorBase>
    <descriptor id="dImage" explicitDur="3s"/>
  </descriptorBase>

  <connectorBase>
    <causalConnector id="onEndStart">
      <simpleCondition role="onEnd" />
      <simpleAction role="start" />
    </causalConnector>
  </connectorBase>
</head>

<body>
  <port id="pImage" component="mImage01"/>

  <media id="mImage01" src="media/IMG001.jpg" type="image/jpeg" descriptor="dImage"/>
  <media id="mImage02" src="media/IMG002.jpg" type="image/jpeg" descriptor="dImage"/>
  <media id="mImage03" src="media/IMG003.jpg" type="image/jpeg" descriptor="dImage"/>

  <link xconnector="onEndStart">
    <bind role="onEnd" component="mImage01"/>
    <bind role="start" component="mImage02"/>
  </link>

  <link xconnector="onEndStart">
    <bind role="onEnd" component="mImage02"/>
    <bind role="start" component="mImage03"/>
  </link>
</body>
</ncl>
```

MEDIA
ASPECTS

PRESENTATION

```
version="1.0" encoding="ISO-8859-1"?>
<id="D002" xmlns="http://www.ncl.org.br/NCL3.0/EDTVProfile">
<head>
  <regionBase>
    <region id="rgImage" top="0%" left="0%" width="100%" height="100%"/>
  </regionBase>

  <descriptorBase>
    <descriptor id="dImage" explicitDur="3s"/>
  </descriptorBase>

  <connectorBase>
    <causalConnector id="onEndStart">
      <simpleCondition role="onEnd" />
      <simpleAction role="start" />
    </causalConnector>
  </connectorBase>
</head>

<body>
  <port id="pImage" component="mImage01"/>

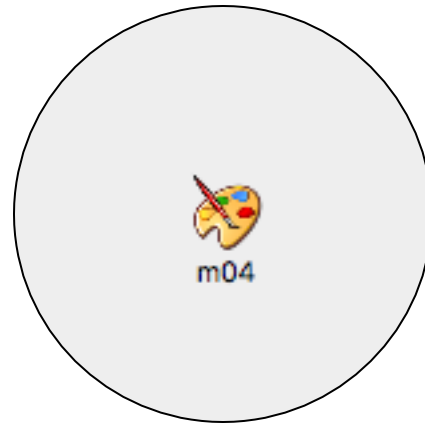
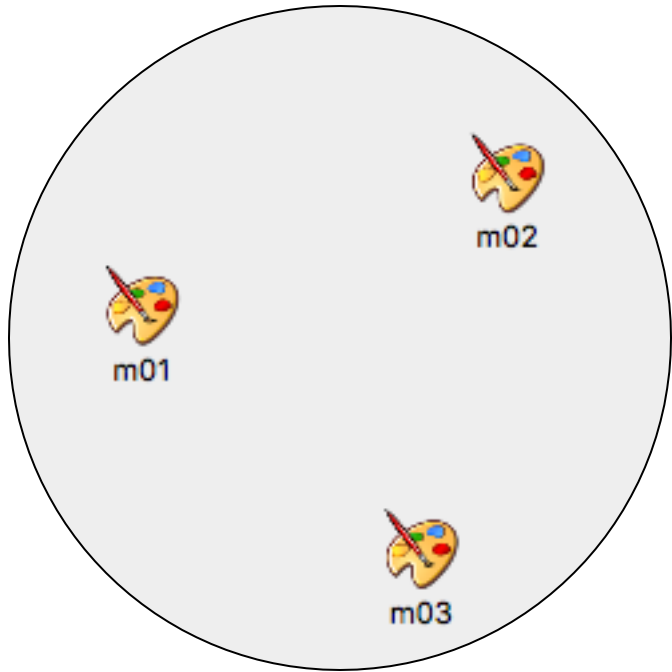
  <media id="mImage01" src="media/IMG001.jpg" type="image/jpeg" descriptor="dImage"/>
  <media id="mImage02" src="media/IMG002.jpg" type="image/jpeg" descriptor="dImage"/>
  <media id="mImage03" src="media/IMG003.jpg" type="image/jpeg" descriptor="dImage"/>

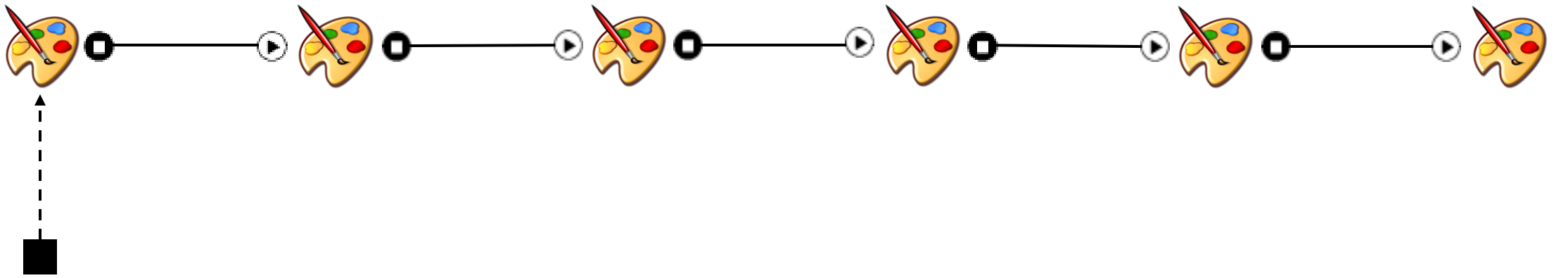
  <link xconnector="onEndStart">
    <bind role="onEnd" component="mImage01"/>
    <bind role="start" component="mImage02"/>
  </link>

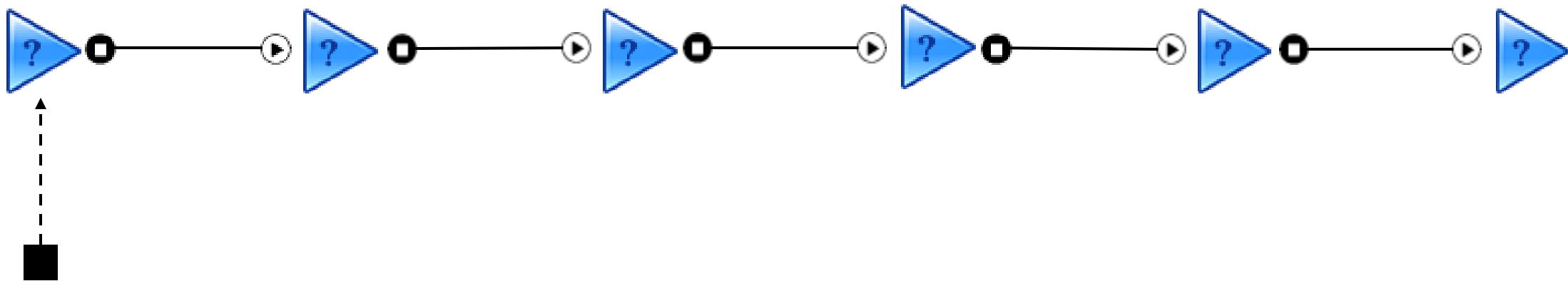
  <link xconnector="onEndStart">
    <bind role="onEnd" component="mImage02"/>
    <bind role="start" component="mImage03"/>
  </link>
</body>
</ncl>
```

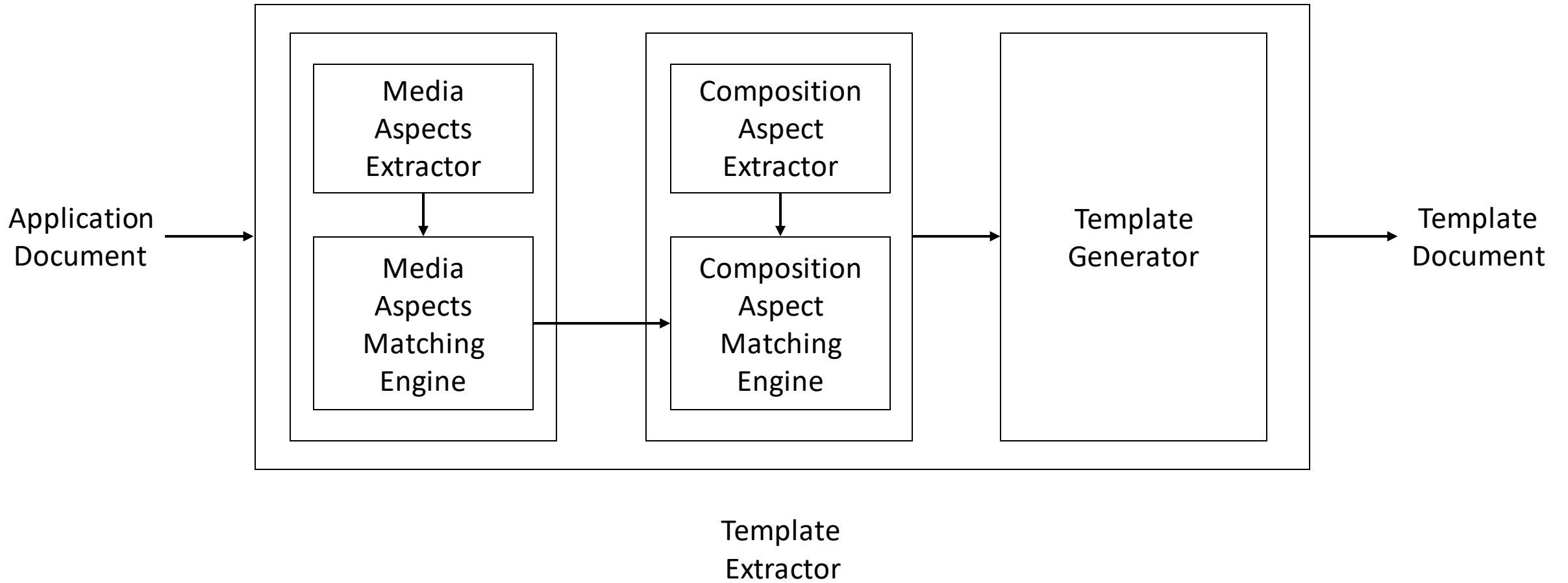
MEDIA
ASPECTS

INTERACTION









```
version="1.0" encoding="ISO-8859-1"?>
<ncl id="D002" xmlns="http://www.ncl.org.br/NCL3.0/EDTVProfile">
  <head>
    <regionBase>
      <region id="rgImage" top="0%" left="0%" width="100%" height="100%"/>
    </regionBase>

    <descriptorBase>
      <descriptor id="dImage" explicitDur="3s"/>
    </descriptorBase>

    <connectorBase>
      <causalConnector id="onEndStart">
        <simpleCondition role="onEnd" />
        <simpleAction role="start" />
      </causalConnector>
    </connectorBase>
  </head>

  <body>
    <port id="pImage" component="mImage01"/>

    <media id="mImage01" src="media/IMG001.jpg" type="image/jpeg" descriptor="dImage"/>
    <media id="mImage02" src="media/IMG002.jpg" type="image/jpeg" descriptor="dImage"/>
    <media id="mImage03" src="media/IMG003.jpg" type="image/jpeg" descriptor="dImage"/>

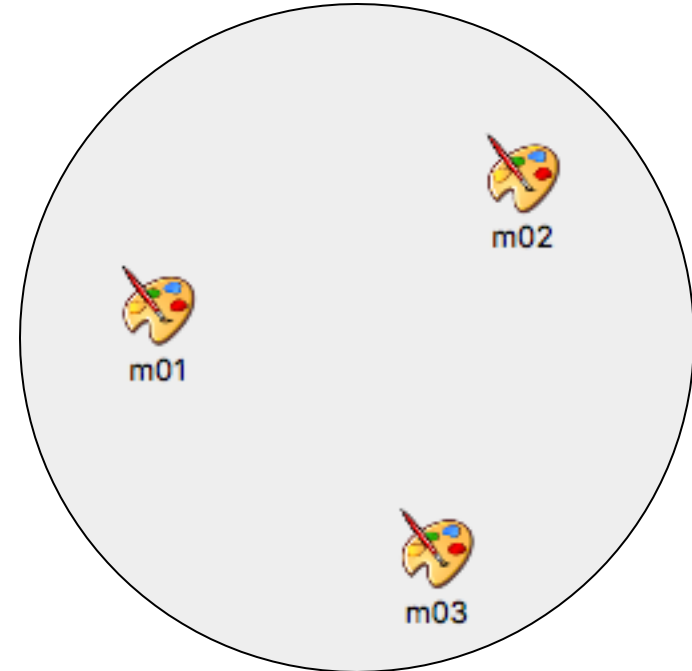
    <link xconnector="onEndStart">
      <bind role="onEnd" component="mImage01"/>
      <bind role="start" component="mImage02"/>
    </link>

    <link xconnector="onEndStart">
      <bind role="onEnd" component="mImage02"/>
      <bind role="start" component="mImage03"/>
    </link>
  </body>
</ncl>
```

COMPOSITION ASPECTS



STRUCTURAL



```
version="1.0" encoding="ISO-8859-1"?>
<ncl id="D002" xmlns="http://www.ncl.org.br/NCL3.0/EDTVProfile">
<head>
  <regionBase>
    <region id="rgImage" top="0%" left="0%" width="100%" height="100%"/>
  </regionBase>

  <descriptorBase>
    <descriptor id="dImage" explicitDur="3s"/>
  </descriptorBase>

  <connectorBase>
    <causalConnector id="onEndStart">
      <simpleCondition role="onEnd" />
      <simpleAction role="start" />
    </causalConnector>
  </connectorBase>
</head>

<body>
  <port id="pImage" component="mImage01"/>

  <media id="mImage01" src="media/IMG001.jpg" type="image/jpeg" descriptor="dImage"/>
  <media id="mImage02" src="media/IMG002.jpg" type="image/jpeg" descriptor="dImage"/>
  <media id="mImage03" src="media/IMG003.jpg" type="image/jpeg" descriptor="dImage"/>

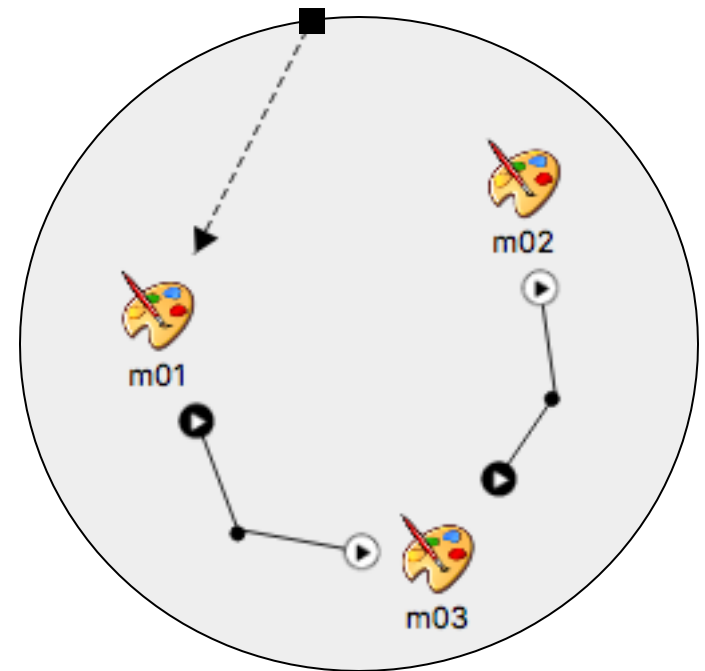
  <link xconnector="onEndStart">
    <bind role="onEnd" component="mImage01"/>
    <bind role="start" component="mImage02"/>
  </link>

  <link xconnector="onEndStart">
    <bind role="onEnd" component="mImage02"/>
    <bind role="start" component="mImage03"/>
  </link>
</body>
</ncl>
```

COMPOSITION ASPECTS



TIMING




```
version="1.0" encoding="ISO-8859-1"?>
<id="D002" xmlns="http://www.ncl.org.br/NCL3.0/EDTVProfile">
<head>
  <regionBase>
    <region id="rgImage" top="0%" left="0%" width="100%" height="100%"/>
  </regionBase>

  <descriptorBase>
    <descriptor id="dImage" explicitDur="3s"/>
  </descriptorBase>

  <connectorBase>
    <causalConnector id="onEndStart">
      <simpleCondition role="onEnd" />
      <simpleAction role="start" />
    </causalConnector>
  </connectorBase>
</head>

<body>
  <port id="pImage" component="mImage01"/>

  <media id="mImage01" src="media/IMG001.jpg" type="image/jpeg" descriptor="dImage"/>
  <media id="mImage02" src="media/IMG002.jpg" type="image/jpeg" descriptor="dImage"/>
  <media id="mImage03" src="media/IMG003.jpg" type="image/jpeg" descriptor="dImage"/>

  <link xconnector="onEndStart">
    <bind role="onEnd" component="mImage01"/>
    <bind role="start" component="mImage02"/>
  </link>

  <link xconnector="onEndStart">
    <bind role="onEnd" component="mImage02"/>
    <bind role="start" component="mImage03"/>
  </link>
</body>
</ncl>
```

COMPOSITION
ASPECTS



PRESENTATION

```
version="1.0" encoding="ISO-8859-1"?>
<ncl id="D002" xmlns="http://www.ncl.org.br/NCL3.0/EDTVProfile">
  <head>
    <regionBase>
      <region id="rgImage" top="0%" left="0%" width="100%" height="100%"/>
    </regionBase>

    <descriptorBase>
      <descriptor id="dImage" explicitDur="3s"/>
    </descriptorBase>

    <connectorBase>
      <causalConnector id="onEndStart">
        <simpleCondition role="onEnd" />
        <simpleAction role="start" />
      </causalConnector>
    </connectorBase>
  </head>

  <body>
    <port id="pImage" component="mImage01"/>

    <media id="mImage01" src="media/IMG001.jpg" type="image/jpeg" descriptor="dImage"/>
    <media id="mImage02" src="media/IMG002.jpg" type="image/jpeg" descriptor="dImage"/>
    <media id="mImage03" src="media/IMG003.jpg" type="image/jpeg" descriptor="dImage"/>

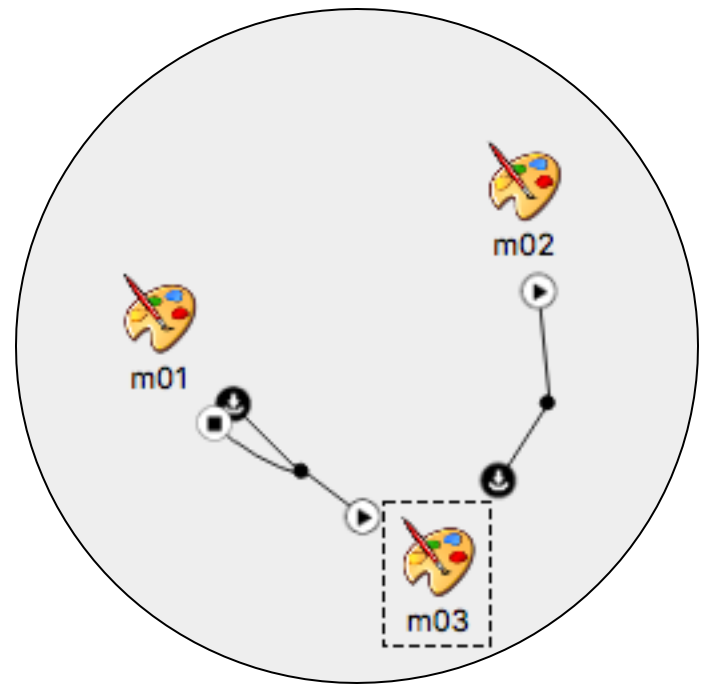
    <link xconnector="onEndStart">
      <bind role="onEnd" component="mImage01"/>
      <bind role="start" component="mImage02"/>
    </link>

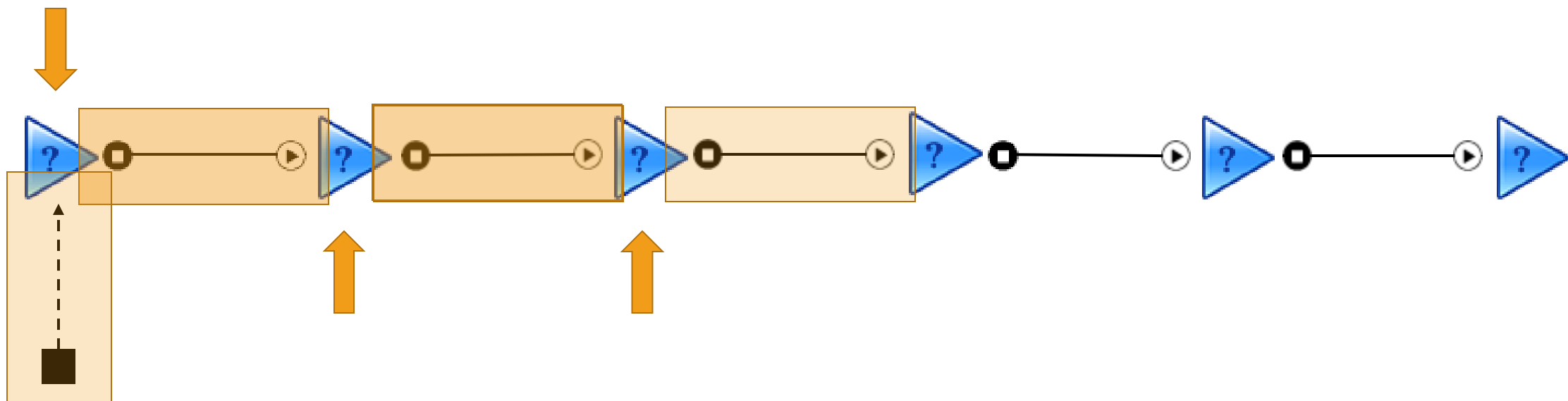
    <link xconnector="onEndStart">
      <bind role="onEnd" component="mImage02"/>
      <bind role="start" component="mImage03"/>
    </link>
  </body>
</ncl>
```

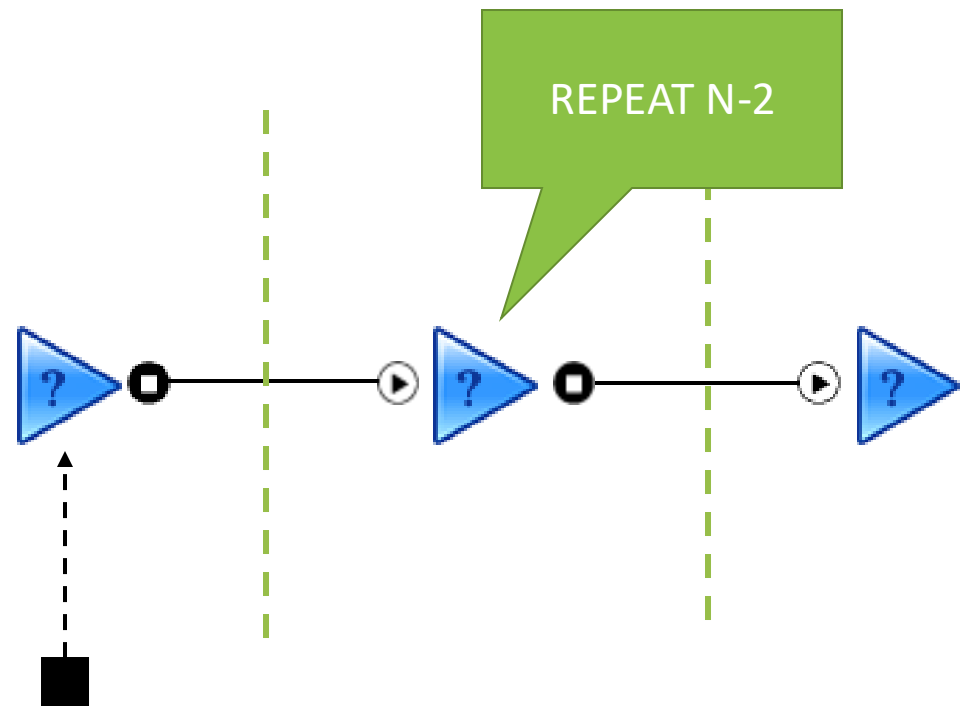
COMPOSITION ASPECTS



INTERACTION



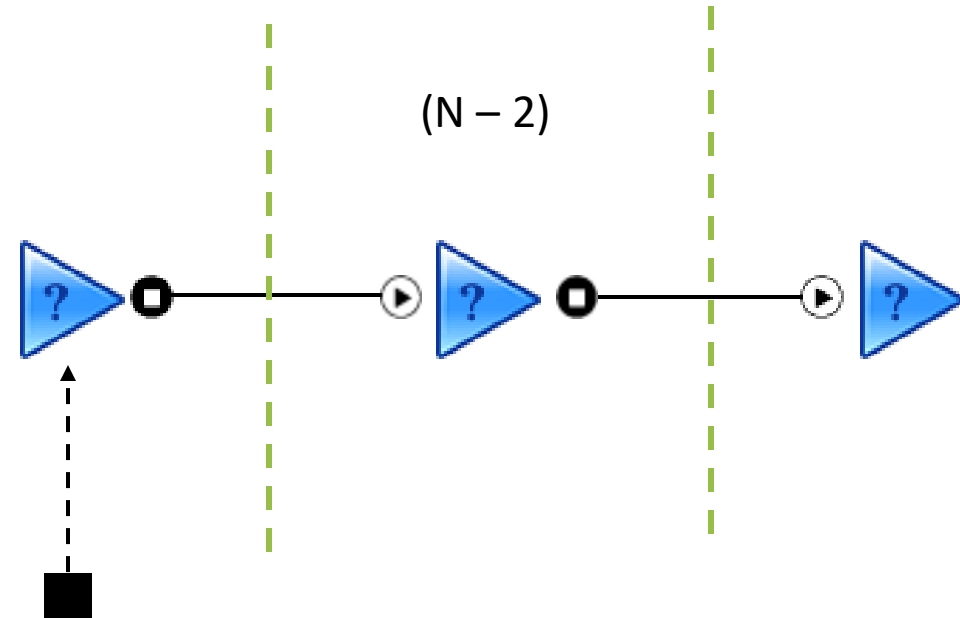




- Qual a quantidade N de

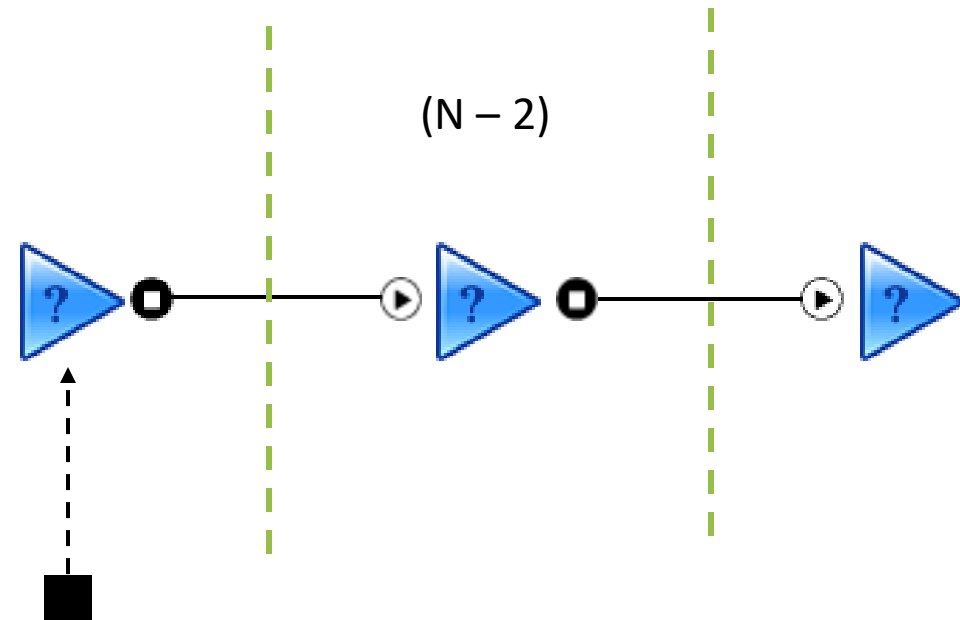
-  ?

- Restrição: $N > 2$

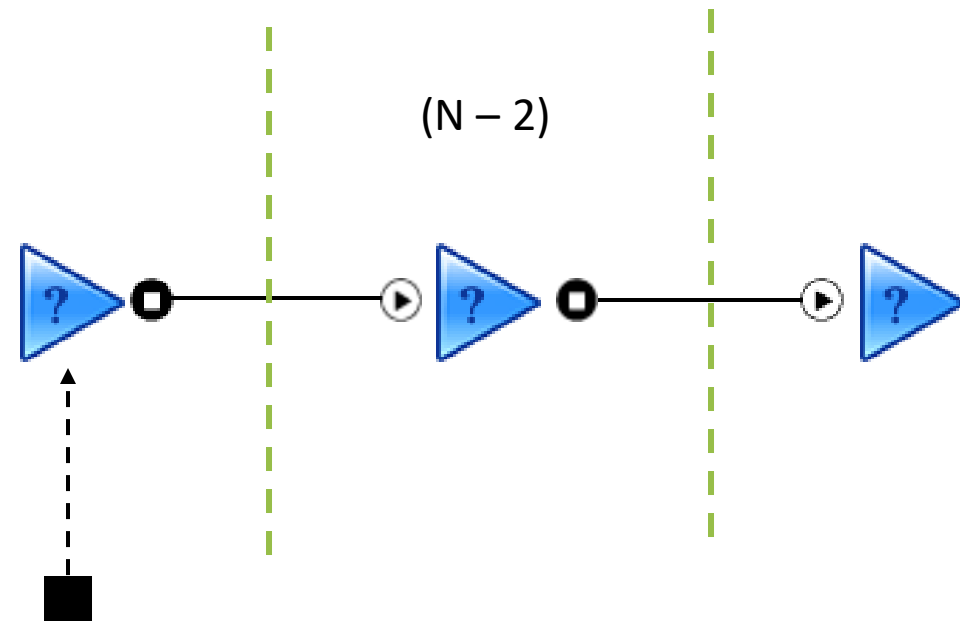
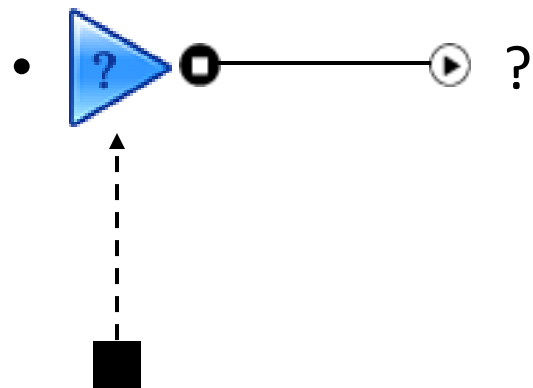


- Quem são os Ns

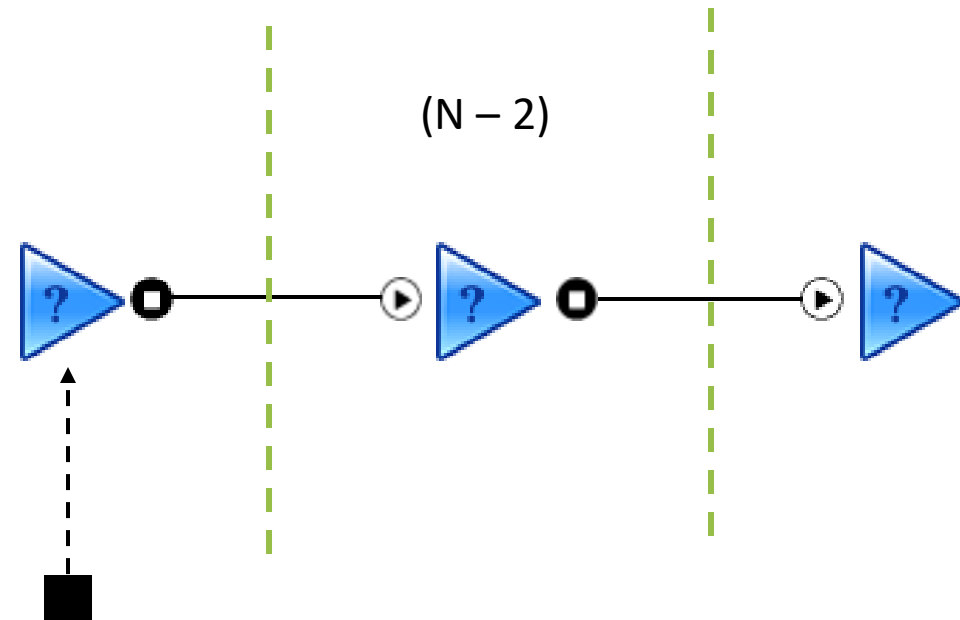
-  ?



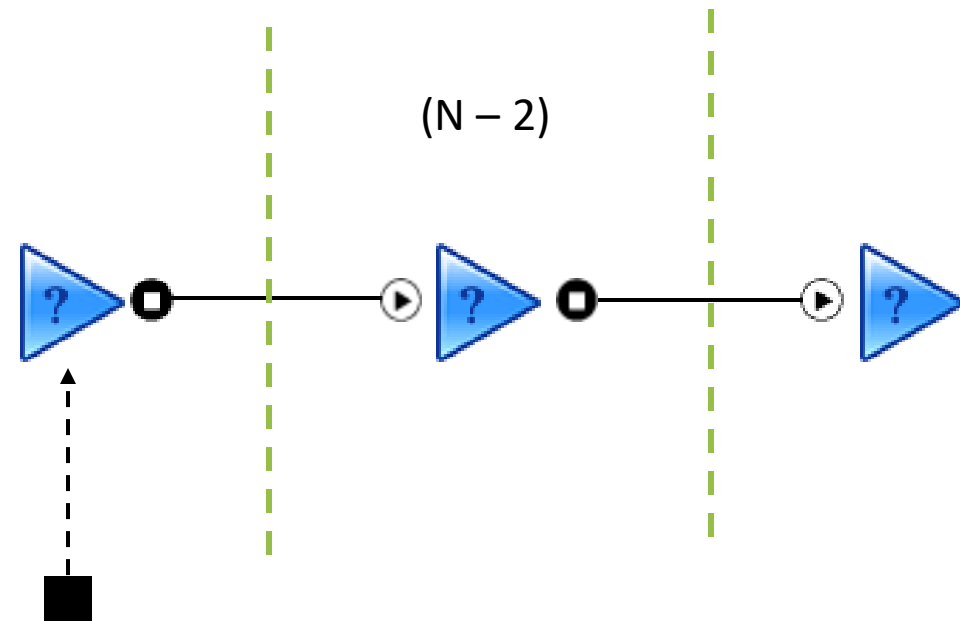
- Quem faz o papel de

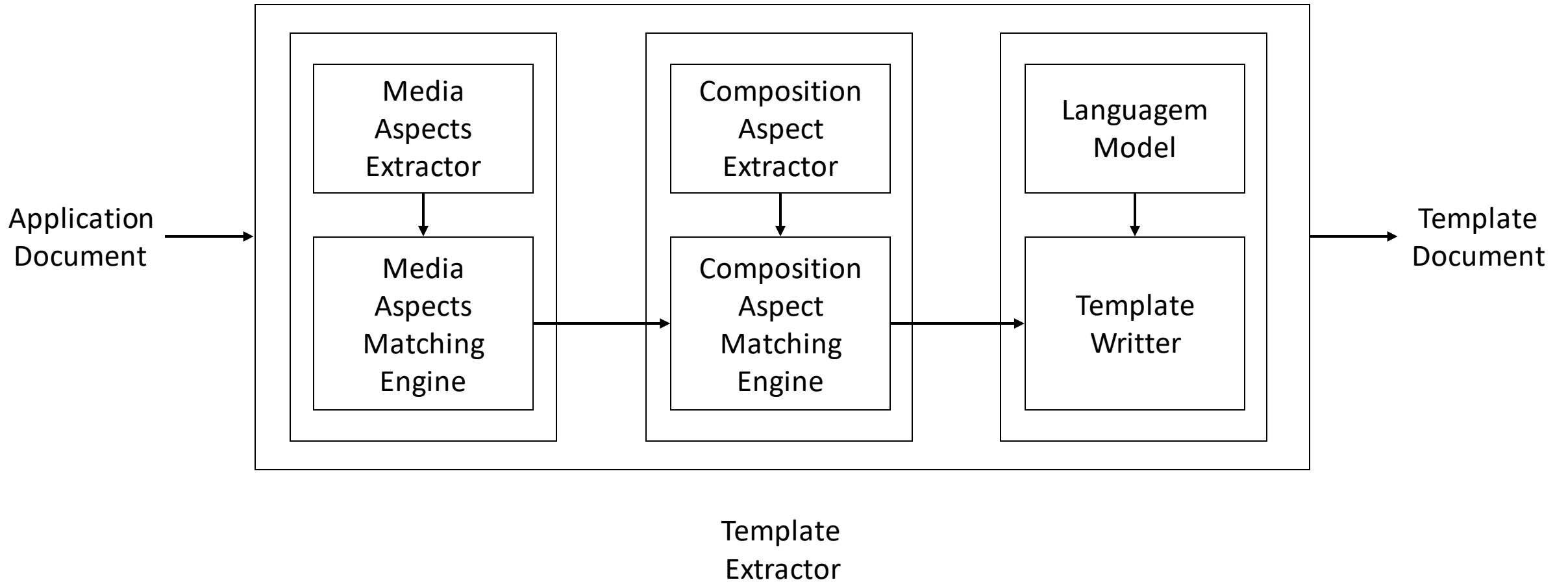


- Quem faz o papel de



- Quem faz o papel de





```

version="1.0" encoding="ISO-8859-1"?>
<ncl id="D002" xmlns="http://www.ncl.org.br/NCL3.0/EDTVProfile">
<head>
  <regionBase>
    <region id="rgImage" top="0%" left="0%" width="100%" height="100%"/>
  </regionBase>

  <descriptorBase>
    <descriptor id="dImage" explicitDur="3s"/>
  </descriptorBase>

  <connectorBase>
    <causalConnector id="onEndStart">
      <simpleCondition role="onEnd" />
      <simpleAction role="start" />
    </causalConnector>
  </connectorBase>
</head>

<body>
</body>
  <port id="pImage" component="![=photos[1].id!]" />

  [!for i=1,#photos do!]
  <media id="![=photos[i].id!]" src="![=photos[i].src!]" type="image/jpeg" descriptor="dImage"/>
  [!end!]

  [!for i=1,#photos-1 do!]
  <link xconnector="onEndStart">
    <bind role="onEnd" component="![=photos[i].id!]" />
    <bind role="start" component="![=photos[i+1].id!]" />
  </link>
  [!end!]
</body>
</ncl>

```

```

photos = {
  { id = "mImage01", src = "media/IMG001.jpg" },
  { id = "mImage02", src = "media/IMG002.jpg" },
  { id = "mImage03", src = "media/IMG003.jpg" },
  { id = "mImage04", src = "media/IMG004.jpg" },
  { id = "mImage05", src = "media/IMG005.jpg" },
  { id = "mImage06", src = "media/IMG006.jpg" }
};

```