

### **Individual BPMN Modelling Exercise**

Below will you find two (2) process descriptions (modelling cases). You have to model the two processes in two separate BPMN models.

#### **Modelling Case 1**

The radiology department at Hospital X serves both clinical departments and the outpatient clinic by providing various radiological procedures, such as X-rays, MRIs, PET scans, and more. Physicians requesting a procedure must complete a digital order form accessible through the hospital's electronic health record (EHR) system, specifying the type of examination and the indication. The indication is a brief summary of the patient's health issue, including symptoms and diagnostic test results (if available). It often also includes a hypothesis about the potential cause of the health problem, such as a bone fracture or a tumor.

Once completed, the form is sent to the radiology department, where a radiologist reviews the indication to prevent unnecessary (often costly and time-consuming) procedures. The request may be accepted or rejected. If accepted, the examination is scheduled, and the date and time are communicated to the requesting physician via the EHR system that sends automated notifications or emails regarding the scheduled date and time of the examination. The physician is then responsible for informing the patient.

If the patient does not arrive within 15 minutes of the scheduled time, the examination is canceled. If the patient arrives, the examination is conducted and documented by storing the images in the Picture Archiving and Communication System (PACS) used by the department. After the examination, the radiologist creates a report, which includes an analysis of the images and a conclusion. This report is dictated using a voice recorder, and a secretary transcribes it. After the radiologist reviews and signs the final text, it is sent to the requesting physician.

## **Modelling Case 2**

The mortgage application process begins when a client submits a mortgage application to a broker or via an online portal. A preliminary eligibility check is contacted either on the portal or by the broker, allowing clients to receive an instant indication of their potential approval based on basic information. In the case that the application is handled by a broker, if the mortgage amount falls within the broker's authority granted by BestLoans (i.e., within the mandate the broker has been given by BestLoans), the broker may handle the application directly. Otherwise, the broker forwards the application to BestLoans. After the processing of the application is completed, an approval or a rejection letter is sent to the client, either by the broker or by the online portal. If the application is approved, then the application details are forwarded to BestLoans, enabling the client to interact directly with BestLoans to proceed with the loan. In this scenario, BestLoans registers the application and sends an acknowledgment to the client.

The broker is limited in the number of clients they can manage at a given time. If the broker cannot respond within one week, the client must contact BestLoans directly. In such cases, a reduction in the interest rate is offered if the application is approved. For clients who complete the entire application process online, a slight reduction in the interest rate is offered.

If BestLoans handles the application directly, its mortgage department checks the client's credit with the Bureau of Credit Registration. Additionally, if the loan amount exceeds 90% of the total cost of the house being purchased, the mortgage department must obtain a mortgage insurance offer from the insurance department. After these steps, BestLoans sends an approval or rejection letter to the broker, who then forwards it to the client, or directly to the client if no broker is involved.

Once the client receives an approval letter, they can accept or reject the offer by notifying the mortgage department directly. If the department receives an acceptance, it drafts a deed and sends it to a partner within a network of notaries (i.e., a centralized notary service) that can handle deed signing electronically or in person. The notary then returns a signed copy of the deed to the mortgage department. Following this, the insurance department initiates an insurance contract for the mortgage. Finally, the mortgage department submits a disbursement request to the financial department, which, once processed, informs the client directly.