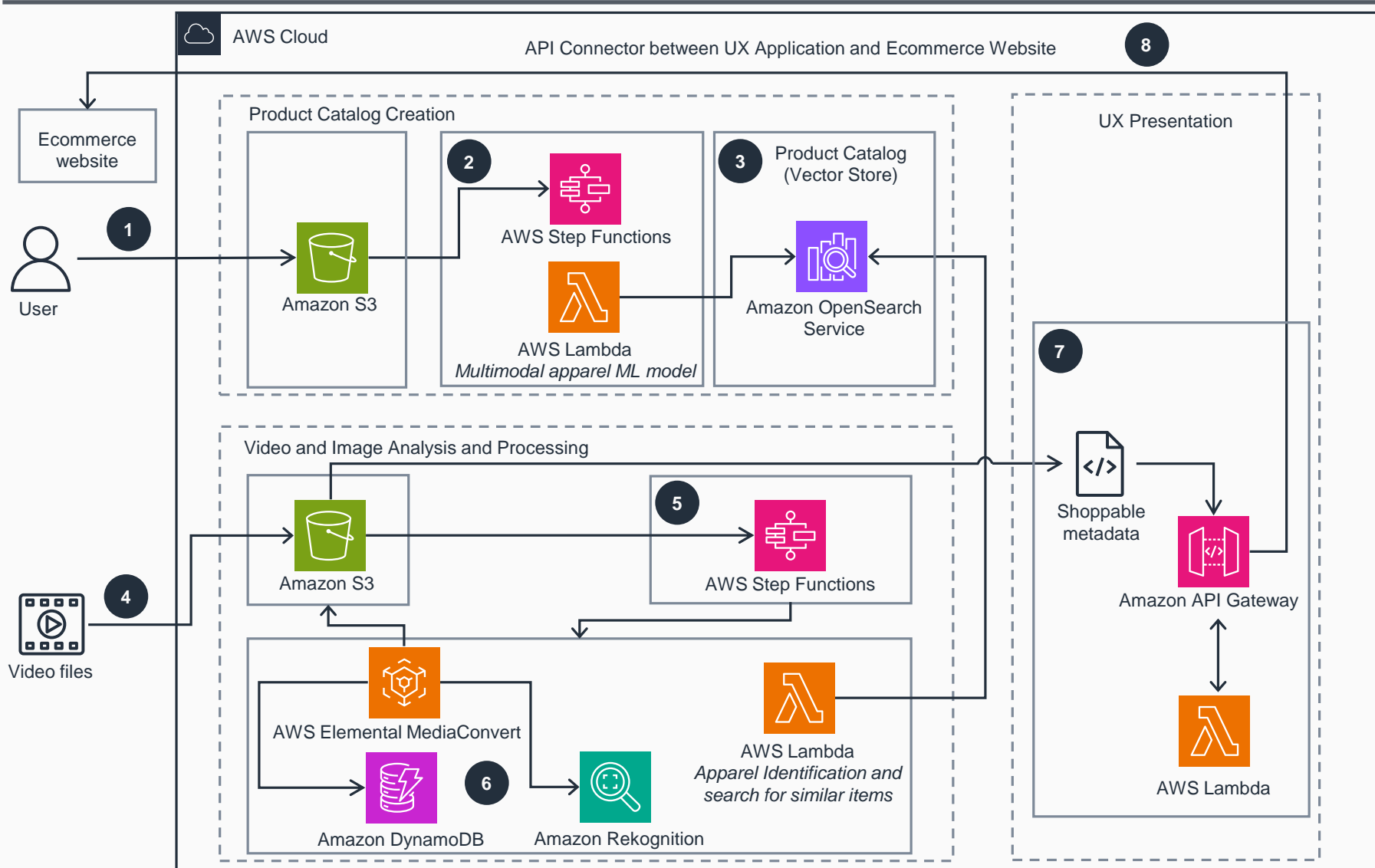


Guidance for Shoppable Video on AWS

This architecture diagram enables content providers and distributors to offer relevant products to their viewers through a shoppable experience, increasing revenue and customer engagement.



1 In the Product Catalog Creation stage, upload product images and product IDs from the ecommerce website to **Amazon Simple Storage Service (Amazon S3)**, invoking the product catalog creation process through **AWS Step Functions**.

2 **Step Functions** orchestrates the product catalog creation process by processing images uploaded in Step 1. **AWS Lambda** runs a multimodal apparel machine learning (ML) model that identifies products with bounding boxes and generates image embeddings.

3 **Amazon OpenSearch Service** cluster with K-nearest neighbors (K-NN) plugins store the product image embeddings with the product identifier and enable the search for similar products.

4 In the Video and Image Analysis and Processing stage, upload video files to an **Amazon Simple Storage Service (Amazon S3)** bucket invoking content processing through **Step Functions**.

5 **Step Functions** orchestrates the processing of the video content, apparel identifications, and search for similar items.

6 **AWS Elemental MediaConvert** processes video and audio files, extracts frame images from the video files, and stores files in **Amazon S3**. **Amazon Rekognition** is used for segment detection in videos. **Lambda** runs object detection and image embedding models that identify product information from the images obtained through **MediaConvert** and searches for similar items in the product catalog using **OpenSearch Service**. The **Amazon DynamoDB** tables are used for indexing artifacts such as video files and images by **MediaConvert**.

7 The output of the Video and Image Analysis and Processing pipeline stage is a shoppable metadata file (stored as JSON), which is used by the user experience (UX) Presentation stage. **Lambda** and **Amazon API Gateway** form the API connector to the ecommerce website.

8 The API connector retrieves detailed information about the products per product ID, such as product images, prices, ratings, and availability, enabling viewers to interact with and shop for desired products.

