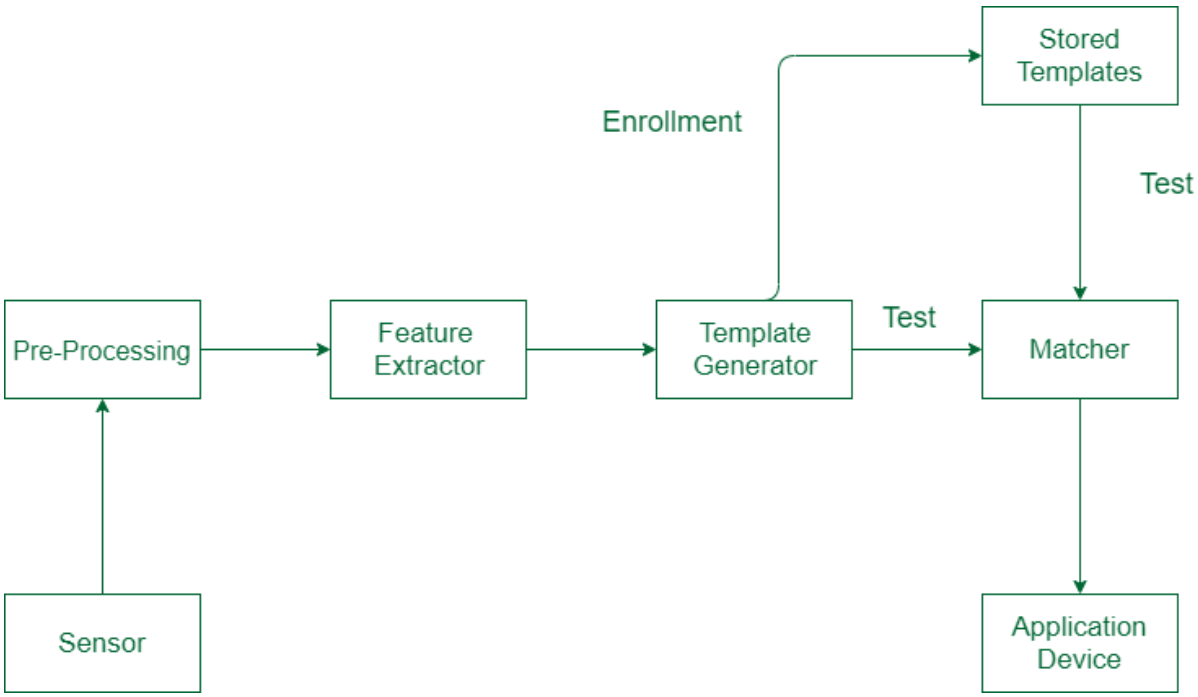
TECHNICAL ARCHITECTURE

DATE	04 NOVEMBER 2023
TEAM ID	NM2023TMIDO2213
PROJECT NAME	BIOMETRIC SECURITY SYSTEM FOR VOTING PLATFORM
MAXIMUM MARK	4 MARKS

Biometric System Technical Architecture:

Biometric system technical architecture has the following main components:



Biometric Technical Architecture

1. Sensor: The sensor is the first block of the biometric system which collects all the important data for biometrics. It is the interface between the system and the real world. Typically, it is an image acquisition system, but it depends on the features or characteristics required that it has to be replaced or not.

2. Pre-processing: It is the second block that executes all the pre-processing. Its function is to enhance the input and to eliminate artifacts

from the sensor, background noise, etc. It performs some kind of normalization.

3. Feature extractor: This is the third and the most important step in the biometric system. Extraction of features is to be done to identify them at a later stage. The goal of a feature extractor is to characterize an object to be recognized by measurements.

4. Template generator: The template generator generates the templates that are used for authentication with the help of the extracted features. A template is a vector of numbers or an image with distinct tracts. Characteristics obtained from the source groups come together to form a template. Templates are being stored in the database for comparison and serve as input for the match.

5. Matcher: The matching phase is performed by the use of a match. In this part, the procured template is given to a matcher that compares it with the stored templates using various algorithms such as Hamming distance, etc. After matching the inputs, the results will be generated.

6. Application device: It is a device that uses the results of a biometric system. The Iris recognition system and facial recognition system are some common examples of application devices.