1. Preprocessing: Preprocess the video frames to make them suitable for input to the CNN. This may include:

* Resizing frames to a consistent size
* Normalizing pixel values
* Augmenting the dataset with rotations, translations, and flips to increase the model's robustness

1. CNN Model: Design a CNN architecture to extract features from the ID card frames. This can include:

* Convolutional layers with appropriate filter sizes, strides, and padding
* Activation functions, such as ReLU

ReLU function increases the complexity of the neural network by introducing non-linearity, which allows the network to learn more complex representations of the data. The ReLU function is defined as f(x) = max(0, x), which sets all negative values to zero. By setting all negative values to zero, the ReLU function creates multiple linear regions in the network, which allows the network to represent more complex functions.

* Pooling layers to reduce spatial dimensions
* Batch normalization to improve model performance and stability
* Dropout to prevent overfitting

The CNN model should be designed to output a feature vector that captures the essential features of the ID card frame, including the strap color.

1. LSTM Model: To analyze the temporal aspect of the strap color in a video stream, use an LSTM model. The LSTM model will process the feature vectors generated by the CNN for each frame in the video stream. This can include:

* An LSTM layer with a suitable number of units
* Dense layers to output the final classification

1. Model Training: Train the CNN and LSTM models together using a suitable loss function, such as categorical cross-entropy for multi-class classification. Use a suitable optimizer, such as Adam, and monitor the model's performance using validation data.
2. Real-time Implementation: To implement the model in real-time, you can use a video capture library, such as OpenCV, to capture video frames. For each frame, preprocess the image, extract features using the CNN, and feed the feature vector into the LSTM model to obtain the final classification.