mPension Manipur

AI assisted liveness verification of pensioners

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NIC MANIPUR STATE CENTRE

Introduction

Every State pensioner drawing service pension from Treasury is required to get their photograph updated every six months either by personal appearance at the treasury office or by home visits of treasury officials to the residence of the pensioner.

In order to ease the burden both on the pensioners and treasury officials, an AI enabled solution called "**mPension Manipur**" has been introduced whereby the pensioners, instead of visiting the treasury offices, can make their periodic photograph updations online through a smartphone or a desktop/laptop.

Objective

With the onset of Covid-19, many pensioners/family pensioners are unable to reach the Treasury in time for updation of photographs. Further, Treasury staff have been facing problems related to home-photography of the pensioners.

In view of the above difficulties, NIC Manipur in collaboration with Finance Department developed a Progressive Web App which provides facilities to the pensioners to take live photographs, send feedbacks and make queries online.

It also notifies pensioners on the status of photographs submitted and the responses of their queries. The App uses Artificial Intelligence techniques to detect liveness of the pensioner being photographed and will allow upload of only photographs taken from living persons.

Platform

1. CentOS 7.9
2. Progressive Web App
3. NodeJS 12
4. VueJS 2.6
5. Face-api.js 0.22
6. Python 3.7
7. OpenCV 3.5
8. PHP 7.4
9. Postgres 12

AI Concept

AI is used to check liveness of the person being photographed to ensure that the photo is taken only from the living persons.

Methodology

After successful login the app detects the face of the pensioner from the video stream. Then a video frame containing a face is captured.

A challenge (like smiling, opening of mouth) is presented to the pensioner to prove liveness. If the system detects positive response, then the video frame is uploaded otherwise the video frame will be rejected.

The uploaded video frame is checked at the server side for print and replay attack.

Team Members

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