Project Proposal			
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학점(설계)/시수	3학점/3시수(이론2/실기1)		
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과제명	가제 : 거북목 경고(Tech Neck Alert)		
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1. Project Overview

- most people who use computers for a long time complain of neck pain.
The reason is that the user's wrong posture while using the computer.
The treatment of tech neck is just the right attitude and stretching.
So, it is important to recognize in order to correct the posture of the turtle neck posture.
When you work in front of a computer for a long time, we will let you know to correct your posture whenever you have a tech neck.

2. Background and Motivations

- When we work on computers for a long time, we bend and strain the upper part of the spine. This happens when we are not aware, so it is not easy to correct our posture on our own. This project came to think of it from the user experience to get help to maintain the right posture even if I use a computer for a long time.

3. Component Technologies

- python : Basic development environment.
- OpenCV : Image processing/image processing.
- Modeling : Google mnist / Teachable machine
- HTML/CC~ Javscript : Web

4. Detailed Design and Implementation

4.1 Requirement Analysis

- 1. The user is asked to allow access to the camera
- 2. The camera record the posture while the user is on the computer.
- 3. It recognizes the user's proper posture and tech neck posture.
- 4. The moment the user changes from the regular posture to the tech neck posture, the count value is raised.
- 5. Whenever the count value rises, a warning window is displayed to inform the user that they has a theck neck.
- (6.) When the count value exceeds 10, a pop-up window is displayed and a tech neck stretching guide video is played.

about count algorithm
previous plan : pose recognition model can distinguish between the right posture and the posture of

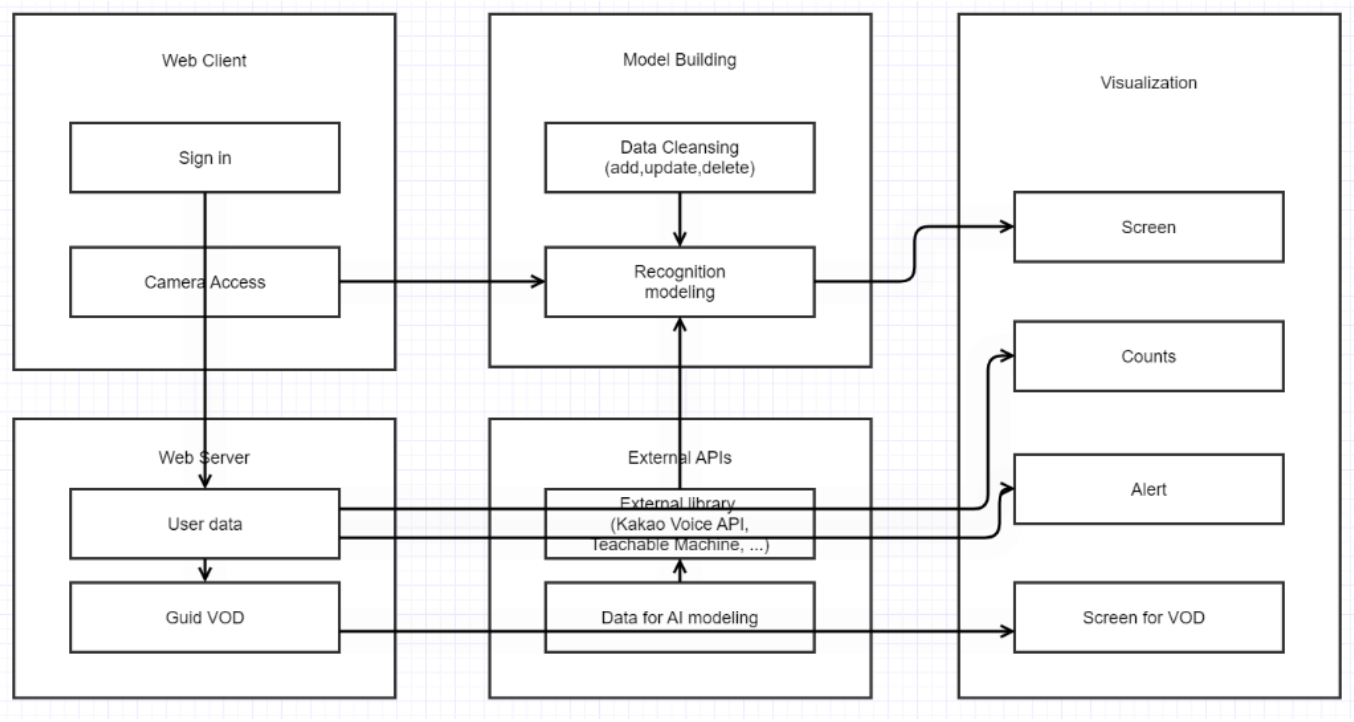
the tech neck.
If the correct posture is deteced from you, a class <right> becomes 1.
But if the tech neck posture is detected, the class <right> becomes 0, and the class <tech neck> value changes to 1.
Through the above value, when converting from a state of 1 to a state of tech value 1, the count value increases.

prblem : If the user is taking an ambiguous posture to judge the tech neck, the count value increases at a high speed.

feedback : suggested making the entire video in order to detect the change from the correct posture to the tech neck posture. not image.
If the user's posture change is similar to a pre-made video, the count value is increased.

alternative : I'm not sure if I can create a model that can detect "changes", not each postures.
I understood that professor gave a question about the case where the user keeps an ambiguous posture.
About that, I will design this again by putting time conditions when the count value is increaesed.

4.2 System Design (Synthesis and Analysis)



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4.3 Development Environment

- MacOS, window both
- IDE : jupyter-notebook(on Mac), pycharm(on Windeow), notepad++(html~css), VSC(Javascript)
- Language : python for Alg, HTML,CSS,Javascript for Web, OpenCV for data processing, Teachable Machine for Modeling

4.4 Test and Demonstration Plan

- github hosting

- test on several different lap-tops situation.

5. Team
   - on my own, git hub commit

6. Weekly Plan (per Team Member)

week / mission	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
img recognition model	√															
posture classification	√															
count function																
log in system																
database for user data																
Alert (sound/ pop up)																
working on web																
test with various users																
(+) streching guide VOD																
(+) game with streching																
-																
-																