YantakhaoRattachanupatham School Trang

AI Trainer Web Application

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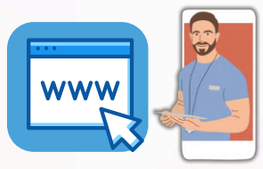
PROBLEM

People who are interested in exercising but do not have knowledge about using exercise machines.

Exercisers have problems using exercise machines.

People don't have money to hiring a personal trainer.

Using artificial intelligence to process images of exercise machines, we want to know what they are.



Artificial intelligence website for analyzing exercise machines

FRAMEWORK

Study and research the content related to program development

Create a picture case for creating a model of program

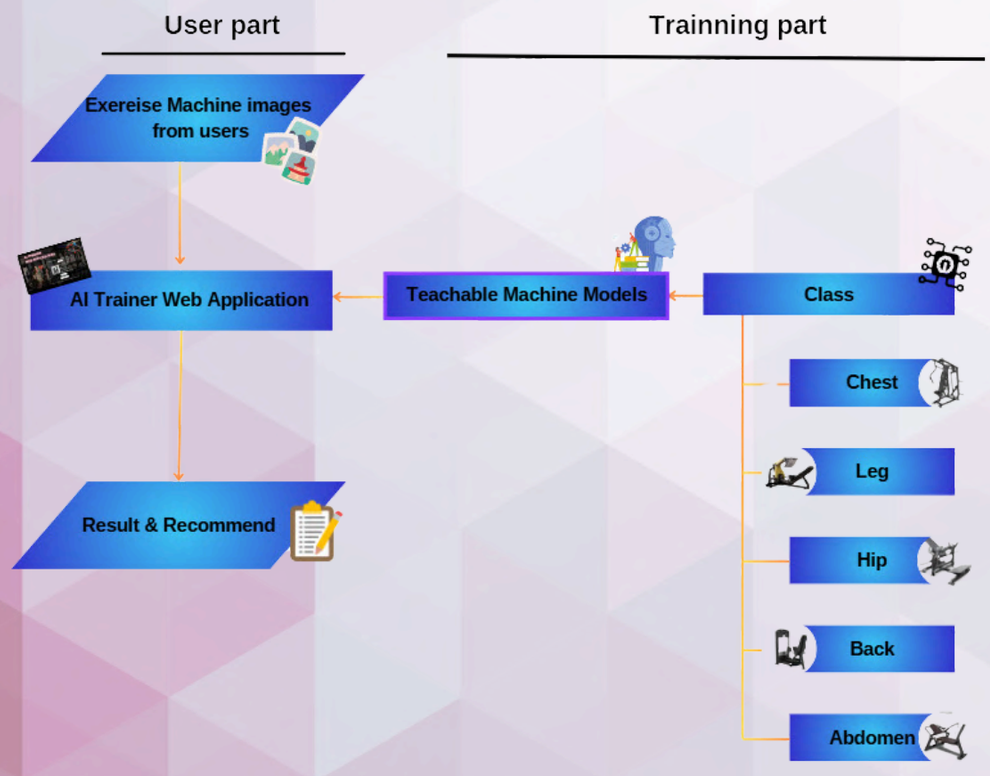
Plan and design program development

Test the performance of the program

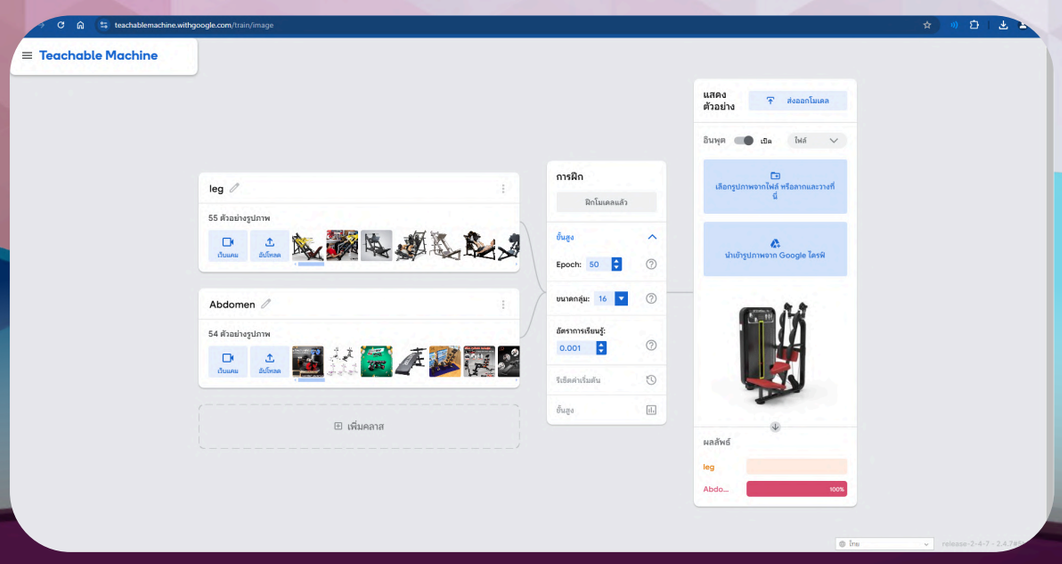
Develop the program according to the plan

Improve and complete the program

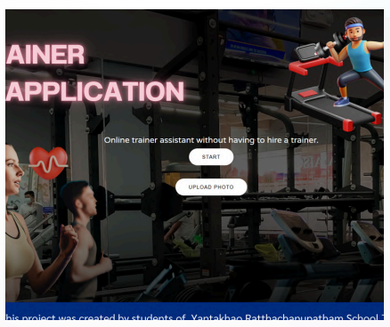
Flowchart

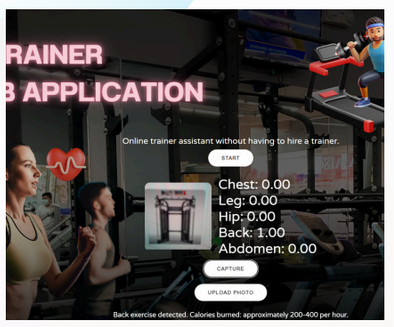


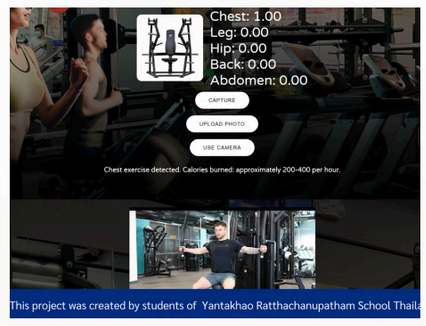
Training Model By Teachable machine



FINDING





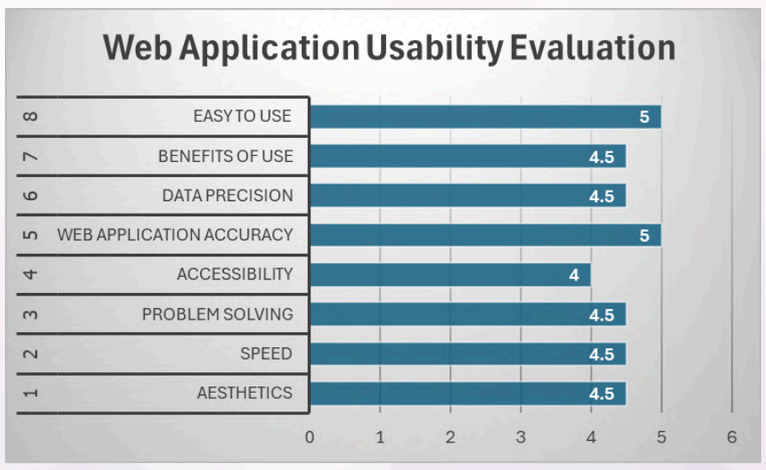


When the program is activated, the user clicks "Start" to use the camera to take a picture of the exercise machine or clicks "Upload" to upload an existing image. Afterward, the system analyzes the image to identify the type of exercise machine, displays a message showing the estimated calorie burn, and shows a sample video demonstrating how to use that exercise machine.

Table 2 Web Application Usability Evaluation by 20 users

Image Classify	Analysis accuracy value (%)	Analysis error value (%)
Leg	88	12
Hip	84	16
Abdomen	84	16
Chest	86	14
Back	88	12
Average	**86**	**14**

Table 2 Web Application Usability Evaluation by 20 users



4.56

CONCLUSION

The program achieved an 86% accuracy in classifying exercise machine types, with an accuracy score of 0.95 and a loss of 0.5 during testing, indicating high efficiency. However, real-world testing yielded slightly lower accuracy, likely due to visual similarities, image angles, lighting, and limited training data. The AI Trainers Web Application successfully analyzes exercise machines suitable for various muscle groups, with potential for future expansion on mobile platforms and additional machine types.

REFERENCE

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