EXPERIMENT PLANNING WORKSHEET

We met

Jenna, a member of the Stanford Taekwondo team, who has a 4th degree black belt and has done Taekwondo casually since she was little but recently started competing in college

We were surprised

to learn that she had zero to little knowledge regarding sports mechanics and how her body works, which led to injuries and physical weaknesses. This caused her to turn to external resources such as a strength training source and personal trainer to help build physical strength for Taekwondo

It would be game-changing if...

information regarding sports mechanics and how bodies work were easily accessible within the Taekwondo training space

information about sports mechanics and how bodies work were taught in Taekwondo lessons

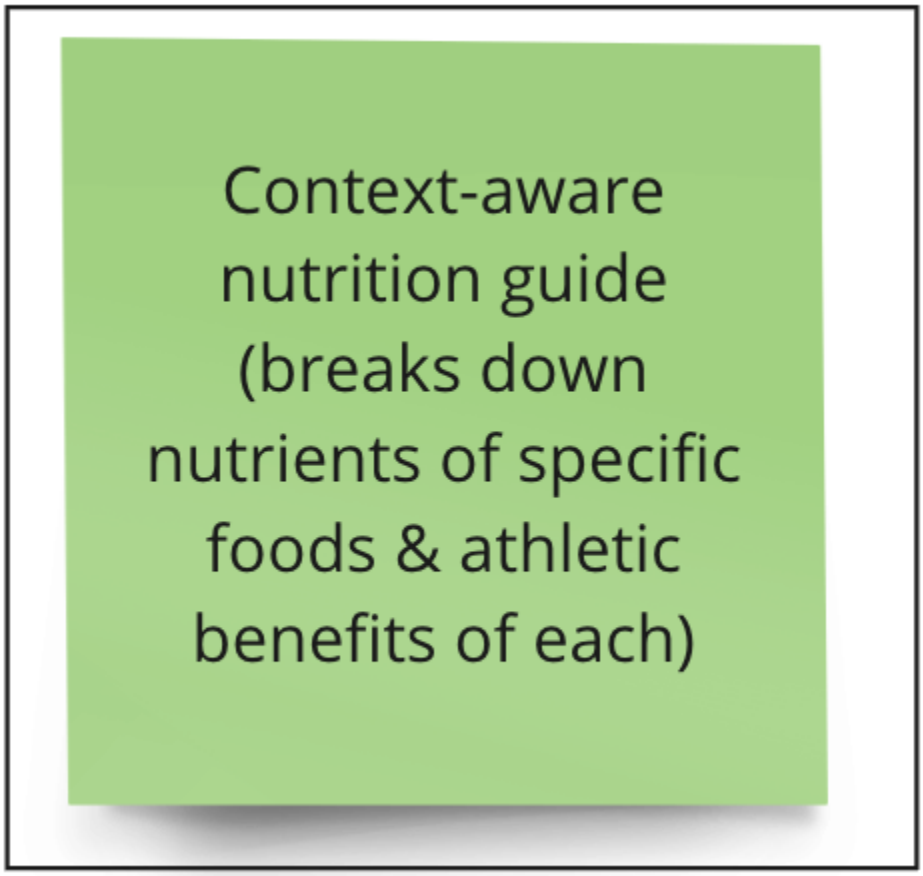
POV + HMW

HMW make nutrition and strength training easily digestible for younger audiences

SOLUTION

Context aware nutrition - A tracker which will both break down the specific nutrition benefits of foods as well as the athletic benefits of each. This tool

will help track nutritions of eaten foods and also recommend foods for consumption both before and after sustained and intense physical activity.



ASSUMPTION TO TEST

The assumption we will test is that people will choose the more beneficial foods when eating with a short-term goal in mind.

EXPERIMENT OVERVIEW

Define different contextual scenarios for an athlete's day - rest vs. training vs. match vs. recovery

DETAILED EXPERIMENT DESIGN

1. Participants (target participants, how many, recruiting strategy, compensation)

1 student athlete, recruited by Alex or Harry

2. Preparing for study & prototype creation (including any required software, supplies, additional people, etc.)

We will present food options. This will likely be presented in a digital form. We will also need to compile nutrition information and relevant competition details for Taekwondo / Rugby athletes.

3. Running study (length, plan for mgmt during study if needed)

~10 minutes.

4. Analysis plan

Our Analysis will look into what foods the student athletes will choose when presented with a short-term goal in the form of an upcoming competition and without a goal (consistent).

Our assumption will be validated if athletes choose the more beneficial food when presented with nutrition facts and athletic value for each food.

OPEN ISSUES

n/a

Personalized Exercise Programmer

EXPERIMENT PLANNING WORKSHEET

POV + HMW

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It would be game-changing if...

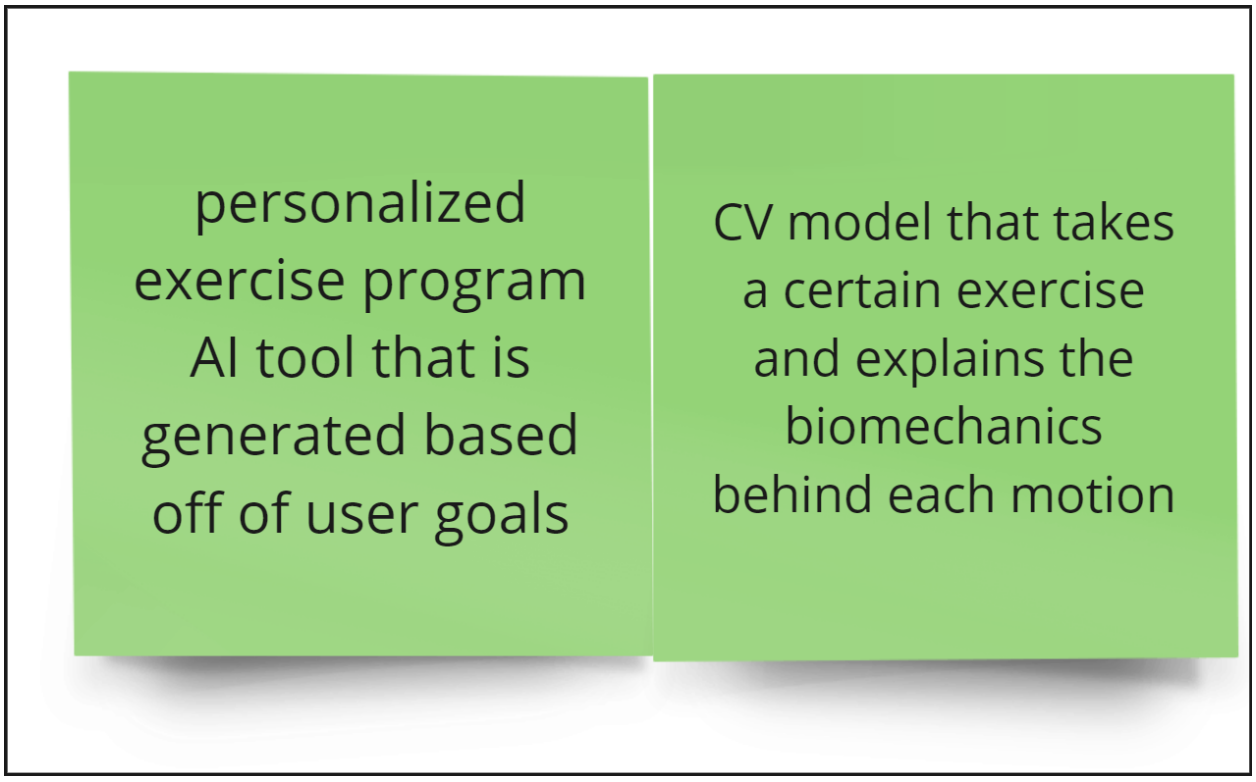
information regarding sports mechanics and how bodies work were easily accessible within the Taekwondo training space

information about sports mechanics and how bodies work were taught in Taekwondo lessons

HMW provide cheap access to strength training plans?

SOLUTION

Personalized Exercise Programmer - The biggest strength of foundation models is to take a wealth of information and provide personalized suggestions based on contextual information. We want to create a two-part solution that utilizes a CV model that is able to break down the biomechanics of any particular exercise and then generate personalized exercise programming that develops the muscles necessary for these motions. The hope is to be able to create custom workout plans for literally any sport, however niche it is.



ASSUMPTION TO TEST

When given this exercise sheet, will people actually do the exercise?

EXPERIMENT OVERVIEW

We will ask athletes to provide a number of exercises that they would like to get better at. Then, using these exercise references, we will generate a program sheet that they can use throughout the week. We want to see if people will actually follow these program sheets.

DETAILED EXPERIMENT DESIGN

1. Participants (target participants, how many, recruiting strategy, compensation)

We plan to test this with 2 Taekwondo athletes who will be recruited through Alex.

2. Preparing for study & prototype creation (including any required software, supplies, additional people, etc.)

We will just need the Taekwondo athletes to provide 2 exercises each that they would like to get better at. We will then need to generate two exercise programs that will be generated through ChatGPT, based on the muscles that Alex will identify as crucial for the motions.

3. Running study (length, plan for mgmt during study if needed)

We plan for the study to take place for ideally 5 days, if not 3 days. We will provide them the exercise sheet and then check back with them at the end of the testing period.

4. Analysis plan

Our analysis will look into how often they did their exercises.

Our assumption will be validated if the athletes completed all of their exercises. Given the short nature of the experiment, we should hope for a 100% completion rate. Anything under that would actually be troubling, given that it's only the first week.

OPEN ISSUES

N/A

Digital Coach Clone Experiment Planning

EXPERIMENT PLANNING WORKSHEET

POV + HMW

We met

Kim, a young hispanic Taekwondo World Champion who own her own Taekwondo dojo. She trains students in an underprivileged area in Texas both in recreational and competitive Taekwondo

We were surprised

learn that despite seeing remote instruction as a good way to grow the competitive team, masters may sometimes forget to give feedback to remote learners when there are in-person learners

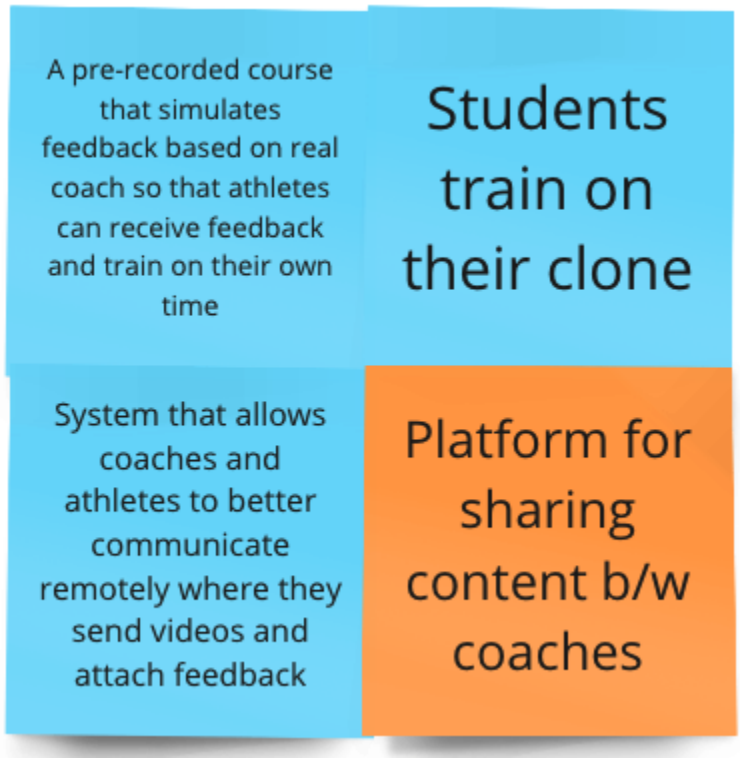
It would be game-changing if...

Remote Taekwondo Learning was just as effective and had just as much feedback as in-person Taekwondo learning

HMW take advantage of the online setting to provide unique benefits for online participants

SOLUTION

Digital Training Clone - Foundation models, in addition to computer vision technologies, will help to create a “digital clone” of coaches that will be able to give feedback to each student athlete individually.



ASSUMPTION TO TEST

People will trust and accept live feedback from an AI source.

EXPERIMENT OVERVIEW

We will have 2 sets of feedback, one which will be presented as AI generated, and the other which will be presented as coach / peer generated. For the AI generated feedback, we will use ChatGPT to reword or remix the coach / peer generated feedback. The main thing to be aware of is that the essence and main points of the feedback is not changed.

We will use 3 rounds of feedback:

1. Peer & AI feedback
2. Only Peer feedback
3. Only AI feedback

DETAILED EXPERIMENT DESIGN

1. Participants (target participants, how many, recruiting strategy, compensation)

We plan to test this with 1 Taekwondo athlete who will be recruited through Alex. If scheduling works out, we'd like to also ask a coach to join us.

2. Preparing for study & prototype creation (including any required software, supplies, additional people, etc.)

As the prototype will test feedback, we will need to prepare tools to help generate feedback at that moment. As well as someone familiar with Taekwondo (perhaps Alex) to provide non-AI feedback.

3. Running study (length, plan for mgmt during study if needed)

We plan for the study to take at most 15 min, perhaps shorter based on the length of feedback

4. Analysis plan

Our analysis will look into what kinds of feedback the student athlete will choose to implement.

Our assumption will be validated if: athletes will equally accept AI generated feedback, despite knowing that the feedback is generated with AI tools, and will not be biased against "AI-generated" feedback

OPEN ISSUES

N/A