AgiTrainer – application for statistical evaluation of dog's progress in agility training

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Abstract

When it comes to an agility training, or physical training in general, people ofren tend to loose their interest if they don't immediately see some results. Therefore, the goal of this project is to design and develop a smartphone app that allows dog owners and trainers to track and analyze agility training of their dogs. The design of the app focuses on providing a user–friendly interface for documenting training sessions, monitoring progress, and offering statistic evaluation. The evaluation's results will demonstrate how beneficial it is in enhancing agility training methods. The app uses the Firebase database to store its data and is being developed using the cross-platform app development framework Flutter.

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1. Introduction

Agility is a canine sport accessible to all dogs and handlers regardless of the breed of dog or the age of the handler [1]. It is a sport discipline, in which the dog, under the guidance of the handler, overcomes obstacles placed on the parkour without a leash or a collar in the order given by the judge. Agility training is an important aspect of dog ownership that not only helps to keep your dog in good physical condition, but also to improve his mental and social skills. For many dog owners and trainers, tracking the progress of agility training can be challenging and tedious, especially when it comes to keeping track of different exercises, drills and obstacles. I personally have been training agility extensively for over 10 years, so I have used my insights into the subject to come up with a solution that provides dog owners and trainers with a convenient tool for recording and evaluating their dog's agility training. Through mobile apps, dog owners and trainers can more easily track their dogs' progress and identify areas for improvement.

The main problem which has been found during many trainings is that people were used to writing the dog's progress on a piece of paper. I found it perfectly ineffective and quite impractical as the paper usually got lost, torn or even soaked during training in rainy weather. Moreover, the 1st ever **workbook** [2] was published, which kept all the information about the trained sequences. This form of keeping statistics is not as popular nowadays as it was when the workbook first came out. Parkour construction has undergone rapid changes, so it is possible that some sequences are no longer sought after by judges and are out of date.

The application's core concept is that dog handlers no longer have to write down training statistics on paper, but always have them at hand (on their phone) and can directly see the long–term progress in the app. Therefore, I focused on making a **handy app** for dog handlers, which they will be happy to use in everyday training. It's a simple, not overcomplicated app, which will help people get feedback about the hard work with their dogs and maybe make them train more often.

My solution offers **fluid design** that would be **user–friendly**, either in terms of aesthetics or user experience. Screens provide wide options for either start the training, see the previous ones or check training statistics in user section. User is able to see progress of the dog/dogs and move forward with trainings effectively.

2. Overview

The poster which you can see is divided into several parts depending on the state of an app, in which an user is currently present. The first thing you'll

come across after installing the app is the **sign in screen**, which you can find at Figure 5 . Creating an account is essential for operating and storing training results for each account. Next I focused on the main purpouse of this project, which is the training itself. Following sections will introduce this part deeper.

3. Create your training

Imagine that you're planning to go for a training with your dog. *What's the 3 things that you're thinking about?* I would guess to take the dog, decide where to go and what you should focus on. That's why the decision making process isn't any different here. On Figure 1 are displayed options, which you as a user will select just before starting a training. Firt one is obviously **the dog**, which is represented by its profile picture. Next one to choose is **the surface**. App offers 4 types of surfaces to choose from and they are: *natural grass*, *artificial grass*, *sand* and *rubber mat*. The last option is the aim of the training – **the obstacle**. Currently you can decide whether to go for a *slalom* training or to train contacts such as *see-saw*, *a-frame* or *dogwalk*.

4. Start the training

After selecting 3 main points, the app wil take you to the **training screen**. You can see options you've just selected before on Figure 2 . At the top of the screen there's a **timer**, which you can easily *start*, *resume* or *stop* according to your preference. In the **main touch area** you can find 2 boxes, which represent either **mistake** or the obstacle **correctly overcome**, with counter buttons. This specific area is just made for user interaction, where he can during the training press the buttons in both sections. When the training is done, user shall press the submit button, which means that the session is finished.

5. Results representation

Training is done and after rebuilt the results will im-midiately appear on user's home screen. All result areas have the same shape as Figure 3 , differing only by training options. User can easily distinguish which dog he trained with, when and how long the training lasted and of course the **statistical evaluation** of that specific training.

6. Dog's progress

When user wants to check how the dog is doing in **overall evaluation**, he should search for Figure 4 in dog's profile. After adding more and more trainings

it's natural for the dog to sometimes perform good, other times worse. That's why this section is also added to the app. It'll be beneficial in the long term to see, if the dog has made any progress, stagnates or is even getting worse.

7. Used technologies

The mobile app mentioned above is a cross-platform solution written in **Flutter** framework, which is created by Google. Flutter uses **Dart** [3], another client-optimized language from Google. Dart is an object-oriented language that can be easily used also with web technologies, because it compiles to JavaScript. For backend I decided to use **Firebase** [4] for its convenient cloud storage and other services.

8. Conclusions

The paper offers a user's point of view, who is going step by step in training process. As far as application development is concerned, the programming is still in the process of debugging and upgrading some features. Testing of the application was present since early stages of development by testing mockups and then small pieces of implementation. In the future I would like to adjust code and use it also for iOS devices. There are also couple features that I can imagine adding, to make it even more efficient. For example connecting an **electronic target** for better training of contact obstacles etc. Overall I as a developer, might say that I'm proud of the work I put in. I am confident that this app will be a great tool for dog owners and trainers in the agility community, providing them with a user–friendly and reliable solution to keep track of their trainings and improvements of their dogs' performances. I hope that this app will contribute to the growth and development of the sport and make it more accessible to a wider audience.

References

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