Ohio University Women's Cross Country Performance Program

The injury rates associated with running are relatively high per hour of participation. Unfortunately, when injury does occur the sports medicine staff must retrospectively attempt to determine the cause of the injury. This is a difficult process as injury can occur because of multiple factors (training loads, biomechanical factors, clinical issues, nutrition, etc.), be very individualized, and more importantly most runners use rudimentary metrics such as mileage to track training loads. I am currently working with an interdisciplinary team consisting of faculty from Physical Therapy, Nutrition, Exercise Physiology, Athletic Training, Athletics, and local physicians to attempt to reduce injury rates in our Women's Cross Country Team. We conduct biomechanical, nutritional, clinical, and physiological testing to help develop a comprehensive look into the quantity and magnitude of training each runner experiences throughout a single run and across a whole season. Each athlete is individually modeled and tracked throughout the season to help us better understand injury when it occurs. We also track metrics like sleep patterns, dietary patterns, objective/subjective sensations of injury on a daily basis. Our overall goal is to individualize care for each athlete, and create more informed decisions for our sports medicine staff to help each runner prevent injury as opposed to coping with it once it occurs.

The portion I need assistance with is creating a user interface that is easier and more intuitive for each athlete to use and record the required information. An I-phone app, or online platform where they can go in and log their daily information and see and learn about their own trends in training. The platform also needs to allow staff to update formulas and data of each athlete that impacts the internal calculations. Currently I have built a model within Microsoft Excel that houses all of the calculations, formulas, and data. The plan is to implement an excel page for each runner this year using a cloud system where they can update items on a daily basis (Microsoft One Note or BOX), but the system does not allow staff to review the daily logs of each runner sufficiently nor does it elegantly output required data in an organized fashion. The ideal platform would export the data from all athletes into a concise excel file or similar format.

I have aspirations of providing this application to any athlete that is tested in the Ohio University Gait Lab, and would hope to expand the availability to rowers and teams sports as well. I have a colleague currently working with several major rowing programs across the US, and he has consistently expressed interest in a model for rowers. I am unfortunately not well versed in this area, and would have interest in your thoughts for any outlet that may help me bring a more functional model to fruition. I have attached two excel files. Both files represent my current design in Microsoft Excel with two months of data (September and October). One file demonstrates all of the information that training staff can view in regards to training loads. The second file only shows what the athlete sees as a daily training log. Hidden pages can be revealed by using the "unhide" feature at the bottom of the page. This will allow access to the formulas and underlying calculations that go into individualizing the program.

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