

# SMU - IS480



## About RunKicker:

At RunKicker, we're creating healthier lives by combining Artificial Intelligence and Behavioural Science to continuously personalise health interventions for each individual.

We're dedicated to preventative healthcare through the use of smart technology and health and behavioural data driven solutions.

Based out of one of the most technologically innovative countries in the world (Singapore), our team comprises of AI, Software, Health & Fitness and Insurance Industry Professionals with a passion for helping people to live healthier, better lives.

And of course, Runkicker will give customers an awesome personal user experience. That experience will come from combining the latest technology and analytics techniques, and it will also come from customers interacting with an awe-inspiring app design.

Runkicker is driving a revolution, not evolution, in the global health and fitness app market. If you're the type of person that likes to re-define boundaries, set new standards for others to follow and to collaborate with global experts to pioneer revolutionary change that will benefit a global health epidemic, then read on.

## **Project Description:** The next generation Health and Fitness Evolution – **Personalised Intervention Engine (P.I.E)**

Though a variety of persuasive health applications have been designed with a preventive standpoint toward health in mind, many have been designed largely for a general audience.

Designers of these technologies would achieve more success if applications consider an individual's personality type. Our goal for this project is to connect and build the relationship between personality and persuasive technologies in the context of health-promoting mobile interventions.

Interventions are defined as those (what we refer to as) 'kickers' that prompt, promote, push the user towards initiating or continuing on the path to achievement of their health goals. As an example, an Analytical Profile would respond better to an assessment of what's needed to complete their goals as opposed to encouragement from a peer or family member.

A Social Profile would in effect respond better to the reverse.

To achieve this we will focus on persuasive mobile technologies that promote physical activity because that is one of the common applications of health and most individuals currently own - a mobile device.

To deliver this goal, you will work with Dr Huey Lee (SMU Psychology) to research, define and create user experience depicting eight different persuasive technology strategies: Authoritative, Non-Authoritative, Extrinsic Motivators, Intrinsic Motivators, Positive Reinforcement, Negative Reinforcement, Cooperative Social Persuasion and Competitive Social Persuasion.

These 'intervention types' will be created within a dynamic content engine that is coupled to the Personality Profiles (defined by Dr lee) to deliver the right intervention to the right connected personality at the right time.

Examples are

### ***(1) Instruction Style***

- **Authoritative:** Uses an authoritative agent, such as a drill sergeant or strict personal trainer, to instruct the user on how to meet their fitness goals.
- **Non-Authoritative:** Uses a neutral agent, such as a friend or peer, to encourage the user to meet their goals.

### ***(2) Social Feedback***

- **Cooperative:** Uses the notion of users cooperating as a team with friends or peers to complete their fitness goals.
- **Competitive:** Uses a strategy of competing against friends or peers to "win" a competition.

### ***(3) Motivation Type***

- **Extrinsic:** Uses external motivators, such as winning trophies, as a reward for conducting healthy behaviors.
- **Intrinsic:** Uses internal motivators, such as feeling good about one's self or feeling healthy, to motivate healthy behaviors.

### ***(4) Reinforcement Type***

- **Negative Reinforcement:** Removes an aversive stimulus (*e.g.*, turns a brown and dying nature scene green and healthy) as the user conducts more healthy behaviors.
- **Positive Reinforcement:** Adds a positive stimulus (*e.g.*, adds flowers, butterflies, and other nice-looking elements to any empty nature scene) as the user conducts more healthy behaviors.

The team will extend on the current SMU IS 480 MVP (Dauntless) to combine functionality.

**Project Requirements:** The team will be required to create a data input framework application with the following core parts:

1. Build an initial data set that contains profiles of customers that match the personality types.
2. Build ‘cold-start’ intervention (as in if you match this profile we will show you ‘X’) based on the research conducted.
3. Then build recommendation engine feedback loop, capture feedback data and retrain the model to improve relevant recommendations.

**Project Deliverables:**

1. A functioning recommendation engine with integrated feedback loop and self-training model.
2. Create data flow from the App to the NOSQL database (feedback loop for the recommendation engine). This could be text, emoji, picture etc. See attached diagram.

**Skill requirements:**

1. Research – Map behavioural profiles/persona’s to intervention types (in conjunction with Dr Lee)
2. Technical – NOSQL, mobile application development (iOS, Android, Cross Development Tools for Mobile applications) languages can include Python, Java.
3. Machine learning recommendation engine algorithms.
4. Familiar with web development technology and frameworks (TensorFlow/Keras)

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