Empirical Modelling and Educational Learning

Abstract

Learning involves understanding information using your own internal references. Empirical modelling provides an approach to aid learning. It looks at building interactive artefacts called construals as a way of helping users to interact with what they are learning and make sense of it. With this in mind, this paper will look at the difference between traditional approach to software development and Empirical Modelling from an educational learning perspective. It will further apply the concepts of Empirical Modelling to building a construal. The main concepts of Empirical modelling; observables, dependency and agency will then be discussed in the paper in relation to the construal. The construal modelled will help the users to see the affects of eating habits on health. Finally, to conclude the paper, any further work will be explained.

Description of modelling study

The modelling study for this coursework will involve creating a construal which will show the impact of increasing or reducing nutrients on the human body. The nutrients are carbohydrates, proteins, fats, minerals, vitamins, fibre and water. Low quantities of these nutrients can cause deficiencies in body which can lead to various problems, such as osteoporosis if calcium levels are low or anaemia if iron levels are low. It is important to make primary/secondary school students more aware of the consequences of not eating a balanced diet at an earlier stage in an interactive way to help them remember this information in the long term.

To aid user's understanding, this construal will show a normal functioning body with options to click on different nutrients. Clicking on each of the nutrients will display another interactive construal where the user can change the level of that nutrient, the age and gender. Changing any of these observables will change other observables helping the user to understand how much of a particular nutrient is suitable for them. For example, high level of fats is not good for the human body as it increases the amount of cholesterol which is linked to heart disease but it is still an important nutrient required to function properly.

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Provisional weighting

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