**UFCFXK-30-3 - Digital Systems Project**

**Formal Project Proposal**

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**Details of Project:**

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| **Project title:** | **Recipe Recommender System** |
| **Brief description of topic:** | While obesity rates are plateauing, or in some cases decreasing across the globe (Wabitsch, 2014) these rates still cost people their lives, and money for the economy (Pitayatienanan, 2014), while this study was performed in Thailand, medical costs for illnesses related to obesity and inactivity are some of the leading killers such as heart disease. While there are steps being taken from a governmental standpoint (Cecchini, 2010) this is still an issue that community contributions can make an impact, especially among younger populations.  Therefore a meal planning app in which the user can input dietary restrictions and have their meal plans generated for them would be of use in lowering barrier to entry (in both education and cost) to a healthy, and balanced diet. Uptake to existing applications is currently positive (Garvin, 2019) and although this study is not peer reviewed, the results are promising albeit with the caveat that individuals that are more engaged will get more out of the application. This is therefore an application with the aim to lower barrier to entry, and not a panacea. |
| **Aims and objectives:** | * To create a system where a user provides requirements for their diet (allergies, required calories etc.) and return an output of a meal plan for a week. * The aim is to make a healthy and balanced diet possible without the use of paid services such as Blue Apron which have cost as a barrier to entry. * For this system to be available on mobile and desktop as a web-based application. * This system will be developed through usage of well documented python frameworks for machine learning, data collection, and database management such as Pandas and Django. * This project will be evaluated through its ease of use, adherence to restrictions, and variations in meal plans provided. |
| **Full details of initial literature sources, in correct UWE Harvard format:** | Cecchini, M., Sassi, F., Lauer, J.A., Lee, Y.Y., Guajardo-Barron, V. and Chisholm, D. (2010) Tackling of unhealthy diets, physical inactivity, and obesity: health effects and cost-effectiveness. *The Lancet (British Edition)*. 376 (9754), pp.1775-1784.  Garvin, T.M., Chiappone, A., Boyd, L., Stern, K., Panichelli, J., Edwards Hall, L.A. and Yaroch, A.L. (2019) Cooking Matters Mobile Application: a meal planning and preparation tool for low-income parents. *Public Health Nutrition*. 22 (12), pp.2220-2227.  Pitayatienanan, P., Butchon, R., Yothasamut, J., Aekplakorn, W., Teerawattananon, Y., Suksomboon, N. and Thavorncharoensap, M. (2014) Economic costs of obesity in Thailand: a retrospective cost-of-illness study. *BMC Health Services Research*. 14 (1), pp.146-146.  Wabitsch, M., Moss, A. and Kromeyer-Hauschild, K. (2014) Unexpected plateauing of childhood obesity rates in developed countries. *BMC Medicine*. 12 (1), pp.17-17. |
| **Signed (student):** |  |
| **Signed (supervisor):** |  |

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