Zingy

Bachelor of Science in Information Technology  
College of Computing Technology

Abstract

outline Individual’s skills, interests, strengths – they Individual can describe how the project brings together many of the modules they’ve listed. the main topic of the thesis

**\*write the abstract after you have finished the thesis\***

First paragraph: state what the thesis is about, give a simple statement of aims and  
methods  
Second paragraph: explain the structure of the thesis and say something about the  
content  
Third paragraph: give a concluding statement, including a short summary of the  
results

Acknowledgements

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**1 INTRODUCTION**

The purpose of our project is to explore which factors influence Irish university students’ eating behaviour and to then develop a tailored application to help better these eating habits. Development of an effective and tailored application aiming to improve a healthier option of eating behaviours in university students is our goal.

**1.1 OVERVIEW OF BACKGROUND**

During the transition from secondary school to university, students need to adapt to a new environment. When students fail to adapt adequately this can have negative consequences. Negative consequences can be short term consequences, as well as long term consequences.

Short term consequences are, but not limited to:

* Poor Brain Function: The human brain relies on glucose to function properly. Glucose is derived from carbohydrates and other nutrients such as healthy fats and antioxidants. According to a study published "The Journal of the Federation of American Societies for Experimental Biology" in Dec. 2009, fatty foods can have an immediate negative impact on the brain’s ability function. This study was conducted on a number of rats. During the study, these rats were fed a high-fat diet and those who were fed a high-fat diet tested significantly lower in cognitive abilities after eating the fatty fare compared to the rats who were fed a lower-fat diet. In correlation to students attending university, eating a restrictive diet or even skipping meals can have similar effects, including poor memory and poor concentration abilities.
* Poor Exercise Capabilities: As students ourselves, we can be guilty of eating too much some days and eating too little other days. As a result of eating too much or too little, this can cause lethargy, fatigue and other effects that hinder physical activity. Reffering to "The Journal of the Federation of American Societies for Experimental Biology" in the previous bullet point, after the rats had eaten high-fat food, the study ran 35-percent less distance than the rats who were fed lower-fat food. According to the National Eating Disorders Association, people who diet often experience poor muscle strength, endurance, oxygen utilization and coordination. Exercise is often incorporated into a university student's life, with the majority of universities having a gym available to students on campus. Exercise plays a large role in society nowadays from the pressure of social media. Exercising and healthy eating habits go hand in hand, but for the general belief of the average student is that exercising and dieting goes hand in hand. Dieting can also cause physical weakness and fainting, particularly if you over-exert yourself through exercise. This is where we see a niche in the market for our application Zingy.
* Poor Sleep: It is a fair observation that students attending university get very little sleep, between studying full time, working part time, all while trying maintain a social life. As students ourselves, there have been many times we each have gone to bed hungry simply for being too tired to cook, while there have also been times where we each have overate. According to MayoClinic.com sleep specialist Dr. Timothy Morgenthaler, going to bed hungry and overeating can detract from one’s sleep. In return, poor sleep can then cause or worsen other short-term effects of an unhealthy diet, such as weight gain and reduced brain and exercise capabilities.
* Mood Instability: Brain chemicals, such as serotonin and dopamine, promote positive moods. These brain chemicals rely on food and nutrients for proper function. The average student is slightly oblivious as to how their diet is affecting them in more ways than one. To keep up with academics, everyday activities, and to maintain grades it is essential for a student’s brain to be properly functioning. Calories and carbohydrates promote serotonin, so therefore skimping on calories or carbohydrates can cause depressive moods.

As students ourselves we are aware of our own diets, and we are also aware of the diet and behaviours of other students surrounding us over the past few years. For example, students having certain ingredients in their fridge but not knowing what recipes to make with these ingredients, so ordering takeaway appears to be the easiest option for them. A corresponding issue is that the student is spending a needless amount money for only one meal, while also proposing a poor and toxic diet for themselves in return.

**1.2 RESEARCH FOCUS**

The aim of our research is to collect ideas and recommendations in order to facilitate the diet of students. This research will be aimed in helping our application develop possible steps that college students can take to cater nutritional values, within preference. Relationships between nutrition and brain function have been the focus of much of our external research.

**1.3 RESEARCH PROBLEM**

There is a possibility that we may encounter certain problems while carrying out our research.

* **Obtaining research:** As a group, we might all have different opinions regarding where we will obtain our research, such as, existing research and statistics or researching students within our own college. We will need to discuss what we each think is the best option suited for our project idea, before we come to an ultimate decision.
* **Carrying out research:** If we decide to use existing research, we will all need to decide upon obtaining research within college students in general or do we stay locally within Ireland. Equally, if we decide to research students within our college, we will all need to decide how we will carry out this research – should we hand out surveys, gather a focus group to discuss more in depth with students, how many students, and so on.
* **Application type:** We have three options for developing this application. Firstly, we have an option of developing a web application. A web application is a client - server software application in which the client (or user) runs in a web browser. Secondly, we have an option of developing a mobile application. A mobile application is an application software designed to run specifically on a mobile device. If we decide to develop a mobile application, we will then need to discuss about developing the application for iPhone users, Android users, or both. Thirdly, our final option is to design and develop both a web application and a mobile application.

**3.2 RESEARCH QUESTION**

At the end of carrying out our research, there are certain topics we need answered before we move forward with the design and development process of our application. We want to know how universities are positively contributing to accommodate the diet of their students. We want a deeper insight into the diets of students. We would also like to find out is there a niche in the market for an application like ours from finding out if students would use this application if made available to them.

**3.3 RESEARCH AIM**

The aim of our research is to make a final decision regarding the uncertainties we have of our application during the design process, and of course before the development process. We aim to collect ideas and recommendations in order to facilitate the diet of students. We want to know how universities are positively contributing to accommodate the diet of their students. We want more of an insight into the diets of students. With our intended research, we will use these results to help our application develop possible steps that college students can take to cater nutritional values, within preference. To best accommodate the diet of students we plan to develop an application with overall efficiency by providing appropriate recipes according to ingredients in the user’s fridge. We plan to have a nutritional notice for students to make themselves aware of what meals contain a higher nutritional value over other meals. A main aim in the design process will be how self-efficient this is for students. Self-efficacy would impact the student’s diet, which in turn would hopefully eat out less, and to also stabilise the student financially. Self-efficacy would play an important role in predicting nutrition behaviour among college students. When we build our app we will test a number of students to research this.

**4. RESEARCH METHODOLOGY**

There are a few methodologies available to us for data collection. In this instance we will probably be combining methodologies.

* **Surveying:** There are different types of surveys. We have the option to choose from a written questionnaire or individual interviews. Written questionnaires contain the risk of leaving some open-ended questions as a result of asking such specific questions. While individual interviews contain the risk of asking broad open-ended questions. If we chose this option, we will need to decide which type of survey would be more suitable for our project.
* **Group discussion:** Seeing as we are college students ourselves, we have the option of gathering a group of other college students for a group discussion. We can speak with them over a period of time to cover a set of topics. A group discussion is much more personal form of research rather than handing out questionnaires. In a group discussion, we as a group can speak directly with college students and also have the opportunity of asking any follow-up questions that may arise. A group discussion can be time consuming, but much more valuable to our project.
* **Statistics:** Research and statistics already exist which cover certain topics of our project. We have an option of gathering and sorting through existing research. If we sourced enough research, provided it is there to begin with, those articles could answer a lot of our unanswered questions. If the quantity and quality of research meeting our criteria exists, there may not be a need to practice another research methodology.

**4.1 DATA COLLECTION**

**Method One – What are available within Irish Universities:**   
We decided to keep our research local to best tailor our application for Irish students. We researched multiple universities around Ireland to see if or how the nutrition of students were being catered for. Below are a list of our findings.

* **Dublin City University:** DCU have a Nutrition Step by Step Guide on nutrition for students, top tips for healthy eating. The guideline also contains a student menu specifically catering for students on a budget, a menu catering for the ‘busy student’, and also nutrition tips catering for students sitting exams. DCU also has a healthcare professional on campus.
* **Trinity College Dublin**: Trinity have nutrition tips for their students, but on a much smaller scale. Simply put their ‘tips’ only display a detailed food pyramid. Trinity believe eating healthily on campus is a combination of knowledge and choice. However, the staff at catering services are well-informed about healthy eating and make every effort to provide healthy choices at all venues and at all times. Under their Mental Health Management on their website, they have a section dedicated to students suffering from eating disorders. ‘Proyouth’ aims to promote healthy eating habits and prevent eating disorders in college students around Ireland – however when I clicked on the link Proyouth is no longer available for students in Ireland.
* **Dublin Institute of Technology:** Nothing.
* **University College Cork:** One page on healthy eating. Suggested a service that brings dinner to the student from Mondays – Thursdays for a set price.
* **University of Limerick:** Have a set meal plan for their students for a fixed price.

**Method Two – Group discussion with Irish students:**   
After researching Irish universities, we then decided to gather a group of students within our own college to discuss …. We spoke with a group of …. for approximately ….

**4.2 DATA ANALYSIS**

Data analysis approach and techniques.

**4.2 SYSTEM ANALYSIS**

Zingy web service, is not as robust web site/application. Zingy is a simple web facility that we provide to the user that wants to find recipes based on the ingredients they already have. Seeing this situation, we as a group, agreed to develop something that could be easier maintenance and that would be easy for the user to use as well. We researched in the developing market all the technologies that could fit this project and we wouldn’t have problems to keep it working in the future. After analysing and considering all the possibilities, we found some technologies that we thought we wouldn’t have problems to use and develop our project with them. We had to consider as well that we wouldn’t have too much time to learn this new tech’s, then we choose the ones that we believe that could help us more than waste our time.  
Database:  
Our project requires just one database, a simple one can be used for this.   
As we were using since the beginning of the curse, we opted to keep using MySQL as database.  
MySQL is a free platform, very simple and is not complicated to be used and maintained. MySQL was created to be an open source and able to compete with huge companies as Oracle and SQL. This platform is easy to use, scalable, fast and it fit for us, because it totally free, as we don’t any expectations to get paid for this now.  
MySQL is one of the most used databases is the world, because it secures all the data stored. It makes the system secure and reliable. MySQL guarantee the restore in case the system fails, using a backup.  
MySQL doesn’t require too much experience with databases and it is simple to learn. With few SQL statements, we can build a good database and interactive. But that doents mean, that our database is not efficient, because it is free or because MySQL is very simple open source database.  
MySQL is scalable, the default size is 4GB, but some fonts say that the maximum size is 8GB.\*  
https://www.novell.com/documentation/nw65/web\_mysql\_nw/data/aj5bj52.html  
MySQL prevent memory leaks, that’s mean that all data is secure in the database. You can access the contents of the database only if you can pass through the authentication.   
MySQL provides SSH and SSL pro make sure that the user can have a safe connection and can access the databases with no risk of been hacked by any strangers.  
All those advantages counted for our decision for use this database.  
  
Developing Languages  
Once we are using MySQL as database, we though that there is no better language than PHP to make the interaction between system and database. PHP is a bit similar with C and C++ then the logic is not so hard to learn what is still unknown.   
The language is very simple and straight-forward, making the system works fast and efficient.   
PHP is just used to do this connection. The group voted and agreed that PHP would be great to do the connection, but the system would be better if developed in another language, JQuery Mobile.  
“jQuery Mobile is a HTML5-based user interface system designed to make responsive web sites and apps that are accessible on all smartphone, tablet and desktop devices.”  
-https://jquerymobile.com/-  
  
JQuery makes the job easier as it gives templates and open sources to developers to create webpages ad apps quickly and efficiently.  
Another advantage is that once that you are developing in JQuery mobile, it makes your application be available for all kind of devices, after configured. You don’t need to make two different application.   
JQuery is free and there are loads of books and tutorials in the web to gives us a hand when necessary. The language facilitate our work without make us lose any quality.

**5. REFERENCES**

* Jan Sheehan. (2015) *Live Strong’s website*. Available at: · <http://www.livestrong.com/article/497063-research-on-healthy-eating-habits-student-learning/> (Accessed: 21 November 2016).
* PMC Public Health (2014) *PMC Public Health’s website*. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3905922/> (Accessed: 21 November 2016).
* Sameer Deshpande , Michael D. Basil & Debra Z. Basil. (2009) *Health Marketing Quarterly’s website*. Available at: <http://www.tandfonline.com/doi/pdf/10.1080/07359680802619834> (Accessed: 29 November 2016).
* August McLaughlin. *SFGate’s website*. Available at: <http://healthyeating.sfgate.com/short-term-effects-bad-eating-habits-2579.html> (Accessed: 5 December 2016).
* <https://www.eukhost.com/blog/webhosting/advantages-of-php-programming/>
* <https://www.eukhost.com/blog/webhosting/advantages-of-php-programming/>
* <http://www.creativebloq.com/jquery/five-reasons-use-jquery-mobile-4135691>