Investigating the Possibility of Improving the Current Educational System in Libya by Introducing an Online Learning Platform

A dissertation submitted in partial fulfilment of the requirements for the degree of Bachelor of Science (Honours) in Software Engineering

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Declaration

I hereby declare that this dissertation entitled *Investigating the Possibility of Implement an Online Learning Platform in Libya* is entirely my own work, and it has never been submitted nor is it currently being submitted for any other degree.

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Date:

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Date:
Abstract:

This research was carried to investigate a solution to the current lack of education in Libya. This can be achieved by researching a possible way of implementing an online learning platform, in this country. This will help in improving the education as well as the individuals’ skills and match them with a higher possibility of finding job opportunities in foreign countries.

This research is following an Interpretive Quantitative approach, which enables the possibility of extracting a general opinion from the Libyan society. Analysing previous literature, allowed for the establishment of a clear survey that serves a purpose and answers specific questions. Valuable data was collected by publishing the questionnaires, which then provided a clear vision on how this platform should be implemented.

117 questionnaires provided a general idea about the validity of implementing online learning and how it can help education in Libya. 85% of the participants are currently studying in Libya and has expressed the lack of education that they are facing. 82% of the participants stated that they are in need to such platform to help them improve their studies and other individual skills. A problem that this project encountered was the internet speed in Libya, however, most participants are utilising internet speeds between 1Mbps and 3Mbps which solves the streaming issues that this platform may encounter in the future. The participants have also expressed their concerns about online payments, where only 61 of the participants has agreed to use online payment as a payment method and the rest preferred pre-paid points.

In summary, this research studied one of the possible solutions to overcome the lack of education in Libya through implementing an online learning platform. The implementation can be accomplished if the above structure was followed but on a significantly higher scale.
Acknowledgements

First, I thank Allah, the almighty, for giving me the strength to carry on this project and for blessing me with many great people who have been my greatest support in both my personal and professional life.

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1 Introduction

1.1 Context

The reliance on physical educational facilities has dwindled in the past few years, learning a new skill and obtaining a certificate in many fields have witnessed great ease through the introduction of what is known as “online learning”. Online learning has paved the path for many first world countries towards facilitated flexible learning, which targets all age groups and individuals of different states, as well as the exploitation of diverse teaching techniques that address different groups of people. Websites such as Lynda.com and udemy.com, have gained rapid liking and acceptance by societies.

1.2 Targeted Users

The effect of these websites seemed to cease in some Third World countries, from which I will be targeting is Libya. The Libyan educational system is one of the strikingly corrupted Third world countries educational systems, due to the imbalanced present day circumstances, it fails to meet the needs and demands of students in means of facilities, educational material and tutors. One major problem worth mentioning is the shortage of educational buildings resulting in unavailability of diverse faculties, which narrows down the students’ options and ambitions. It is a system thriving to flourish and develop by some means.
1.3 Issues in Currently Existing Online Learning Platforms

Through the perceiving of the wide-scale improvements, online learning has contributed to first world countries educational systems. Implementation of online learning platforms will have a great impact and enhancement to the Libyan system. Unfortunately, websites like Lynda.com and others which do not provide but few Arabic translated courses and material are deemed unbeficial in Libya as majority of the population have a limited or no English comprehension capabilities. Thus, the introduction of an online learning website that addresses that group of people will reflect greatly on the overall educational system.

1.4 Possible Solution

The implementation of an online learning platform requires a thorough study of the social, economic, educational and ethical environment. All of which will be obtained through a wide-scale survey targeting individuals of all ages to generate an overall view of the implementation environment. Taken into consideration should be the problems that might be encountered such as insufficient internet services, unavailability of online paying methods and the introduction of a new idea to a country. All the above factors will be subjected to in-depth analysis and problem-solving techniques. Eventually, a clear vision of the implementation technique and future desired results will be presented.
1.5 Research Aims

The overall aim of the project is to investigate, understand and explore the possibility of introducing an online learning platform in Libya. Hence, the data which this research collects will help in developing a demo platform that may contribute in improving education in Libya.

1.6 Objectives

1. To perform background research about the lack of education in Libya and investigate possible techniques and technologies to eliminate this lack.

2. To understand the possible challenges which might occur while introducing the solution.

3. To explore the public’s opinion about the idea an online learning platform.

4. To establish a demo platform which then can be further developed, upgraded and implemented.
Figure 1.1: Depiction of Research Process

Figure 1.1 depicts the outline for the research. The objectives will be met by conducting an initial literature review, which will then provide more information to which paradigm this research should follow. The research will run in two parallel streams, with one analysing the collected data from the survey, and the second establishing the demo platform using the data collected.
2 Literature Review

Education is one of the most important factors that helps in building a civilised country. According to Oxford Dictionary (2016) “Education is the process of receiving or giving systematic instruction, especially at a school or university”. During the ancient Egyptian times, education used to be an important aspect of a child life when they reach the age of 5 years old. They used to practice both training and memory methods to fully teach their children’s (Dawson, 1925). However, in this moment of time and especially for the third world countries, education is lacking behind most foreign countries.

2.1 Lack of Education in the Third World Arab Countries

After looking at a joint article by Unicef and Unesco which was mentioned by Rania Tarek (2015), around 21 million children in the middle east are currently either out of school or at the threat of dropping out. Not to mention that these numbers are rising significantly after the Syrian refugee situation. Whereas, children from poor families in Egypt are most affected, where “poor families are thinking of pulling out their children from school to save on the cost of education” said Abd El Hafeez Tayel.

2.1.1 The Move Against Lack of Education

Unfortunately, most Arab leaders are not taking any action to improve the current situation. Where Tayle also stated, “Arab leaders depend on the notion that ignorant people are much easier to rule than educated ones.”. Another paper published by Unesco (2013) titled “Education in the Arab States” confirms the huge number of children dropping out of school. However, even with the number of children currently studying in school, fewer girls than boys are in school. For example, 31% of girls compared to only 15% of boys had never been to school in the South Iraqi region, reasoning that poor income household cannot afford to educate their children similarly to average income or high-class families. While, in Egypt, teachers are trying to make more money by suppressing some of the curricula materials to force students on taking extra private lessons (Unesco, 2016).
Looking more into the problem and the lack of education, “Muslim girls struggle for education” was another article published by BBC (2003), it states that girls in countries like Sudan, Yemen and Jordan are held back from study because of traditions. For example, in Sudan, a girl must travel to acquire a better education, which either poor families cannot afford or it is not a convent solution to religious parents. Likewise, in Yemen, poor income and mixed sex learning are highly affecting the situation of girl’s education. On the opposite side, while enrolment of girls in Jordan is significant with a percentage of 81%, early marriage is the main reason for dropping out from universities. Whereas, leaving the university and re-enrolling after few years leads to failing. Once the girl fails more than 2 to 3 times, they tend to give up on education.

2.1.2 Lack of Education in Libya

Coming to the main of this research, education in Libya is being affected equivalently to the other Arab countries and especially after the 2011 revolution against the dictator Muammar Gaddafi. According to an article named “Higher Education in Libya, System Under Stress” by Abdalmonem Tamtam, Libya education currently consist of four stages, Pre-school, Basic Education, Secondary Education, University and Higher Vocational Education. Until not long ago, Students were forced to choose their university pathway by studying a specialised secondary education. Only around 25 courses are available to study (Tamtam et al, 2011), in comparison with other universities such as Cardiff Metropolitan University, which has over 50 different courses (Cardiff Metropolitan, 2017). Additionally, the article mentioned that foreign language education ban has been lifted. However, the effect of the ban is still apparent on the older and the younger generation. Furthermore, research in Libya is highly affected by the old regime and current situation, “scientific research and development funding is very scarce standing at less than 0.05% of GDP or $120 million — just $20 spent on scientific research and development per person in Libya according to governmental data.” wrote Mohamed (Eljarh, 2012).
Mohamed also mentioned that the government should show respect and incentive towards the academic staff work and research. There is more to the current problem of education in Libya, for example, IT infrastructure in universities. A small number of Computers if none are available for the public use in universities and schools, not to mention the lack of qualified skilled teachers and IT staff to help with any problems that may occur. Hence, to help improve the current situation in Libya, we need to merge foreign curriculum with the current Libyan curriculum, and help create an E-learning environment for the students. Mohamed finalised his article by stating that students are currently eager to study especially after 2011 revolution, which increased awareness and their aspirations for better opportunities. Unfortunately, all of the above papers did not provide a solution to this lack of education, and most of them agreed that Arab leaders are trying to suppress the education in the Middle East and North Africa. Certainly, the current situation needs improvement, thus researching for a solution is a must. Online learning came across as possible solution. Hence, more research was put into work to ensure that online learning platforms are the right choice to improve the current education problem in Libya.
2.2 Online Learning

Online learning has proven to have immense benefits to workers’ and students careers. The data gathered for those who stated career benefits as their primary improvements after the completion of any online course manifested both tangible -such as starting their own business or finding a job- and intangible benefits -change to a new career and enhance skills within their current jobs. From which one-third of them found a new job. Thus, reflecting an overall impact in enhancing workers and assisting them to get ahead of their other colleagues.

2.2.1 General Look at the Benefits of Online Learning

Members of HRB organisation conducted a survey in (2015) which revealed that the educational sector reaps benefits from online courses. A closer look at the data indicates that the majority of those benefits are helping learner to understand what they want to study-, more importantly, the survey depicted that not only traditional students and people in developed countries reap these benefits, but disadvantaged people, the ones with less socioeconomic statuses and people who want to return to school as well.

This type of research illustrates the possibilities that online learning offer to change the educational landscape. Online courses are currently reaching a large number of audience. However, they are not a cure-all for the myriad problems of global education, but they are a step in the right direction. Providing open access to a learning experience that many find beneficial for furthering their education and careers (J. Emanuel et al., 2015).

According to a paper titled “Advantages and Disadvantages of Online Learning” by Gary James (2002), E-learning has manifested distinct advantages as a learning medium. From which, he found worth mentioning is the capability of these online courses to be reached through different systems such as MAC and Windows, which he refers to as “cross platform”. He also accentuates the fact that online learning provides the ability of undemanding continuous updates, which are not only instantaneously available to the users, but also easily accessed at any time.
According to Kim, Liu, and Bonk (2005) in their research paper titled “Online MBA students’ perceptions of online learning: Benefits, challenges, and suggestions”, every student enrolled to an online course has benefited in a way. Most students who enrolled themselves to the online MBA program mentioned that the flexibility of online learning in their course was a huge plus. For example, students can study, revise or even take a small quiz while on a full-time job break, after attending university or school. Moreover, a considerable amount of student mentioned that it has improved their virtual teaming skills, which has helped them in actual on-site and online team projects in their real life careers. Another paper published by Héctor Álvarez-Trujillo (2008), states that the rewards of online learning are too many to catalogue. He also mentioned that one of these major rewards is the flexibility of this learning platform.

2.2.2 Blackboard and Online Learning

Blackboard Inc. has also confirmed that E-learning is very beneficial through a paper it published, where these benefits were thoroughly discussed. Blackboard did not only look at the advantages student wise but also focused on their impact on both the teachers and the education sector. Firstly, online learning enhances interaction between students and both the faculty and their course mates. The courses provide students with forums where they discuss and share opinions, which highly contributes in aiding these students in understanding different perspectives. Research supports that "as learners become aware of the variations in Interpretation and construction of meaning among a range of people [they] Construct an individual meaning" (Alexander, 2007). Moreover, this gives an equilibrium environment, as all participants are freely able to engage and state their opinions, even those who are anxious or shy find comfort and confidence in posting rather than discussing in a large classroom with many students.

Secondly, E-learning has assisted teachers in the teaching process immensely, each student has a different learning style and online courses enabled student-centred teaching methods that will give a better desired outcome since each student is being taken care of his individual needs. More importantly, it represents an environment for exploration, the teachers are able
to upload extra material that offers the students a better outline of the material’s use in the real world.

2.3 Challenges of Implementing an Online Learning Platform

While it is proven that online learning can help in the lack of education and massively broad the knowledge and resources of individuals, implementing it still comes with challenges.

2.3.1 Diversity of Learners

According to Ahmed Yousef and Ayse Sunar (2015), four challenges rose while they were conducting a study. The diversity of learners was investigated first due to the nature of online learning, it was discovered that learners’ motivation and language vary. Both linear and zigzag approach were most displayed by students. Therefore, introducing a diverse online learning curriculum is very challenging. Moreover, teaching and assisting every student enrolled in the same course will be a very challenging task (Sunar and Mohamed, 2015) whereas some courses might enrol up to a thousand student.

2.3.2 Assessment, Feedback and Data Privacy

Preparing assessments and feedback is one of the important objectives to carry out while implementing the online learning platform. Currently, every online learning platform is restricted to either a multiple choice short quiz or peer assessment at the end of each lesson (Sunar and Mohamed, 2015). However, peer assessments are not as reliable as it seems. To enable peer assessments in online learning platform, all students should receive an answer sheet to the questions, which will basically, in turn, give out the answers to students who are currently marking if they are willing to participate in the same course later (Davis, León-Urrutia and del Mar Sánchez-Vera, 2015). Data privacy was another point discussed by Yousef and Ayse Sunar, since most students are insecure about their performance and learning curve, keeping their data protected and secure is a huge responsibility.
2.3.3 Content Creation and the Reliability of Teaching Materials

Another obstacle mentioned by Yang Quan (2015) while creating an online learning platform for a Chinese traditional class, is the reliability of teaching materials. To be specific, lectures and training videos. Whereas, differently from a university environment where all lecturers are well trained and already obtained or in the process of obtaining their PHD’s, an online teaching website relies fully on either individuals or a party group working co-operatively to create the best learning experience possible, using their own knowledge. Digging further into past research papers by María Sánchez-Vera, et al, Content creation was mentioned again as a challenge. Twenty-five staff members from Southampton University participated in creating only one course, where they assured the completion and perfection of the course before releasing it to the public (Davis, León-Urrutia and del Mar Sánchez-Vera, 2015). This debates the ability of a single individual to deliver a high-quality online course.

2.3.4 Lack of Teaching Staff

Lack of teaching staff for online learning platforms is an even bigger problem which has been pointed out in a research paper by Joyce Chao Chen (2013). Because of the burden that an online instructor handles, it is hard to find a passionate instructor for every course that is planned to be published.

2.3.5 Internet Speed

After further looking at the task of researching the challenges that may occur within the Libyan region, Internet speed came up as a restriction. According to Freedom house organisation (2015), only elite members of the society had access to the internet in the past. However, now most members of the society are able to access it, but this came with a price. Electricity outage, poor internet infrastructure and increased number of users has affected the internet speed (freedomhouse.org, 2015). The fighting that took place during the Libyan revolution has left a severe damage, especially to the signal towers that provides internet connection. Therefore, only 3 to 4 towers are working well in each city, and not long ago
only 1 company provided internet services in Libya, which is the Libyan Telecom and technology (freedomhouse.org, 2015).

2.3.6 Online Payments

In addition to internet speed, Electronic payments weather through PayPal or credit/debit cards will be a problem in case some instructors decided to create paid online courses. According to Abdulghader mouth (2012), lack of trust and confidence in online shopping is pulling Libya E-commerce experience backwards. Moreover, while it is currently improving, getting hold of any online payment methods is not as simple as it seems. While PayPal is currently not supporting Libya as an option (PayPal, 2016) and credit/debit cards are only available to a specific hierarchy of people in the Libyan society, Online payment methods evidently not popular among Libyans.

All the above challenges will be reviewed and studied more, in addition to the possible solutions. Hence, a questionnaire is designed based on the literature review and will be sent out for it to be answered. The group that will be surveyed consists of Libyans from all ages, genders and educational levels. As well as various social status and different hierarchy groups within the society. Thenceforth, data will be collected, reviewed and analysed which will help with designing the Libyan online courses platform and help the current lack of education.
3 Methods

3.1 Understanding and Determining a Research paradigm

Every researcher can argue that every paradigm narrows down and provides the same result. However, deciding on which paradigm is right for which research would rely heavily on the research question. Whereas, one may be more appropriate to answer a specific question than others (Saunders, Lewis and Thornhill, 2016).

3.1.1 Research Philosophy

According to Mark in his book Research Methods for Business Students (2016), with Interpretivist there is no single reality. Which specifically apply to the research I am trying to conduct with the implementation of online learning in Libya, it may succeed or it may fail. Therefore, first as a Libyan citizen myself and secondly as a researcher, I must understand the people needs and demands when it comes to designing and implementing this online platform, while not letting the mindset that I developed while studying abroad affect my decisions.

Approaching this research using a positivist philosophy would be invalid, whereas, past theories or confusing new ones must be in place before starting the research (Saunders, Lewis and Thornhill, 2016), not to mention the positivism approach leans more toward a single reality and filling a knowledge gap, which is opposite to this research, in which the solution may be positive or negative and it leads to different realities. Hence, this research will be driven by an interpretive research philosophy. To further explain the reason behind following an interpretive approach, we must understand that this case study builds itself in a constructionism order or to be more precise “people construct their own understanding and knowledge of the world, through experiencing things and reflecting on those experiences” (Thirteen.org, 2004), which signifies the importance of putting one’s self inside the problem to further understand it and provide a better solution.
“In research should we begin with theory, or should theory itself result from the research?”

(Gray, 2014)
3.1.2 Reasoning

The deductive reasoning or approach explains how can a research be built upon past theories and findings, therefore by using this approach, more theories will be proved and developed through logical reasoning (Bryman and Bell, 2015), or in this research, to prove the theory of online learning improves individuals and help lack of education. For instance, it has been proven by researchers that online learning is very beneficial and it has accomplished its purpose by improving individual’s skills in companies or schools that supported it (refer to literature review section 2.1). Therefore, it can be a possible choice to follow a deductive approach as I am only trying to implement this theory and test if it is a possible solution in our case study. However, if the induction approach was to be analysed more, according to Irving copi (2006) inductive reasoning “is a reasoning in which the premises are viewed as supplying strong evidence for the truth of the conclusion. While the conclusion of a deductive argument is certain, the truth of the conclusion of an inductive argument is probable, based upon the evidence given”. In other words, the results of the research or the case study is not certain. Hence, it applies to this current research.

The solution of online learning to improve individuals might have proved itself to be positive in foreign countries, however, it may fail in Libya due to culture restriction and environmental reasons. According to Mark (2016), a mixed research that uses mixed research approaches is certainly possible as there are no set rules, and some qualitative studies may have a deductive orientation. And this can be seen as it reflects on the data collection method which will be further discussed in this research. The data findings from the questionnaire will be analysed and reviewed to ascertain if they concur with what has already been published in the field of implementing online courses in different countries.
3.1.3 Data Collection Approach

Quantitative and qualitative data collection methods are the two main approaches to follow after choosing a specific philosophy and reasoning. According to Saul McLeod (2008) “Qualitative research is useful for studies at the individual level, and to find out, in depth, the ways in which people think or feel”, and quantitative research “gathers data in numerical form which can be put into categories, or in rank order, or measured in units of measurement.” or in other words, qualitative research is usually used more when trying to scientifically prove a specific theory. Hence, after critically analysing both research methods, logically if the outcome is one and only one and pre-decided, a qualitative data collection approach will be more suitable for this research that is currently being conducted. However, as mentioned before there is no absolute way of doing anything and mixed research methods are illogical but possible. Hence, the decision to follow a quantitative approach was set in place, which certainly contradicts with the interpretative philosophy that I am currently following but for my specific research question, aims and objectives, it is more effective to create a survey and collect information through random participants to gain a general idea about an uncertain conclusion. However, before creating the questionnaire a critical decision was set in place to decide the strategy for the chosen unit of analysis and the nature of sampling. According to Donald cooper (2011) “An important step in designing research is the decision on the unit of analysis.”.

A common unit of analysis are people or individuals, and this is the unit of analysis that this research is targeting. Whereas, the platform is intended to be used mainly by individuals and people who are considered to have a lower social status. Moreover, Libya’s current population is 6.4 Million (BBC News, 2016) and it is certainly impossible for a research of this level to survey the whole population or even a quarter of it. Hence, by following the basic idea of sampling, a rough vision of the overall opinion can be understood, Donald has also explained this by stating “The basic idea of sampling is that by selecting some of the elements in a population, we can draw conclusions about the entire population”.

Therefore, after noting that only quantitative methods may draw a generalised opinion about a population, this research will be conducting a quantitative data collection. Furthermore, the
entire sociologies are associated to one of the two methods - qualitative and quantitative - and to limit the research horizon with either a qualitative interpretive research or quantitative positivist research can highly influence and control research ideas. Hence, having to only focus on scientific research or humanistic research may lead to being biased in favour of researching (Babones, 2016). Moreover, according to Salvatore, the elite grouping within UK academia - Kingdom’s Economic and Social Research Council (ESRC), UK Council of Heads and Professors of Sociology (HaPS) and the British Sociological Association (BSA) - are willing to push the research towards the usage of more quantitative research. While using quantitative method may be against some research methods, we can arguably say it is a common core of social science.
"The Ultimate test of a sample design is how well it represents the characteristics of the population it purports to represent"

(Cooper, 2011)
3.2 Literature Selection (Inclusion and Exclusion Criteria)

This research relies on literature collected and reviewed per to research method standards. Most if not all the resources that this research is using are in common of:

1. Studies should be 5-12 years old.
2. Reliable and up to date with the current Libyan country situation.
3. The paper had to be examining factors specifically related to this project.

3.2.1 Keyword Search

Identifying literature for analysis began with a keyword search using combinations of search terms illustrated in Table 3.1. Searches were repeated in several scientific databases, as illustrated in Table 3.2.

<table>
<thead>
<tr>
<th>Search Terms</th>
<th>MOOC</th>
<th>Platform</th>
<th>Online Learning</th>
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<tr>
<td>workplace; organisation; organization; organisational; organizational; employees; school; university</td>
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<td></td>
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<tr>
<td>Students</td>
<td>Males</td>
<td></td>
<td>Females</td>
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<tr>
<td>Lack</td>
<td>Education</td>
<td>Arab countries</td>
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<td>Challenges</td>
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</table>

Databases Searched

Google Scholar

Jstor

SCOPUS

Cardiff Met University Library
3.3 The Survey

Creating a questionnaire is a crucial step towards the success of this research. A questionnaire should collect data in the most accurate way to help the researcher reach his aims and objectives (Brace, 2013). Poorly designed questionnaires usually provide unrelated data or data that is invalid which may lead to a false research (Brace, 2013). While designing the questionnaire, considering both the research and the participants is a must, whereas a questionnaire question should be valid and provide information that is relevant to the research, while still apparent to the participant. Furthermore, the researcher should aim to design a questionnaire with straightforward questions that can be answered without much effort and questions that are easy to analyse after and with no complicated data entry. Therefore, the planning and the structure of a questionnaire is very important to keep everything in a logical order and apparent to the participant (Brace, 2013). After applying all these strategies into this research questionnaire, translating it to Libya’s native language - Arabic language- was a must, hence, this eliminates any barriers that may face the participants, whether it is a language barrier or terminologies barrier.

3.3.1 Subjects (Inclusion and Exclusion Criteria)

The ability to collect primary data was majorly dependent on targeting random groups that vary in age and knowledge, whether they could browse the internet or not. The level to which this source is appropriate relies on the research question, related objectives and research designs (Saunders, Lewis and Thornhill, 2016).

Thus, the research mainly targeted audience who are:

1. The participants are of Libyan citizen’s only and currently studying or have studied in any of the Libyan Universities or schools.
2. From diverse ethnic, racial and social backgrounds.
3. Different levels of education and knowledge of the internet.
3.3.2 Understanding the Steps to Creating a Proper Survey

Choosing a proper communication method or a tool to collect data is another crucial step to be considerably taken. A variety of communication methods are available, for example, personal interviews, telephone interviews, self-administrated surveys and finally web-based surveys (Schindler, Cooper and Blumberg, 2011). Judging by the nature of this research question and the targeted audience, following a web-based survey will be highly beneficial for both this research and the participants.

Before discussing web-surveys in depth, below are the general requirement for a successful data collection that are set in place by Donald cooper:

1. The Participant must possess the information being targeted by investigative questions.
2. The participant must understand his or her role in the interview as the provider of accurate information.
3. The participant must receive educate motivation to cooperate.

The 3 factors mentioned above are the key elements for a successful data collection. The researcher can achieve the first two elements by establishing a good relationship with the participant. this can be accomplished for example by conveying the confidentiality of the survey.

Establishing and explaining the procedures in advanced will help achieving this trust when it comes to Long-distance surveys -This research is conducting a long distant survey which will be explained in the next paragraph- (Schindler, Cooper and Blumberg, 2011). Moreover, every researcher should consider dealing with non-response error and be able to arrange call-backs or substitutions procedures. However, when conducting a web-based survey it is unlikely to be able to arrange a call-back.
3.3.3 Survey Design and Publishing Tools

As mentioned above, this research is using a web-based survey, specifically using Google forms. Thus, every method has its own advantages and disadvantages, interestingly overcoming the disadvantages of the web-based survey method has also contributed in the participant motivation process. Some of the disadvantages to a web-based survey are no interviewer intervention for explanations, cannot be long or complex, computer security and low response rate (Schindler, Cooper and Blumberg, 2011). As mentioned above, and after following specific strategies, I was able to eliminate the length, complexity and the low response rate. Moreover, overcoming the computer security problem was straight forward by using Google forms - which is a well-known platform to create the web-survey. Hence, it has significantly helped building a sense of security for the participant.

Surprisingly, the lack of extra explanation did not affect this research survey. Whereas, the survey was published through Youtube, -a video streaming platform- hence, being able to upload a video explaining how to take the survey while still following an unbiased opinion, was an effective solution for any lack of understanding. After, overcoming all the disadvantages, and monitoring the situation from a participant perspective, the survey is short, simple, confidential, secure and apparent. Hence, it all leads to motivate the participant to be confident and eliminate the low response rate.

After publishing the survey, 119 responses were collected. Nonetheless, some weak points became apparent during the data collection period. As mentioned above this research is targeting a sample of the entire population, for example, people who can/cannot afford Internet connectivity, or individuals who lack the knowledge of using a personal computer. It was a tough task to accomplish, where it is difficult to target people who cannot use a personal computer unless a relative who is familiar with using a computer assured that they complete the survey. A simple solution to overcome this is by noting it in the video that accompanied the survey.
3.3.4 Survey Testing

Before the survey was sent out, a testing phase was conducted with five respondents who were not included in the actual survey response. Respondents were asked to give feedback on pre-questionnaire information, clarity/ambiguity of question-wording, the order of questions, and any general comments. The testing survey was also used to gauge the time taken to complete the survey. The average time reported by participants was 7:50, and therefore met the objective of being between 8-10 minutes or less.

Following feedback from the pilot survey, amendments were made to the wording of some questions. All respondents reported experiencing no technical issues and perceived the survey as not taking much time to complete.
4 Results and Discussion

There was no limit to the number of questionnaires which were initially put out to the participants to fill using Google forms. The data collection did not target a specific gender, age, race or religion. In return, and after releasing the questionnaires, the response was very positive and successfully collected the general opinion of 117 Participants. 2 additional questionnaires were scrapped, which were not considered useable. The unusable questionnaires were either only partially complete with major portions of the survey blank, or in one case not confirming their willingness to participate. With 117 returned and usable questionnaires out of 119, the response rate was 98.31%.

4.1 Age and Gender

The ages of the participants in the sample were right across the age range from 11 - 24 age range to 25 - 30 age range with one participant with the age of 30+. Looking at the pie chart below, (82 or 70.1%) were in the 18 - 24 age range. 26 (or 22.2%) of the sample were in the age range 11-17, which shows the audience who are interested in this platform. Out of all participants, 24 (or 20.5%) were females and the rest (93 or 79.5%) were males. The difference in this can probably be explained by the difference in cultural approach.

![Figure 4.1: Variety of Age](image1)

![Figure 4.2: Male to Female](image2)
4.2 Understanding the Current State of Education in Libya

70 participants are currently living in Libya, which is a positive point. Their response is considered the most valuable to this research, whereas, they are merged with the current system and experiencing the struggle to get their hand on extra educational resources. In contrast, 47 participants are either studying or working abroad, which is certainly a way for them to escape the current education fall in Libya.

Another valuable data to this research was the current education status, to further explain, 86.3% of the participants are currently studying in Libya and experiencing the lack of education. To be precise, 81 participants (or 69.2%) are undertaking a course in Libya’s Universities. While the rest, 36 (or 30.8%) are still in school. However, the participants did not specify their education level, hence, the numbers above are a mix of students who are undertaking a postgraduate or an undergraduate degree and are of different school levels.
Most of the participants agreed that the current education system is lacking the variety of choices when it comes to choosing a course to study. 65.81% of the participants chose “No” for the question “Is there a variety of courses available to study in your university/school?”, which then followed by a “Yes” to if they were limited when they chose their current course. To an extent, this confirms the absence of the variation element. In contrast, some participants expressed a different opinion and were perfectly happy with their current University system, which somewhat creates a conflict. As an argument, those pleased participants might have had the opportunity to experience the privilege of English online learning or private schooling. Perhaps, this can be due to them not being aware of the resources that are available online or could be shared using online learning platforms.

![Figure 4.5: Variety of Courses in Libya](image)

Expectedly, a mixed opinion has been given towards the quality of education centres in Libya. Average and good were the highest answers. It could be in favour of specific Universities/Schools or in favour of a specific course for example engineering or medicine courses. This research is trying to gather general information about the education quality in Libya and not the quality of a specific school or a University. Hence, the general idea and perspective that was understood from this data is enough in this situation.
4.3 The Demand of an Online Learning Platform

The survey also approached the participants to ask them if they require more assistance in their studies internally from their tutors. According to the previous data and as expected, 96 (or 82.1%) participants have chosen “Yes” to that question. In addition, 106 participants said that they try to acquire more assistant and find more study materials online (Outsourcing). 86.3% of the participant are regularly using online search engines such as Google in addition to video platforms such as Youtube which was chosen by 75.2% of the participants. This is an important point to this research. Whereas, currently there are students who try to find a solution to the lack of education in their universities. Moreover, I am assured that creating this platform online is not an issue, whereas, 115 participants are experienced or at a level where they can browse the internet without facing any obstacles. Also, internet usage is a daily habit to 95.7% of the participants who participated in this survey. This is somewhat reassuring considering 89 (or 76.1%) of the participants are highly interested in a website that would provide them with the information/courses they are looking for effortlessly.

Figure 4.6: Outsourcing Methods

Figure 4.7: Outsourcing Platforms
4.4 Extracting Information to Help the Platform Development

When this research was established, the main goal was to find out if an online based video courses platform would be successful in Libya or not. One of the obstacles that were of a high concern is the Internet speed. Currently, more internet service providers are establishing themselves in all Libya’s regions. One point which all the internet service providers share in Libya is the minimum internet speed, which is 1 Mega bit per second. However, it is not limited to only 1 Mbps. 46 of the participants are using a 4 Mbps connection speed line, and others are using 3 and 2 Mbps Lines. Hence, streaming the online video courses will not be a problem.

![Internet Speed Pie Chart](image)

**Figure 4.8: Internet speed**

To further support this statement, 113 (or 96.6%) of the participants prefer the website content to be in video format, while the rest, 4 (or 3.4%) chose audio clips as a format for the website content. This may be due to the type of learners they are. As mentioned earlier in the literature review section, there are different types of learners. 70 (or 59.8%) of the participants considered themselves to be Kinesthetic learners, 22 other participants chose visual learning as their preferred method. This is another positive point towards this research.
The data supports the online video platform idea and encourages the creation of simple online quizzes after the end of each online lesson on the website itself. To further support the implementation of this video-based online learning platform in Libya, the participants were asked if they are in need to set up such a website in Libya in this survey. 115 (or 98.3%) chose “yes” as an answer, while also emphasising it through personal emails and comments on the video which was included with the survey during the release day.

Mainly the website and its content will be in Arabic language, interestingly 53 (or 45.3%) chose English language to be utilised and used for the website content. This may be due to their familiarity with online English courses, however, this may affect other members of the society, especially the individuals who are not well educated and unable to speak English. In contrast, 55 (or 47%) of the participants chose Arabic language as the main language for the website. This data can be used an advantage, whereas it is possible to understand the consumer view and create 2 different versions of the website. Hence, the user can choose either English or Arabic language as their main website language freely.
Another obstacle that might arise during the website development is payment methods, some courses will be paid along with the free courses, therefore, participants were asked if they trust online payment methods and 53.8% of the participants answered with a “Yes”, while the rest has expressed their doubts and uncertainty when it comes to using online payment systems. Moreover, 61 (or 52.1%) of the participants said that they do not possess any online payment method such as Paypal or Visa cards. Therefore, as a solution prepaid cards will be utilised as payments methods for the website, whereas, 24.8% of the participants agrees that it is a possible solution and with the right utilisation it will be a successful method.

In summary, a huge percentage of the participants will take advantage of the website to help them with their studies or improve their personal skills, which is one of the main objectives of this research. Below is a chart that illustrates the response rate/time which was registered upon the release of this survey.
5 Platform Development

After analysing feedback from the participants, the designing of the website has established. The data collected were significantly important in which it has affected the content, functions, design, testing phases, marketing, maintenance and future implementations.

5.1 Contents

The website main contents consist of video materials for lectures and courses. Video files can grow large (File Size), hence, compressing videos is a must. However, videos must be shot and recorded in high quality to be able to manage the compression without loss in quality. Therefore, all the videos will be shot in-house under the supervision of experienced directors and video editors, all videos will be shot in 4K resolution and high bit rate to maintain their quality after compression. Shooting 4K also offers the ability to control segments of what the user sees where it can be zoomed in without any loss in quality. Final Compression will be handled using HandBreak software. HandBreak software compresses video by utilising their high bit rate which produces a higher quality image but significantly less in size -videos can be reduced to up to 500MB from 1.5 GB file-

Figure 5.1: The platform Main Page
5.2 Functions

To build a successful, secure and reliable platform, the right functions should be implemented. Hence below is the list of functions which were chosen specifically to provide users with a better learning experience.

5.2.1 Theme Support

The Education Centre theme is created specifically for educational establishments like colleges and schools, as well as training courses. Fully responsive, translation and WooCommerce ready. Moreover, it fully supports back-end development as well as front-end. The front end is easily operated which can help in testing and changing few design choices before working on the back-end code of the theme.

![Figure 5.2: Education Centre Theme](image-url)
5.2.2 Learning Management System

Although Education Centre theme supports the establishment of courses and lessons within, a more reliable tool was needed. Thus, after researching and analysing plugins available the Learn Dash Management system plus was a perfect fit. Learn dash management system is supported by Education Centre theme as well as other plugins used in this project such as WooCommerce and Micropayment. Moreover, Learn Dash company provides useful add-ons which can be implemented if the future such as multiple instructors.

Figure 5.3: Inside the LMS Plugin
5.2.3 Security

Hardening the website is one of the most important aspects to accomplish before the release of the site. Thus, Wordfence is the highest utilised security plugin on WordPress. Wordfence futures compromise of real-time threat attacks, country blocking, check for spam IP addresses, secure mobile devices login, remote and scheduled website scans and user-friendly.

Figure 5.4: Security Dashboard

5.2.4 Payment System

A mixture of Woocommerce and micropayment is utilised to create an easy secure payment solution. The data submitted by the participant’s states that Credit/debit cards are the most used online as well as prepaid cards. Hence, by combining both Woocommerce and micropayment the platform will be able to provide users with a better online payment experience through PayPal, credit/debit cards as well as creating a virtual wallet to be utilised by micropayment prepaid points system.
5.2.5 User Accessibility

Another function that will highly affect the user experience of the website is the multi-account login function. User pro plugin offers the user the choice of logging in through social media websites such as Facebook, Twitter and google plus. This will increase the traffic while providing the user with simple login and registration experience.

5.3 Budget

Working on a project such as this platform had no specific budget, whereas, with no experience with such platforms the budget was set to open but with a max of 400 Great British Pounds.

First, after hosting at HostGator the website was built on WordPress Platform. WordPress is “an online, open source website creation tool written in PHP” (iThemes, 2017). Main reason to choose WordPress over other open source platforms is the flexibility and veracity of plugins, which can be utilised to build a strong, secure and functional website.

As mentioned above in the functions section, the website overall cost was around 300 pounds with 2 missing functions –Login portal and online wallet system- which are not implemented yet. below is each function and price at the time of the purchase.

5.3.1 Hosting Service

Hosting and Domain name at HostGator.com came at the price of 34.14 Great British Pounds as a first-time payment, which splits to 13.40 Great British Pounds for 1 month Cloud baby hosting service, 10.37 Great British Pounds for 1 year of domain name rent and 10.37 Great British Pounds for a 1 year privacy and simple security for the domain name. Now, the cost of running the site is 13.40 Great British Pounds monthly for the hosting services.1

1 Hosting Website: www.hostgator.com
5.3.2 WordPress Implementation

The WordPress implementation is free. As mentioned above, WordPress is an open source platform and HostGator utilises this feature and provides an easy, fast and reliable installation, which then can be amended through FTP services.

5.3.3 Education Centre and Integrated Plugins

The Education centre theme was a perfect fit to all the plugins and for the functions that are needed. Hence, a full license of the theme came at the price of 48 Great British Pounds. However, there are some functions within the theme that needed a full license as it was utilising a demo version. For example, Slider Revolution priced at 20 Great British Pounds for a full commercial license. Woo commerce, Wordfence and Visual composer were free and did not need a full license to provide the basic functions needed from them.

5.3.4 Learning Management Centre

The Learn Dash learning management system was essential to this project, hence, a full license had to be purchased. A full license of Learn Dash learning management centre came at the price of 128 Great British Pounds for the plus package which contains learning management centre pro panel. Thus, this makes it the heights paid plugin for this project.

5.4 Design

When it came to the website design, three main aspects were taken into consideration. Translation, responsiveness and colour codes to make it user friendly. The theme was already designed to be responsive, hence, nothing was added to this function. However, below is what was implemented and changed in both the translation and colour choice process.

5.4.1 Translation

Translating the website took a major portion of the time specified for establishing this demo website. Whereas, every page, title, picture and plugin needed to be translated. Moreover,
some PHP pages needed to be translated such as the Error 404 page. Mainly, the translation was done manually through back end coding and in some special occasions, Poedit software was used.

Fortunately, translating the website was not a hard task to accomplish, however, it is time-consuming. The implemented theme used for our platform supports an inheritance future, where a template for the menus, footer and header can be created and then inherited by other pages. Which significantly reduced the effort and time while working on this project.

5.4.2 Colour Choice

From a normal person perspective, colours have no effect on a building, office or a website if they look good and professional. However, every colour has a psychological effect and should be blended with another colour specific shade to achieve calmness and balance thoughts. The website uses 5 main colours. Green, Blue, Orange, and White. To further explain the choices, below are the colours and an explanation of their psychology.

- **Green Colour**: The green colour occupies the point of balance between the warm colours -Yellows- and cold colours -Blues-. According to Angela Wright (2017), the green colour emits calmness, refreshing emanations of peace and harmony.

- **Blue Colour**: The blue colour will stimulate the logical half in our brain system and empower intelligence, communication, trust and efficiency. (Wright, 2017)

- **Orange Colour**: The orange colour emits Physical comfort, warmth, security, sensuality and passion (Wright, 2017).

- **White Colour**: The white colour emits hygiene, sterility, clarity, purity and cleanness. Which highly affect the modern website look and ease of use (Wright, 2017).
By combining different shades of these colours I will be able to provide the students with a visually comfortable environment where they can express their creativity and achieve new levels of possibilities.

Figure 5.5: Colour Choice 1

Figure 5.6: Colour Choice 2
5.5 Testing

After designing the site, it has to go through user testing phase which is dated to start in May 2017. The testing phase will be limited to 50 participants. This will provide the developers with more information to correct any aspect that may prevent a better user experience. Moreover, it will provide the users with a perfect environment to test plugins such as Woocommerce, micropayment and user pro login. Below are some of the aspect to be tested during the testing phase.

5.5.1 Website and Platform Security

As mentioned above, website security is one of the most important aspects of building a learning management system that contains user’s data. Hence, a checklist was created after referring to Owasp organisation article for Web Application Security Testing (2015) and the website will be tested for Information Gathering, Configuration Management, Secure Transmission, Authentication, Session Management, Authorisation, Cryptography, Data Validation, Denial of Service, Specific Risky Functionality and Error Handling.

5.5.2 Streaming Content

This test is required due to the instability of internet connection in Libya as mentioned in the literature review. The testing will include basic functions such as the speed at which the video buffers, video quality and data consumptions.

5.5.3 Assessments

Learn dash learning management system includes the function of creating assessments after each lesson. Hence, the testing phase will provide more information about how functional it is and how it affects user experience.
5.5.4 Website Design, Layout and Accessibility

The testing phase will also provide valuable information about how well the website is designed and how the user interacts with the website layout.

5.6 Maintenance

Maintenance is an essential step to keep the website usable and secured. Some of the maintenance steps that could be conducted after the release are content update, clearing cache, regular scans, updating server’s information, updating users if any major updates are in the work, performance monitoring, infrastructure monitor and finally updating platforms and plugins used.

5.7 Future Implementations

Currently, the platform is in its early status and with limited functions. However, after the full establishment of the platform more functions will be added. For example, one of the main function that will be implemented in the near future is multiple instructors. Implementing multiple instructors can be highly beneficial, whereas, multiple instructors from the Arab countries will be able to establish their courses online. Thus, this will broaden the scope of countries and increase traffic.

Moreover, establishing the multiple instructor's feature will require more server storage. Hence, storage will be upgraded. Gladly, HostGator -The hosting website this platform is hosted on- Offers upgradeable storage features. Hence, it is a simple task however it should be carefully studied before it is implemented.

Other features such as bank transfer, fully translated to English language, course subtitles, age restriction and other useful feature that can better enhance the user's experience without affecting the security and reliability of the website will be implemented.
6 Conclusion

Investigating the Possibility of Improving the Current Educational System in Libya by Introducing an Online Learning Platform was the main aim of this project.

Establishing the research with literature review was crucial to collect as much information as possible about the current situation and the research which has already been conducted. The literature review provided enough data to prove three aspects of this research. First, there is a massive lack of education in the middle east, third world countries such as, Syria, Egypt and Libya are highly affected by this lack. More importantly, some individuals are more affected than others who can afford the best education possible in these countries.

Currently, Refugees and females are struggling for their right in education compared to first world countries which also brings the need for a simple and effective solution. Establishing an online learning platform can highly be effective if it was implemented using the right methods. Online learning platforms were successfully implemented in many organisations and institutions around the world. Organisations and institution gave positive feedback and stated that the learning outcome was intangible and helped students, workers, people with less socioeconomic statuses and people who want to return to school to decide on their future. More research proved that online learning is highly flexible, which again makes it an effective solution to improve the current state of education in Libya. After analysing the above, the first objective which states the “performing of background research about the lack of education in Libya and investigate possible techniques and technologies to eliminate this lack” was successfully achieved. Understanding the possible challenges which might occur while introducing the solution was one of the main objectives of this research. A vast verity of problems were introduced after reviewing literature, diversity of learners, assessments, feedback, data privacy, content creation, lack of teaching staff and internet speed are some of the major problems that currently face the decision of implementing online learning platforms in Libya. However, after analysing these problems, performing an in-depth data collection was possible, which helped in overcoming obstacles. Hence, the second objective
of “Understanding the possible challenges which might occur while introducing the solution” was successfully achieved.

Building upon the literature review outcome, a paradigm had to be established to follow the best possible approach in implementing this research. This research followed an interpretive deductive approach while utilising the benefits of quantitative data collection methods. The research primary data was heavily dependent on targeting random groups to the level of their knowledge, age and other major factors. The randomised groups mainly consisted of people who study or studied in Libya before, Hence, it is appropriate and meets the research criteria that was set in place. After deciding on a paradigm, performing an in-depth data collection using a thoughtfully structured questionnaire was established. Therefore, the objective of “Exploring the public’s opinion about the idea of an online learning platform” was successfully achieved, which significantly helped prove the need for a simple and effective solution to the lack of education in Libya.

After establishing a thoughtfully structured questionnaire, the study emphasise the lack of education, the poor quality of teaching and teaching methods was possible. Moreover, other data demonstrated the current state of education in Libya, how many students are enrolled compared to how many dropped out to pursue another career and more importantly how many students are limited to what courses they can study due to the current political issues in the country.

A significant part of the questionnaire was aimed at collecting data that helps to establish a demo platform which can be fully integrated and implemented as future work. Whereas, the common had an interest in online learning and had experienced it in a way or another, such as studying extra materials on YouTube or researching online through Google search engine. Hence, the outcome demonstrates that the users will be using the platform to enhance their study experience in addition to improving other personal skills.
The participant favoured Arabic language as the main language for the website and the content within the website, while also, suggested that 2 of the best methods for payments are through Visa debit/credit cards or prepaid cards that can be purchased from a local shop.

The information which was obtained after this research has significantly helped in improving the design and implementation process of the online learning platform and A demo platform was established.

### 6.1 Research Outcome

The aim of this project was achieved and now we understand the possibility of improving the current educational status in Libya. Moreover, a demo platform was established in three months, which was only possible by combining plugins together to build a reliable, secure and functional online learning system. Translating and designing the website was the major part of establishing the platform, whereas, most plugins and themes are only available in English language. According to the collected data Arabic language was favoured, hence, the website needed to be fully translated. Expectedly, finding the right plugins was significantly hard. Hence, finalising the website will take more time than expected and currently, the platform only provides functions such as trying assessments, displaying teaching contents, testing the payment methods and the website security. Thus, the research final object of “establishing a demo platform which then can be further developed, upgraded and implemented”, was successfully achieved.

### 6.2 Future Research

This research can be further taken into the implementation phase. Whereas, after implementing this platform, a research can be conducted to record the success/failure level and implement new features which will help improve the platform globally and not only in Libya. Another direction is implementing this platform in a classroom environment and monitor how pre-recorded lectures help in a better schooling experience, for example, the student can attend a lecture and then revise it online again, or study it online and prepare questions for the lecturer to be answered during the live class. Thus, data can be collected
and researched to either prove the theory of online learning enhances the education experience or not. Another research that can utilise this online learning platform is implementing subtitles within the lecture content and record how adding subtitles to these videos can help international students in further understanding the lectures and the course content.

6.3 Summary

In conclusion, the current lack of education is affecting the third world countries and from which is Libya. However, after this research we are now aware of a possible solution to this lack, an online learning platform.
7 References


James, G. (2002). *ADVANTAGES AND DISADVANTAGES OF ONLINE LEARNING*. [online] Available at: https://pdfs.semanticscholar.org/188b/1ad1e4ddfcd1cffe0a8093123e8e140608af.pdf [Accessed 23 Nov. 2016].


Appendix 1
Ethics Approval Form

CARDIFF METROPOLITAN UNIVERSITY
APPLICATION FOR ETHICS APPROVAL

When undertaking a research or enterprise project, Cardiff Met staff and students are obliged to complete this form in order that the ethics implications of that project may be considered.

If the project requires ethics approval from an external agency (e.g., NHS), you will not need to seek additional ethics approval from Cardiff Met. You should however complete Part One of this form and attach a copy of your ethics letter(s) of approval in order that your School has a record of the project.

The document Ethics application guidance notes will help you complete this form. It is available from the Cardiff Met website. The School or Unit in which you are based may also have produced some guidance documents, please consult your supervisor or School Ethics Coordinator.

Once you have completed the form, sign the declaration and forward to the appropriate person(s) in your School or Unit.

PLEASE NOTE:
Participant recruitment or data collection MUST NOT commence until ethics approval has been obtained.

PART ONE

<table>
<thead>
<tr>
<th>Name of applicant:</th>
<th>Monir Nuri Shembesh</th>
</tr>
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<tbody>
<tr>
<td>Supervisor (if student project):</td>
<td>Dr Mohamed Mostafa</td>
</tr>
<tr>
<td>School / Unit:</td>
<td>Cardiff School of Management</td>
</tr>
<tr>
<td>Student number (if applicable):</td>
<td>St 20056727</td>
</tr>
<tr>
<td>Programme enrolled on (if applicable):</td>
<td>BSc. (Hons) Software Engineering</td>
</tr>
<tr>
<td>Project Title:</td>
<td>Investigating Implementing MOOC Learning Environment In Libya Based on Foreign Experiences</td>
</tr>
<tr>
<td>Expected start date of data collection:</td>
<td>January</td>
</tr>
<tr>
<td>Approximate duration of data collection:</td>
<td>2 Months</td>
</tr>
<tr>
<td>Funding Body (if applicable):</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Other researcher(s) working on the project:</td>
<td>None</td>
</tr>
<tr>
<td>Will the study involve NHS patients or staff?</td>
<td>No</td>
</tr>
<tr>
<td>Will the study involve human samples and/or human cell lines?</td>
<td>No</td>
</tr>
</tbody>
</table>

Does your project fall entirely within one of the following categories:

<table>
<thead>
<tr>
<th>Category</th>
<th>Action</th>
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</thead>
<tbody>
<tr>
<td>Paper based, involving only documents in the public domain</td>
<td>No</td>
</tr>
<tr>
<td>Laboratory based, not involving human participants or human samples</td>
<td>No</td>
</tr>
</tbody>
</table>
**CARDIFF METROPOLITAN UNIVERSITY**  
**APPLICATION FOR ETHICS APPROVAL**

| Practice based not involving human participants (eg curatorial, practice audit) | No |
| Compulsory projects in professional practice (eg Initial Teacher Education) | No |
| A project for which external approval has been obtained (e.g., NHS) | No |

If you have answered YES to any of these questions, expand on your answer in the non-technical summary. No further information regarding your project is required. If you have answered NO to all of these questions, you must complete Part 2 of this form.

---

**In no more than 150 words, give a non-technical summary of the project**

The Aim of this project is to create a solution for the Lack of education in the middle east, specifically in Libya. A web-based platform will be created utilising the analysed data collected from a project specific questionnaire.

---

**DECLARATION:**

I confirm that this project conforms with the Cardiff Met Research Governance Framework

I confirm that I will abide by the Cardiff Met requirements regarding confidentiality and anonymity when conducting this project.

**STUDENTS:** I confirm that I will not disclose any Information about this project without the prior approval of my supervisor.

<table>
<thead>
<tr>
<th>Signature of the applicant:</th>
<th>Date: 05/12/2016</th>
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**FOR STUDENT PROJECTS ONLY**

<table>
<thead>
<tr>
<th>Name of supervisor:</th>
<th>Date: 05/12/2016</th>
</tr>
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<tbody>
<tr>
<td>Mohamed Mostafa</td>
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<table>
<thead>
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<td>M. Mostafa</td>
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**Research Ethics Committee use only**

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<tr>
<th>Decision reached:</th>
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<tbody>
<tr>
<td>Project approved</td>
<td>x</td>
</tr>
<tr>
<td>Project approved in principle</td>
<td></td>
</tr>
<tr>
<td>Decision deferred</td>
<td></td>
</tr>
<tr>
<td>Project not approved</td>
<td></td>
</tr>
<tr>
<td>Project rejected</td>
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</table>

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52
**Project reference number:** 2016D0281

**Name:** Dr Hilary Berger  
**Date:** 11/12/2016

**Signature:** Dr Hilary Berger

**Details of any conditions upon which approval is dependant:**  
None

---

**PART TWO**

### A RESEARCH DESIGN

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes/No</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 Will you be using an approved protocol in your project?</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>A2 If yes, please state the name and code of the approved protocol to be used¹</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A3 Describe the research design to be used in your project</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td><strong>Research methods:</strong> An interpretative research philosophy will be adopted involving a deductive research strategy for gathering quantitative data and thematic analysis.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sampling type and size:</strong> Following a purposeful sampling is the best method for this project questionnaire, Where the research is mainly trying to get information from the participants with internet and online study experience. The sampling size is not specified but aiming to gather in between 50 and 200 samples.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>The anonymity of participants:</strong> All data will remain confidential and will be stored securely in a password protected computer system.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Confidentiality, storage and security of data gathered:</strong> All participants will remain anonymous; any data provided will not be traceable back to any specific people.</td>
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</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes/No</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>A4 Will the project involve deceptive or covert research?</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>A5 If yes, give a rationale for the use of deceptive or covert research</td>
<td>N/A</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes/No</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>A6 Will the project have security sensitive implications?</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>A7 If yes, please explain what they are and the measures that are proposed to address them</td>
<td>N/A</td>
<td></td>
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</table>

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### B PREVIOUS EXPERIENCE

<table>
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<th>Question</th>
<th>Yes/No</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1 What previous experience of research involving human participants relevant to this project have you?</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes/No</th>
<th>Details</th>
</tr>
</thead>
</table>
| B2 Student project only  
What previous experience of research involving human participants relevant to this project does your supervisor have? | Yes    |         |

Mohamed Mostafa has 4 years of previous human participant experiences as part of his doctorate research and previously supervised undergraduate dissertation/project to success.

### C POTENTIAL RISKS

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes/No</th>
<th>Details</th>
</tr>
</thead>
</table>
| C1 What potential risks do you foresee?  
The participant.  
1. Not able to understand the questionnaire                             | Yes    |         |

---

¹ An Approved Protocol is one which has been approved by Cardiff Met to be used under supervision of designated members of staff; a list of approved protocols can be found on the Cardiff Met website here.
The researcher:
1. To not be able to analyse the data
2. To not be able to collect enough data

The project:
1. Not enough reliable resources due to the specification of the research
2. Not be able to finish the literature review in time

C2 How will you deal with the potential risks?

The participant:
1. Questionnaires will be simplified and translated into Libya’s native language which is Arabic

The researcher:
1. Google forms analysing will be used as the main analysis method which will make the analysing process faster and easier
2. Surveys will be published online which will make getting a response easier and faster and in case no enough surveys were collected there is always
3. Survey Monkey as a second option

The project:
1. Most secondary data were collected using Google scholar and Cardiff met search platform which guarantees reliable resources
2. A structured plan is already in set to finish the literature review before December which already helped in finishing 70% of the review

When submitting your application, you MUST attach a copy of the following:
- All information sheets
- Consent/assent form(s)

An exemplar information sheet and participant consent form are available from the Research section of the Cardiff Met website.
Appendix 2

Questionnaire

Libya current state of education and E-learning:

Thank you for taking part in this important survey. Today we will be gaining your thoughts and opinions about your current studies and studying online in an E-learning environment. This survey should only take 8-10 minutes to complete. Be assured that all answers you provide will be kept in strictest confidentiality.

Please acknowledge that submission of a completed questionnaire is taken as informed consent.

Age: ..........

Gender: ..........

Are you currently undertaking any type of studies? if not please state why?

Yes                   No

..........................................................  ..........................................................

Are you currently attending school or university?

School                 University

What type of learner are you?

Visual learner   Auditory learner   Kinesthetic learner
Is there a variety of courses available to study in your university/school? For example, Music, Art, Gaming development, carpentry, etc.

Yes
No

Were your choices limited when you chose the course you are currently studying or thinking about studying?

Yes
No

On a scale of 1 to 5, how good is the level of teaching in your current course?

5 = Excellent
1 2 3 4 5

Would you like teachers to assist you more with your studies?

Yes
No

When you are outsourcing for extra study materials, where would you prefer to find the resources you are looking for?

Online Library Other: .............

Do you have any knowledge of internet use?

Yes
No
Would you consider surfing the internet something you do on a daily basis?

Yes          No

Which Internet provider are you currently using?

LTT        Connect        LibyaTech        Alriyada        Other: …………

How fast is your Internet?

1Mbps        2Mbps        3Mbps        4Mbps        Other: …………

If you currently outsource study materials from online websites, which websites do you use the most? (You can choose more than one website)

Youtube        Google        Ping        Wikipedia

Would you be interested in studying online on a website where every course is available in video/voice formats?

Yes          No

Would you prefer the website content to be in video or voice format?

Video        Voice
Why and what will you use this website for?

Entertainment  Studying  Developing individual skills  Other:

Is there a lack of such a platform in Libya? (Online teaching website)

Yes  No

Which language would you prefer the website and the website contents to be in?

Arabic  English  Other: ...........

Do you have access to any online payment methods?

Yes  No

Do you trust secure online payments?

Yes  No

Which online payment methods do you prefer?

PayPal  Visa/Master Card  Prepaid cards
Appendix 3

Translated Questionnaire

وضع ليبيا الحالي في التعليم والتعليم الإلكتروني

شكرك للمشاركة في هذا الاستطلاع. نحن نتطلع إلى معرفة آرائك حول دراسات الحالة والدراسة تواصل في بيئات التعليم الإلكتروني. سنتطرق إلى الإجابة على سؤالات مجزأة 6: أماكن التعبئة. كل معلوماتك محفوظة في صندوق الحساسية بسعة واحدة.

يرجى العلم بأن الإجابة الإحصائية، والسلطوي، يُخفي موافقة سببية.

العمر:

* 1. 11-17
   2. 18-24
   3. 25-30
   4. 30+

الجنس:

*  o ذكر
  o إنثى

هل أنت مقيم في ليبيا حالياً؟

*  o نعم
  o لا
هل تدرس حالياً؟ إذا كان الجواب لا أرجو كتابة السبب.

- نعم
- لا
- Other...

هل أنت ملتحق بجامعة أو بمدرسة حالياً؟

- جامعة
- مدرسة

تصنف نفسك كا متعلم?

- متعلم متفلق
- متعلم نموذجي
- متعلم بمستوى

هل تتوفر تخصصات متعددة ومتنوعة في جامعتك أو مدرستك؟ على سبيل المثال: موسيقى، فنون تشكيلية، تصميم ألعاب الكمبيوتر ... إلخ.

- نعم
- لا

هل كانت خياراتك محدودة عند اختيارك التخصص الذي تدرس أو تفكر بدراسة؟

- نعم
- لا

علي مقياس من 1 إلى 5، ما هو مستوى التدريس في تخصصك الحالي؟

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معاً ما 达到 5
هل تفضل الحصول على مساعدة أكثر من قبل المدرس؟

☐ نعم
☐ لا

عندما تحاول أن تحصل على مواد دراسية وبحوث خارجية، أي مكان تفضل أن تبحث به؟

☐ الإنترنت
☐ المكتبة
☐ Other...

هل لديك أي خبرة في استخدام الإنترنت؟

☐ نعم
☐ لا

هل تجد أن تصفحك للإنترنت يعتبر عادة يومية؟

☐ نعم
☐ لا

ما هي شركة الإنترنت التي تقوم باستخدامها حالياً؟

☐ إيني أت
☐ ريدات
☐ نيبابنك
☐ كويكست
☐ Other...
ما هي سرعة باقة الإنترنت التي لديك حالياً?

- 1 mbps
- 2 mbps
- 3 mbps
- 4 mbps

إذا كنت تستعين بمواقع خارجية للدراسة، ما هي المواقع المفضلة لديك؟ (يمكنك اختيار أكثر من موقع)

- Google
- Youtube
- Bing
- Wikipedia

هل أنت مهتم بموقع يتيح لك دراسة جميع أنواع التخصصات على الإنترنت بصيغة الفيديو أو الصوتية؟

- نعم
- لا

هل تفضل محتويات الموقع (الدروس) أن تكون بصيغة فيديو أو مقاطع صوتية؟

- فيديو
- مقاطع صوتية

لماذا تستعمل هذا الموقع؟ (يمكنك اختيار أكثر من خيار)

- الدراسة
- تطوير مهاراتك الشخصية
- الترفيه العام
هل تحتاج ليبيا إلى مواقع مثل هذا الموقع؟

○ نعم
○ لا

بأي لغة تفضل أن تكون محتويات الموقع؟

○ العربية
○ الإنجليزية
○ Other...

هل تلق بوسائل الدفع الإلكترونية؟

○ نعم
○ لا

هل لديك أي نوع من وسائل الدفع الإلكترونية؟

○ نعم
○ لا

أي نوع من وسائل الدفع الإلكترونية تفضل؟

○ كروت الدفع المباشر
○ Visa/Master Card
○ Paypal
أنا أؤكد أنني قرأت وفهمت ورقة المعلومات للدراسة أعلاه. أتيحت لي فرصة النظر في المعلومات وقد تم الإجابة عليها بشكل مرضي.

[[]]

أنا أوافق:

أنا أفهم أن مشاركتي تطوعية وأنه لي حرية الإنسحاب في أي وقت، من دون إعطاء أي سبب.

[[]]

أنا أوافق.

::: :::

أنا أوافق على المشاركة في الدراسة أعلاه.

نعم

شكراً جزيلاً للمشاركة.

تحيات مدير مشروع