Scoping Document

SOC10102

Honours BSc Web Design & Development

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Introduction

This project aims to create awareness of mental health issues more specifically in people dealing with anxiety and depression. This is to be shown through gamification of the subject matter while also taking on the extra care needed on this project as the subject matter is delicate with the type of users this will be aimed towards. With the gamification of this subject matter, it will be taken on as a serious game to spread awareness. it also looks to give users key indications of those that may suffer from these mental health issues, and it will also have information that will help users to help with those who experience mental health issues. The information that will be given will solely focus on helping the target group for this project. Rather than being a narrative-based serious game, SuperBetter offers a more gamified approach, with scoring and rewards (Patel et al., 2016) (Fleming et al., 2017). This project could focus on a comparable way of giving the user an approach to scoring points on how aware they have been of the effects of mental health and can be considered an effective way for the user to learn about awareness. The focus of using a serious game to spread awareness is also to be considered throughout this project to help show how games can work to spread awareness of these issues that can be seen in the world daily. In addition, this project will also review how serious games could be a potentially bad idea to help spread awareness of mental health through serious games. Traditional mental health care often includes cognitive behavioural therapy, psychosocial or self-care interventions, and the growing use of digital technologies, such as web-based and smartphone-based delivery. (Kowal et al., 2021) The target group of this project is mainly students, as students are some of the most common groups to experience anxiety and depression, especially while going through their studies that lead to day-to-day life, while mental distress and disorders are becoming more prevalent in students, the counselling offered in colleges and universities is not keeping pace with demand (el Morr et al., 2020). This also will note how students with these mental health issues have coped pre-covid, through the covid-19 pandemic, and post covid to identify if anxiety and depression levels in students have increased or decreased during this time. Throughout the project, the utility of design is to be considered for the serious game and how design affects the overall experience for the user group as the design would be the overall factor for this project succeeding in the end. The project plan will also be discussed from the design stage to submission. This will be identified by making a Gantt chart that will show the milestones that have been set out and when they should be achieved and or if they have overrun the date they were meant to be completed by. The project plan will focus on how data will be gathered in the design stage and the evaluation stage, and why this data will be needed to show why it is important in the project.

Background Research
How do serious games help spread awareness?

The effectiveness of serious games in spreading awareness is mixed as some believe that it is the next step in helping to make sure people are aware of the issues in mental health. it can be used to also help people that may suffer from these issues, with these types of games also going commercial in the future as it could boost the awareness of the overall problem. Applied gaming approaches might increase the reach of mental health interventions to some who might not otherwise access help (Fleming et al., 2017). It is quite possible that serious games could increase the reach of people who may not access help, but it could also help increase the signs of people not being aware of these types of mental health illnesses. In addition to these benefits, serious games have a proven ability to help the development of skills, abilities, and attitudes (Kapp, 2012) due to their focus on problem-solving, to which players are exposed (López et al., 2021). These are just some examples of how a serious game can spread awareness and help a user that has to deal with mental health problems. Which allows them to focus on the skills that can be developed from these serious games that are being created. On the opposite side of the argument where a study believes serious games do not have an impact on helping with anxiety and depression. The argument mental side does not feel that raising awareness in this area is appropriate, there are currently a few studies investigating the impact of these games on clinical mental health symptoms (Lau et al., 2017). This study explains that there are only a few studies that are investigating the impact of serious games and that, more studies are needed to attain a deeper knowledge of the efficacy of specific mental disorders (Lau et al., 2017). This is agreeable as there are not many articles that give information on spreading awareness through serious games. The article also questions if the long-term use of serious games will be effective on users. It could also mean something new and impactful could be needed to make sure the long-term use of a serious game is giving the right results as intended especially for spreading awareness of the mental health issues people face. it would also have to use a respectful approach towards this subject just on which could bring harm if the serious game is not researched to a high standard or no experts on the subject are consulted during the making of the serious game.

Gamification of spreading awareness of anxiety and depression?

Gamifying a topic of this significance would help as gamification is the next step to helping with awareness of this topic. in the long-term methods of spreading awareness must be caught up to today's technology as the methods used just now are a bit dated still. Although the methods of being talkative could be developed into a gamified activity that could present the user to open up more. It could also help the user in the awareness of the symptoms of anxiety and depression. Many works Have demonstrated how users enjoy gamification features and serious games, but the

works did not prove the gamification effectiveness (Dias et al., 2018). In this case, the study of this report shows that users like the use of gamification and serious games but that measuring their effectiveness for what they were intended for is difficult. Therefore, the aim is to find an effective outcome that will spread awareness of mental health. Achieving this through gamification could lead to more serious games being made in the future also although there are not many serious games and studies on this topic that support gamification. Many potential benefits can be taken, and it is very possible to gamify this topic and the progression of what is available to assist and support users' across different domains. Games exploit varied processes for engagement. (Hamari & Tuunanen, n.d.) carried out a meta-synthesis of 12 studies and identified key motivational orientations that support engagement (Fleming et al., 2017). This demonstrates that there is progression as there is engagement within gamification especially within this subject of interest. The effectiveness of the awareness has the potential to expand over time in this area. It could lead to more treatments of this kind being built to reach more users in all other parts of mental health rather than just in anxiety and depression. Results indicated a small to moderate effect size across all mental health apps in which the mental health app intervention effectively reduced depressive symptoms (Six et al., 2021). The result of this study explains that the effects of using gamification have a varied range of effectiveness in the use of apps. Which reduced symptoms of depression significantly. The project benefits from this finding as there are signs of the effectiveness of spreading awareness.

Can spreading awareness of mental health in anxiety and depression amongst students help by using gamification and serious games?

Increasing awareness of mental health, anxiety and depression is vital as it is still commonly overlooked. Most people will not always recognise the signs of someone who is struggling with their mental health. the symptoms are numerous making them hard to find and some individuals do not display them e.g., high functioning mentally, and unstable academics. The individual also may not always want to discuss with others what they are going through. These findings (alongside prevalence estimates) are particularly concerning suggesting that the severity of mental health problems in students is increasing (Sprung & Rogers, 2021). This provides evidence that mental health problems amongst students overall are increasing. This is where awareness would help people understand what a student is going through by showing them what signs to look out for or the way a student is acting. While it is useful for people to be aware of the signs of a student struggling with their mental health. it is also necessary to show people how to be respectful when either trying to help the student and in the case of this project, the area triggers the student's mental health and possibly harms the student more accidentally. If this kind of harm is caused to a student an information page could be given to help the student to ease any accidental harm caused. Another way could be an external page that will give information on how to help with an issue that has accidentally caused harm to the student. A contact page for any organisation that can deal with this type of sensitive subject. It will make sure that the student will be able to get the support and help

needed to get through their problem by taking easy steps to fix any potential harm the student has experienced. It is quite common for students to start reaching medium to high levels of anxiety and depression while attending university significant volume of work is required to be completed over a trimester, and a lot of weight is also put on by those travelling while also seeking to balance their studies and university work and being social as well. This is because students have several commitments within and outside the classroom, while at the same time struggling to solidify their identity. Students who do not obtain adequate balance will likely feel overwhelmed and/or upset that they cannot manage their commitments and priorities (Sprung & Rogers, 2021). Students feel that it is particularly hard to stay focused on their university work as these issues are on their minds constantly. Creating awareness of this through gamification and a serious game could help students or help other students identify that one of their fellow students is struggling and displaying the symptoms of anxiety and depression from the stress related to their university course. Gamifying a process for increasing awareness for anxiety and depression would be more beneficial as most students do play games out of their studies these days so learning and spreading awareness through games would be a great value for students to learn the effects and notice the signs a fellow student is struggling.

Increase of anxiety and depression amongst students during the covid pandemic and how can serious games and gamification help combat this issue?

The levels of anxiety and depression amongst students have increased with the outbreak of covid-19 as students were forced to work from home during this period as the world was on lockdown. This has caused some students to feel more depressed and have greater anxiety towards getting their university work done. It has also caused students to panic as communication between lecturer and student in some cases has been infrequent resulting in challenges related to how questions were more difficult to ask and be answered. During the pandemic, feelings of fear and worry about one's health and that of their loved ones, trouble concentrating, disruptions to sleeping patterns, decreased social interactions and increased concerns about academic performance have been frequently reported by students (Vigo et al., 2021). Students were feeling the pressure from working from home just due to having no motivation while trying to get on with their work as lectures and practicals were delivered online. The technology of those times struggled to keep up with the demand. As a result, online meetings would crash either on students or lecturers. This meant that students would be unable to participate in discussions on topics. Because many of the students did not communicate with each other, their mental health deteriorated over the year as a result of the effects of the covid-19 pandemic. Serious games should spread information to students about the impact of the covid-19 pandemic on their mental health. This information should make them aware of issues they may otherwise be unaware of. Gamifying this type of information would have to be very respectful. However, it can certainly be done as long as it comes across as giving the user pointers. Due to the previous discussion of the symptoms of these mental health conditions, it is relevant to emphasise this point.

how the mental health of students has been affected post-pandemic, and how can this be gamified into a serious game?

Post covid the mental health of students is still the same as during the pandemic and will likely stay this way for the foreseeable future. Another conducted at a public university in the US in April 2020 found that worse mental health(Kecojevic et al., 2020) was associated with employment losses, difficulties focusing on academic work and concern about Covid-19(Fruehwirth et al., 2021). It appears that during the pandemic as well as after the pandemic, there was no significant change in how students dealt with the issues caused by the pandemic. Between the two periods, this occurred. It has caused students to become more stressed as lectures and practicals for university have begun to be back in the classrooms. This has caused students to stress as it meant that students would then have to adapt to a mix of online learning and face-to-face distanced learning. Because lectures were offered online, students who intend to attend practicals would have to coordinate their time between attending an online lecture and attending a practical. As it would be the only way to enable them to complete the module Students indicated that there was minimal interaction, and people mostly continued working on their own. So, opportunities for peer learning were missed (Barr et al., 2020). Students may have developed anxiety associated with meeting new people and interacting with them. This is because they have not had much social interaction over the past year. Students could also reach a level of depression from this just due to trying to meet the differences between online lectures and then also trying to compare what they have learned with the practical. The COVID-19 pandemic and the abrupt closures of campuses led to the loss of daily routines and had a major impact on academic studying, exacerbating academic stressors and mental health problems in university students (Theurel et al., 2022). Students could find it confusing to complete university work which would lead to a loss of motivation and then could find it struggling to achieve a good grade, which could lead a student to become depression. To help students to better understand the symptoms of mental health after a pandemic, it would be possible to use a serious game to explain what it's like to emerge from lockdown with symptoms of mental illness.

How have the effects of the cost-of-living crisis affected students' mental health, and how can serious games help?

The cost-of-living crisis is a new issue that students are now facing which has come from coming out of the lockdown and other factors that are out of their control. This has meant that students have had to choose between food and attending the university as the cost of food and travel has dramatically increased in price with also the cost of electricity increases. Rising numbers of students run into financial hardship due to overspending and over-indebtedness (Achtziger, 2022). The increase in financial difficulties students has faced increases the likelihood students

of taking out loans which could then lead to overspending on essential items due to not having enough money. The vicious cycles of poverty, hunger and inequalities created by the crisis show that no one dimension of the crisis can be fixed in isolation, and no country is immune to its effects (Webster & Neal, 2022). As a result of this example, we can see how hunger and poverty can affect students during their studies and how other countries are not immune to these problems. As a result, this would also mean that other students in other countries are also experiencing the same hardships when they are studying. This would realistically affect the student's performance on their grades and their active learning as the learning has moved back to on-campus learning. To reach students that could be struggling with the return to campus and the hardships, parts of the serious game could aim to acknowledge the effects of these situations that students face and how to spot a student struggling with the cost of living and being back on campus. Gamifying this subject will take a lot of research in the process to tackle these situations as the cost of living is a fairly new issue, to have this subject gamified will take time just for this reason alone but it could be done.

Project Plan

Firstly, the project plan is the area of this scoping document where the Gantt chart will be discussed which will explain with a diagram. The Gantt chart will also show the tasks and milestones that need to be completed in the time frame of the project. Next, the design and development stage of the project will be discussed. This area will just explain how the design of the project will be created within the time frame of the project. This will also be the same for the development stage of the project and the evaluation stage of the project

Gantt Chart
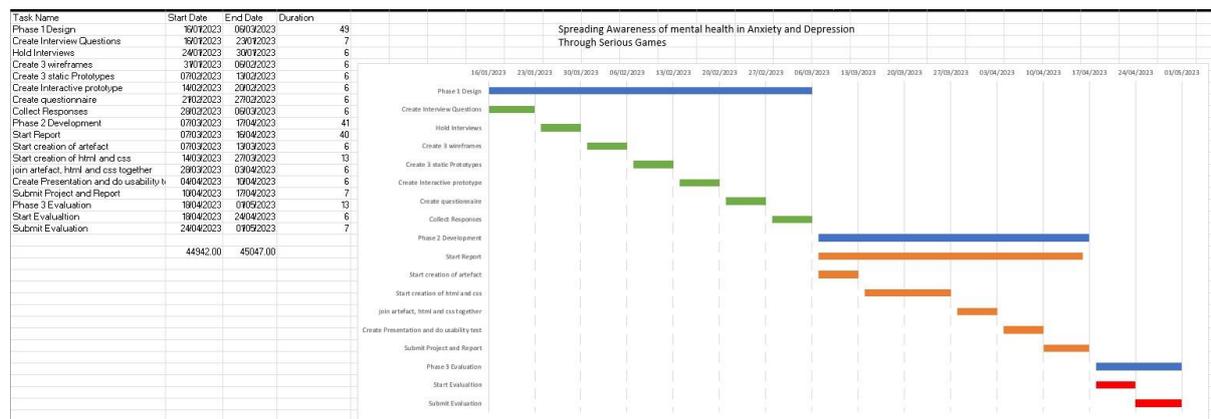
The Gantt displayed above is to show the process that will be taken on throughout the design and development stage and the evaluation stage with each step having

how many weeks each task will take to be completed it. The Gantt chart also has the five milestones that the project is looking to achieve these five milestones are the completion of the design stage, the completion of the development stage, the submission of the design and development stage, the evaluation stage, and the submission of the evaluation stage. Each milestone has the date on which they are expected to be finished any unexpected overdue dates will be noted for later purposes and will be discussed in the evaluation of the project. The Gantt chart will be updated each time a task is finished. As result, it is planned to be updated weekly and will be discussed if there are any tasks completed the expected finishing dates of the tasks and the milestones notes will be taken and discussed in the evaluation of the project and will be explained in detail at this stage.

Design & Development

For the start of the design stage of the project, interviews will be taken to gather data to get an understanding of what other features could be possibly added and what users may like to see in the project through their responses to the interview. This will likely take two weeks to complete the interview questions and interview responses, at least 5 or more participants would be the ideal number to get a good indication of what users may like to see in the project. An interview with a member of the counselling team at the university may also be ideal to get an understanding of how to create the project. This will then lead to two to three low-fidelity wireframes for the project to be created. The creation of early concepts for the project will be based on the interviews that have been taken and the ideas given by the interviewees will be taken into consideration with also taking in what a member of the counselling team suggests that could be added to the project. This will then lead to three static prototypes being created with all the suggestions from the interviews having features that are possible within the time frame being implemented at this stage. This stage is likely to take two weeks to do as it will be two to three concept prototypes being created. One of the three designs will then be chosen to be created into a high-fidelity interactive prototype that will take a week to create through one of the three choices of programs which are Axure, Figma or Adobe XD. This would then lead to a questionnaire being created with the interactive prototype and would likely have ideally at least 5 or more of the same participants and the counselling team member making sure that the design and requirements of the project have been met and so that changes can be made before the development of the final prototype of the project can be started.

The development stage of the project will be started after the last step of the design stage of the project. The development of the project will take in some of the skills that have been learned from previous modules of the degree and will hopefully be coded with more advancements from these previous modules. The project will hopefully consist of the use of the coding languages HTML, CSS, and JavaScript these three coding languages will be used throughout the development stage. The project will also use graphical assets that the code will utilise in the making of the

artefact of the project and will be used to show more of the design skills that will be a fundamental part of the project. While working through the development of the project, the development report will then be started and will be worked on through to hand in. The development stage will then be completed roughly three weeks before the deadline of the design and development stage for a usability test that will conduct a series of usability questions with also to make sure the project is functional by the user conducting a series of tasks that will then be used as more data. With having the development finished before the deadline will also be to give enough time for the presentation to be created and then recorded for all files to be submitted for this stage so that it can then be presented to an audience.

Evaluation

The evaluation stage of the project will first be the data gathering that has been taken from the project's previous stages and will use this data will be analysed in detail to give information to create a report that will also require the strengths and weaknesses of the project at each stage which possibly to help tackle this area notes that can be taken throughout the project stages to be able to provide the information needed to complete and will be discussed in further detail with possible diagrams that can be used. The evaluation will also need to have a detailed explanation of the research methods used throughout the project which have been discussed above and these methods will be Interviews, a questionnaire and a usability test, the methods will require why these methods were chosen to reach the evaluation. An analysis will then be conducted of the project. A critical review will then be discussed in the evaluation report also which will review the whole project in detail. When taking on the evaluation report is being written there will be drafts of this report before a final draft has been finished before the final report is submitted

Summary

The background research of this scoping document just explains each of the questions that have been discussed the first question is looking at how serious games can spread awareness of mental health of anxiety and depression in great detail and how this then can be further improved within this project. The next question on the background research is then discussing how gamification of spreading awareness could then be achieved to make a respectful and researched serious game that a user can use to learn and gain knowledge that can then identify the symptoms of mental health of anxiety and depression. The other question then asks about increases in anxiety and depression amongst students and how it could have been combatted through gamification in a serious game. This question felt appropriate as it is looking at how stress led to anxiety and depression for students while working through the covid 19 pandemic and how this could have been eased by gamification and a serious game that students could have used to be made aware of symptoms then where they could then have information to then help ease their stresses with also easing their anxiety and depression. The last question then explains the post covid effects that could have been created by and brought on or if student's mental health is not being eased after the lockdowns, it also then goes

onto how the new issue of the cost-of-living crisis and how this could then bring on more stress and mental health issues can increase as prices go up in this time. The background research questions for this scoping document help identify what could be added to spread awareness, of the project and especially sets out what is looking to achieve for the project in the end.

The project plan is discussing what the plans are to complete the project by the end of the degree. Starting with the Gantt chart, Gantt chart sets out how each of the tasks is going to be achieved in the time frame of the project and with each task, the progression will be updated each week until a milestone has been completed and then the start of a new milestone is then started. This continues until the completion of the project. The design and development stage has then been discussed in detail of each including the tasks and how long each of these design tasks will take the weeks and how they will be achieved. The development stage of the project is then discussed with which coding language will be used in the project and the skills from previous modules in the degree will help to achieve a successful development stage. It also explains what will happen throughout the development stage and how the submission of this stage will be done through a video presentation. The evaluation stage then explains how the project will then be evaluated by explaining what research methods were used, the data gathering that can then be analysed and then a critical view of the project as a whole will then be done.

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