**Introduction:**

University, the institution where students enrol in aim to attain higher education, to broaden their skills in critical analysis and holistic thinking. Why? To give them a better chance at succeeding in their field of work, to set them apart from their peers. With the high expectations of performing exceptionally at University, pressure can start to build up thus leading to depression and anxiety for the students. In a survey by the NUS it was found that “78% of university students had experienced mental health” during the academic year of 2014/15 with “33% recording suicidal thoughts” (Penn-Slater, 2017. ) Which can all be due to the fact that there is a large amount of workload for the students to complete whilst balancing a partime job and maintaining their social lives.

With mental health issues being so common for university students we have decided to develop the helpForum website and app for students suffering from anxiety and depression. The decision to develop this website and app as a extra support line for university students alongside their university’s support line. It can be said that a Universities support line should be sufficient enough for students but Universities are “under a great deal of financial pressure” in terms of fundings from the government which means that the help “counsellors can offer is limited” (Denham, 2013). Having this in mind we decided that a website and app that doubles as a forum would help students communicate frequently with their peers going through the same thing, to stop the from feeling so isolated and alone. We feel that this will provide a medium for students who shy away from seeking help from their Universities support line “due to fear and shame”. This is the result of the recognition of the “negative stigma and discrimination associated with having a mental illness” (Susman, 2015) as they may feel it could negatively impact their life.

There are various websites on the internet that provide support forums for young people that have mental health issues. For example, the “Emotional Support Forum” by SANE a charity company, the mental health forum which has consists of a wide range of forums that one could choose from dependant on the type of mental illness one is going through. From carrying out our research we found that they all proved a friendly space for individuals to discuss and support each other on their mental illness. They also provide a medium through which you can register and login to the website to become a member which is very similar to the website we are going to develop where students will get the chance to login, make a profile, post anonymously and get in touch with other students like them. Most of the forums online we found are targeted to the general members of the public whereas we want to target the website and the app for university students.

There are also applications that are available for mental wellbeing for example “Elefriends”, “Silvercloud” and “Reasons2” which provide a mobile platform to aid users manage their mental wellness and helping them feel better. In addition to this we have decided to include an app linked to the website to give the students mobile access to the support line, so they can always be updated by anything happening within the community like the applications that we have researched aim to do. The helpForum and application will be programmed using HTML, XML, CSS, SQL, Java, and JavaScript. To create a dynamic website which is user friendly, functional, and simple to navigate through to allow the user to understand the message we are trying to convey.

**Aim:**

Design and develop a dynamic web and mobile application to be used by university students suffering from depression and anxiety, giving them a support line to help them to manage their mental health issues. Both the website and mobile app should be professional and coherent in terms of design, must have ease of use and provide effective service to the user.

**Project-Level Objectives:**

* The web and mobile application design must be user-friendly
* Following on the design must be aesthetically pleasing and coherent all through the different platforms
* Must be easy to navigate between the webpages and the screens of the application
* Purpose of the website and application must be clear to the user
* The user must have an option to register to the service and be able to download the application on the mobile
* Integrity of user should be kept within the database
* The user should be able to post and communicate anonymously should they wish to withhold their identity in the forums
* The user must be able to choose between a depression forum or anxiety forum or both depending on their needs
* The website and application must be constantly updated to give the user constant support when needed

**Functional Requirements:**

Both the functional requirements and the non-functional requirements have been ordered from most important to least important.

1. Create a website forum/phone application for the discussion of mental health issues that has content such as:
   1. Forum for discussing mental health and asking questions to the community
   2. Recovery stories and coping strategies
   3. Access to resources (in the form of links or PDF’s)
   4. Self-assessment tools in the form of quizzes
2. Creation of Accounts
   1. Users should be able to sign up for their own account using an email, password, and a username
3. Store system data such as accounts and forum posts in a database
4. Levels of access that differentiate users, administrators, and moderators
5. All registered users should be able to:
   1. Create and edit posts on the forum
   2. Comment on posts
   3. Edit their profile, which includes the option to detail:
      1. Their profile pictures.
      2. Location
      3. Date of birth/Age
      4. A small summary of themselves
6. Users on the forum should be able to:
   1. Choose if they are posting in the anxiety forum or the depression forum
   2. Have the option to post anonymously
7. Administrators on the forum should be able to:
   1. Remove or add a moderator
   2. Manage settings and layout of the forum
   3. Remove inappropriate posts/comments
   4. Ban accounts
8. Moderators on the forum should be able to:
   1. Remove inappropriate posts/comments
   2. Ban accounts7

**Non-Functional Requirements:**

1. Consistent navigation, including a menu bar that is in the same place on every page
2. Responsive design that will adapt to most common devices – phone, desktop, tablet
3. Comfortable interface design with consideration given to accessibility when deciding layout and colours used
   1. Possible partially inherited style from the NTU website so it looks like it’s an NTU system
4. Web pages/phone application should load in under 3 seconds
5. Provide and FAQ/About page that details the aim of the system to the users, as well as rules of the forum

**Project management:**

To effectively manage the project through its stages of development various tools have been chosen to be used. To tackle the arrangement of group meetings around each group members schedules, a WhatsApp group has been made. By using this WhatsApp group, members can easily notify other members when they are available for meetings as well as communicate their progress on certain tasks. By using this effective method of communication, all members will be kept up to date on the progress of the project.

By creating a GitHub, tasks can be easily assigned to different members using issues. This will come in great use as it will deal with the lack of commitment from certain members, and will also constantly keep all members up to date on the progress of the project, as members will be able to close issues once finishing certain tasks.

The title ‘deputy for robustness’ has been assigned to Elliot Harding. His role will be to create GitHub issues, and ensure all members complete their assigned issues. This will be enforced using the WhatsApp group.

The role of creating and assigning tasks will be assigned to the project manager, Zainab Olawoyin. They will be responsible for making sure each of the group’s members strengths are used to their maximum potential. For instance, software engineers will work on the code of the app and website, while games tech students will focus on graphics.

**Sources of Information and Resources:**

**What we will need to find out:**

We will need to find out from current students at NTU if they have mental health issues, either now or in the past. Within that group we then need to see if they are being supported and where that support is coming from: friends, family, specialised support from work or education or support lines. This could give us an insight as to how we could structure discussions/posts in the forum as well as advice we could place in the website.

It would also be useful to get current students at NTU to rate the quality of their support from various places as well as how difficult they find talking to people they know that do not have mental health problems.

This information could be found through primary research in the form of a questionnaire, given to students to be filled out at the beginning of a lecture or seminar, to get a broader range of students we could also create the same questionnaire online and ask people to fill it out. This is so we don’t get students that are only in the field of Science and Technology.

Overall, a questionnaire would be very useful in helping us to determine specifics about how the system should work in terms of what we should be focusing on e.g. a place to discuss current issues with others, source of advice, source of where to get professional help. It also gives us specifics on what potential users would like to see in such a system and could give us some possible additional features that users say they would benefit from.

It would also be very helpful to research what questions are usually asked to determine if you are at risk of having mental illness such as depression or anxiety. These can be found all over the web, one that looks like it matches our purposes is the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS). This test asks positively worded statement to the candidate and the candidate rates how much they agree with that statement from 1 to 5, considering how they have felt over the past two weeks. This then gives them a score at the end that estimates how good their mental wellbeing is.

This can be found on the NHS website nhs.uk/Tools/Documents/Wellbeing%20self-assessment.htm. More about the test can be found at: warwick.ac.uk/fac/med/research/platform/wemwbs/.

**Software requirements:**

For the website part of the development we will likely use Notepad++ to write the HTML, CSS, and JavaScript then use the Chrome Web Server extension to test the pages. Notepad++ can be downloaded for free from notepad-plus-plus.org and the Chrome Web Server can be downloaded for free from the Chrome web store. We will also need access to other web browsers to test how web pages appear in different browsers, Chrome is already installed on university computers as is Edge, Firefox can be downloaded for free from mozilla.org. Testing on different browsers gives the system more accessibility and allows us to find and fix any inconsistencies caused by different browsers.

The mobile application will be written in java and will likely be written in Visual Studios, the 2017 community version is available for free download from visualstudio.com and this software is also available through the software portal on NTU computers.

For the system overall, we will be using GitHub as a repository for programming files and documentation as well as a way of assigning work to be done by using issues on GitHub.

**Hardware requirements:**

To run a successful website, we need a web server to host on, we can make use of UDON to host our files on a university server. This is useful since we have already had experience with using this method in the past and have had very few issues with it. One problem however is that it is linked to the university’s intranet, so it can reliably be accessed from machines connected to the university network and although it can be accessed outside of the university network via “ntuanywhere” this access is not very reliable. Although the system is being developed as though it would be an integrated part of the NTU NOW student’s portal we have also explored other alternatives for web hosting servers. If we are to publish the website outside of the university, we could use any one of many free web hosting servers. These servers naturally come with limitations such as server space, speed of site and a guarantee of continuous uptime. One service that would suit our needs is freehosting.com. This service is free and provides the user with 250GB of bandwidth, 10GB of disk space, allows one SQL database and no ads.

Most of the hardware needed for this system is for the purposes of testing the website and application on different devices and at different resolutions to help test that we have achieved the requirements of making the system responsive and accessible on different platforms.

Different resolutions can be tested on PC’s and laptops by resizing the browser window or by using the Chrome developer tools to demonstrate what the web page looks like at different screen sizes. The mobile application can be tested using group member’s phones since we don’t all have the same phone it can give a reasonable range of usability although if we feel it’s necessary during testing we can borrow phones from the university.

# Bibliography

Denham, J., 2013. *Are universities doing enough to support students with mental health problems ?.* [Online]   
Available at: http://www.independent.co.uk/student/student-life/health/are-universities-doing-enough-to-support-students-with-mental-health-problems-8543756.html  
[Accessed 21 December 2017].

Penn-Slater, S., 2017. *STUDENT HUT.* [Online]   
Available at: https://www.studenthut.com/articles/mental-health-stress-anxiety-and-depression-university  
[Accessed 21 December 2017].

Sofe, n.d. [Online].

Susman, D. D., 2015. *8 Reasons Why People Don't Get Treatment for Mental illness.* [Online]   
Available at: http://davidsusman.com/2015/06/11/8-reasons-why-people-dont-get-mental-health-treatment/  
[Accessed 21 December 2017].