**Detailed Project Proposal (DPP)**

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1. **Hypothesis**

The idea of this project is to perform a penetration testing of the Amazon Web Services which is one of the most used cloud computing platforms in the world. The main goal of the project is to successfully execute a penetration testing on my own AWS cloud account in order to find all the possible weaknesses and to check how strong the system really is.

1. **Short Description**

An AWS cloud environment will be created in order to execute the test because there are not too many restrictions if you try to perform such a test on your private cloud environment. This kind of test is important because it can help you discover any potential security issues that can be used by different people such as hackers in order to breach and steal the data. The cloud security policy will be one of the most important factors as if it is not followed properly, the cloud platform will think that the system is hacked.

1. **The project aims**

The main objective is to use all the knowledge gained over the years and from the penetration testing module of my cyber security master course and to learn different techniques and new factors of the penetration testing. The project will give me a better understanding of the pen testing area and how important such a test is. The most important factor of this project is to be able to produce a successful penetration test of the cloud environment selected and to be able to answer the research question that will be established for this project later. The RQ will be based on how important a penetration test in the cloud environment is and why most of the organisations must use such a test to be able to improve their security problems if there are any.

1. **How you plan to conduct your research**

One of the most important parts of producing research is to establish the research question and the selection of the correct information that will help to answer the established question. So, the search process is very important here because it is the place where the correct evidence is selected in order to have sufficient arguments to answer the RQ. According to Swapnil, Chandane and Bartere, this process type has an important role in finding reasonable and qualitative results. The search process that will be used to collect all the related studies needed for this project is based on two important factors: assets and search string.

1. **Project Plan**

This is one of the most important parts of creating a successful project as all the tasks and the stages will be needed to be established in order to have a clean and correct piece of work. The following table contains the details of all the tasks that will be performed to be able to complete the project.

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| **Task No.** | **Task**  **Name** | **Task**  **Details** | **Deadline Day** |
| **1** | Detailed Project Proposal | Identify a subject for the final year project. | 14/02/2022 |
| **2** | Interim Progress Report | Provide information about the project stages and progress to date. |  |
| **3** | Project Description | Set the project aims. |  |
| **4** | Systematic Literature Search | Information linked to the project topic and the tools needed. |  |
| **5** | Methodology | Identify the research and cloud penetration test methodologies. |  |
| **6** | Results and Discussions | Check if the results outcome and discuss it. |  |
| **7** | Final Project Report | Verify all the thesis phases, word count, construction, bibliography, Appendix, font size, etc. |  |
| **9** | Project Demonstration | Presentation part of the project. |  |

1. **Reference/Bibliography**

Blanchard, J. (2020) The History of Cloud Computing. Server Mania. [Online]. Available at: <https://blog.servermania.com/the-history-of-cloud-computing/>. [Accessed: 27 January 2022].

Hussein, N.H. & Khalid, A. (2016). ‘A survey of Cloud Computing Security challenges and solutions”. International Journal of Computer Science and Information Security.

Jain, A. & Mahajan, N. (2017) ‘Introduction to Cloud Computing’. The Cloud DBA-Oracle. pp. 3-10.

Swapnil, H., Chandane & Bartere, M. M. (2013), "New Computing Paradigm: Software Testing in Cloud, Issues, Challenges and Need of Cloud Testing in Today's World", International Journal of Emerging Research in Management & Technology.