GROUP PROJECT - PMIS

Group 14 - Penetration Testing Scenario

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Contents

Project Summary

Important Dates

Sponsor Appointed	Project Authorized	Project Closed
29th January 2021	**18th January 2021**	**30th April 2021**

Purpose

Goal / Outcome	- **To Provide a set of tools and documentation which can be used to create labs for fourth year students to practice security pen-testing in a realistically simulated virtual scenario.** - **To Create one or more scenarios which can be used to test students pen-testing skills in both a logical yet challenging and educational way.**
Main product	- **A pre-configured virtual environment or set of environments, which can be used to carry out one or more types of penetration test.** - **An E-commerce style website which is designed for simulating and testing web-based attacks. This will be inside the previously mentioned virtual environment, hosted on a web-server.** - **Documentation that explains each step of all successful pen-tests in a way that they can be easily recreated later for labs.**
High-level Requirements	- **Research a variety of pen-testing methods which are used to exploit 'known' (or 'unknown'?) vulnerabilities in a modern OS, Server, web app or software.** - **Documentation which shows these pen-testing methods being used to successfully exploit these**

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	vulnerabilities inside a virtual web or OS test scenario. - **A set of pen-test tools inside a stable, virtual environment that students & demonstrators can use alongside the provided documentation to carry out penetration testing labs.** - **An E-commerce style website that should be used in conjunction with these tools to simulate web-based attacks such as ‘cross-site scripting’ and ‘SQL injections’.** - **Software and hardware used in testing must be of a modern standard to avoid any “out of date” pen-tests which would not be commonly found unpatched anymore in a real security scenario.**

Targets

Duration	**18th January 2021 – 19th April 2021 (12 Weeks + 2 weeks Easter Holiday)**
Budget	**N/A**

Major Risks

- **Workflow - At the beginning of the project, when the objectives need to be defined, team members who are dealing with different tasks may have to wait until the previous tasks have been completed to continue. In some cases, this configuration and troubleshooting could become quite time consuming, affecting the project timetable negatively.**

- **Experience - Because we are students in these fields, we are immediately at a slight disadvantage. Pen testing against modern hardware and software is generally a task undertaken by professionals with years of experience. Pen testing is one of the harder industry roles to break into because of the layers of knowledge required to discover new vulnerabilities in modern software/hardware.**

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- **Scope Creep - Project has a large variety of elements to potentially research. Need to keep our efforts in a focused direction to avoid branching out in too many directions, which could harm the quality of the final product.**

Roles

Sponsor	**Andrew Partridge**
Client	**Robert Ludwiniak**
Project Manager	**Kenneth Brown**
PM Support	**Davide Pisanu**
Team Managers	**Tom Neil (Security), Connor Grattan (Web)**
Team Members	**Luis Loaysa (Security), Jake Salt (Web)**
Supplier PM	**N/A**
Consultant/s	**N/A**

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Business Case

Purpose

The business purpose of this project is to '***create penetration testing labs for students'*** which can '***improve upon the current standard of lab being used'*** for teaching within this subject area. The most significant area that needs improvement is with the software versions that the labs currently focus on. Many of the educational labs being used demonstrate pen-testing on *dated* OS versions such as Windows Server 2003, which are no longer commonly found in real world business environments. *As such*, the main goal of the project is focussed on creating penetration tests which can '***show exploits and vulnerabilities being demonstrated and taught within a modern OS framework*** **such Windows Server 2016 and above'**.

Expected Benefits

The main benefits of the project are as follows:

- Students will be able to practice pen-testing on modern OS frameworks, providing a better educational set of tools for real world security scenarios.
- Each of the team members are studying related subjects to the project, making this a valuable learning experience for the team itself.
- The client should have a wealth of research and documentation at the end of the project from which they will be able to construct more complicated labs for students.

Expected Dis-Benefits

The main benefits of the project are as follows:

- If the project is not successful in demonstrating pen tests, then it will not be possible to create labs later with the research.
- Time constraints may limit the quality of the work that can be produced.

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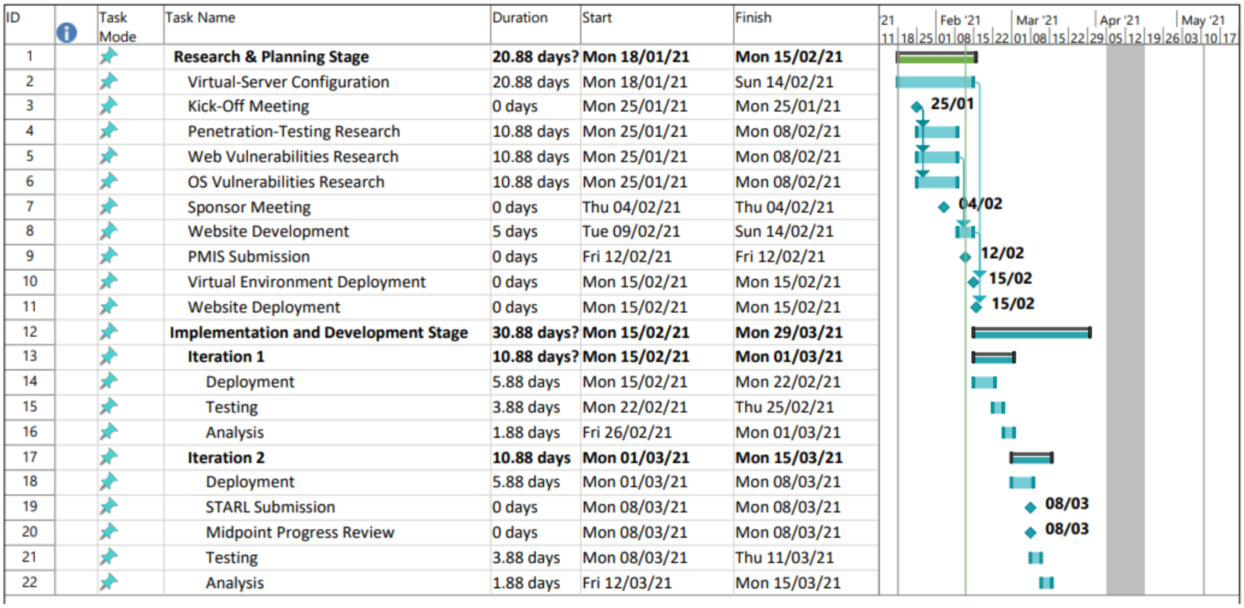
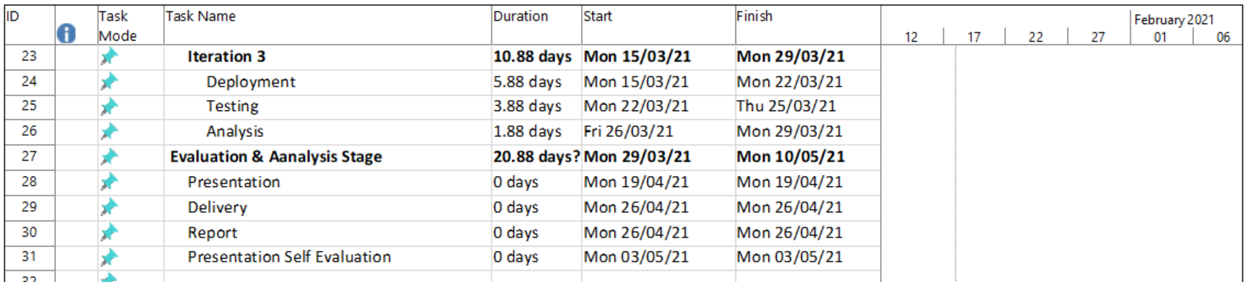
Schedule Model



ID	ℹ	Task Mode	Task Name	Duration	Start	Finish
1		📌	**Research & Planning Stage**	**20.88 days?**	**Mon 18/01/21**	**Mon 15/02/21**
2		📌	Virtual-Server Configuration	20.88 days	Mon 18/01/21	Sun 14/02/21
3		📌	Kick-Off Meeting	0 days	Mon 25/01/21	Mon 25/01/21
4		📌	Penetration-Testing Research	10.88 days	Mon 25/01/21	Mon 08/02/21
5		📌	Web Vulnerabilities Research	10.88 days	Mon 25/01/21	Mon 08/02/21
6		📌	OS Vulnerabilities Research	10.88 days	Mon 25/01/21	Mon 08/02/21
7		📌	Sponsor Meeting	0 days	Thu 04/02/21	Thu 04/02/21
8		📌	Website Development	5 days	Tue 09/02/21	Sun 14/02/21
9		📌	PMIS Submission	0 days	Fri 12/02/21	Fri 12/02/21
10		📌	Virtual Environment Deployment	0 days	Mon 15/02/21	Mon 15/02/21
11		📌	Website Deployment	0 days	Mon 15/02/21	Mon 15/02/21
12		📌	**Implementation and Development Stage**	**30.88 days?**	**Mon 15/02/21**	**Mon 29/03/21**
13		📌	**Iteration 1**	**10.88 days?**	**Mon 15/02/21**	**Mon 01/03/21**
14		📌	Deployment	5.88 days	Mon 15/02/21	Mon 22/02/21
15		📌	Testing	3.88 days	Mon 22/02/21	Thu 25/02/21
16		📌	Analysis	1.88 days	Fri 26/02/21	Mon 01/03/21
17		📌	**Iteration 2**	**10.88 days**	**Mon 01/03/21**	**Mon 15/03/21**
18		📌	Deployment	5.88 days	Mon 01/03/21	Mon 08/03/21
19		📌	STARL Submission	0 days	Mon 08/03/21	Mon 08/03/21
20		📌	Midpoint Progress Review	0 days	Mon 08/03/21	Mon 08/03/21
21		📌	Testing	3.88 days	Mon 08/03/21	Thu 11/03/21
22		📌	Analysis	1.88 days	Fri 12/03/21	Mon 15/03/21



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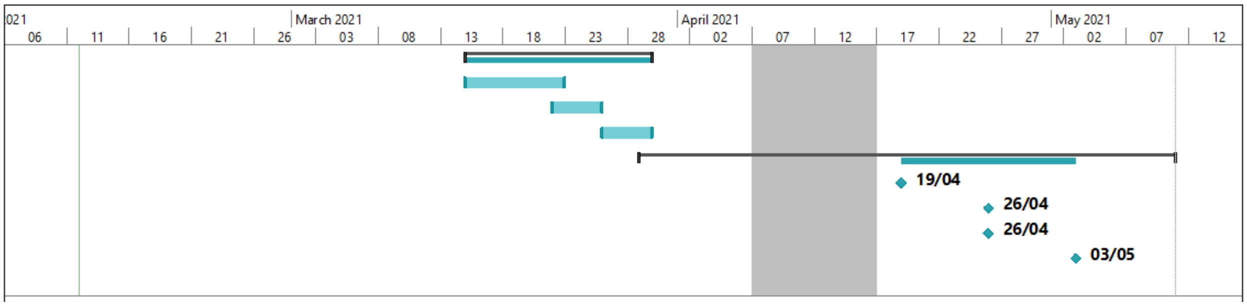
23		📌	**Iteration 3**	**10.88 days**	**Mon 15/03/21**	**Mon 29/03/21**
24		📌	Deployment	5.88 days	Mon 15/03/21	Mon 22/03/21
25		📌	Testing	3.88 days	Mon 22/03/21	Thu 25/03/21
26		📌	Analysis	1.88 days	Fri 26/03/21	Mon 29/03/21
27		📌	**Evaluation & Aanalysis Stage**	**20.88 days?**	**Mon 29/03/21**	**Mon 10/05/21**
28		📌	Presentation	0 days	Mon 19/04/21	Mon 19/04/21
29		📌	Delivery	0 days	Mon 26/04/21	Mon 26/04/21
30		📌	Report	0 days	Mon 26/04/21	Mon 26/04/21
31		📌	Presentation Self Evaluation	0 days	Mon 03/05/21	Mon 03/05/21



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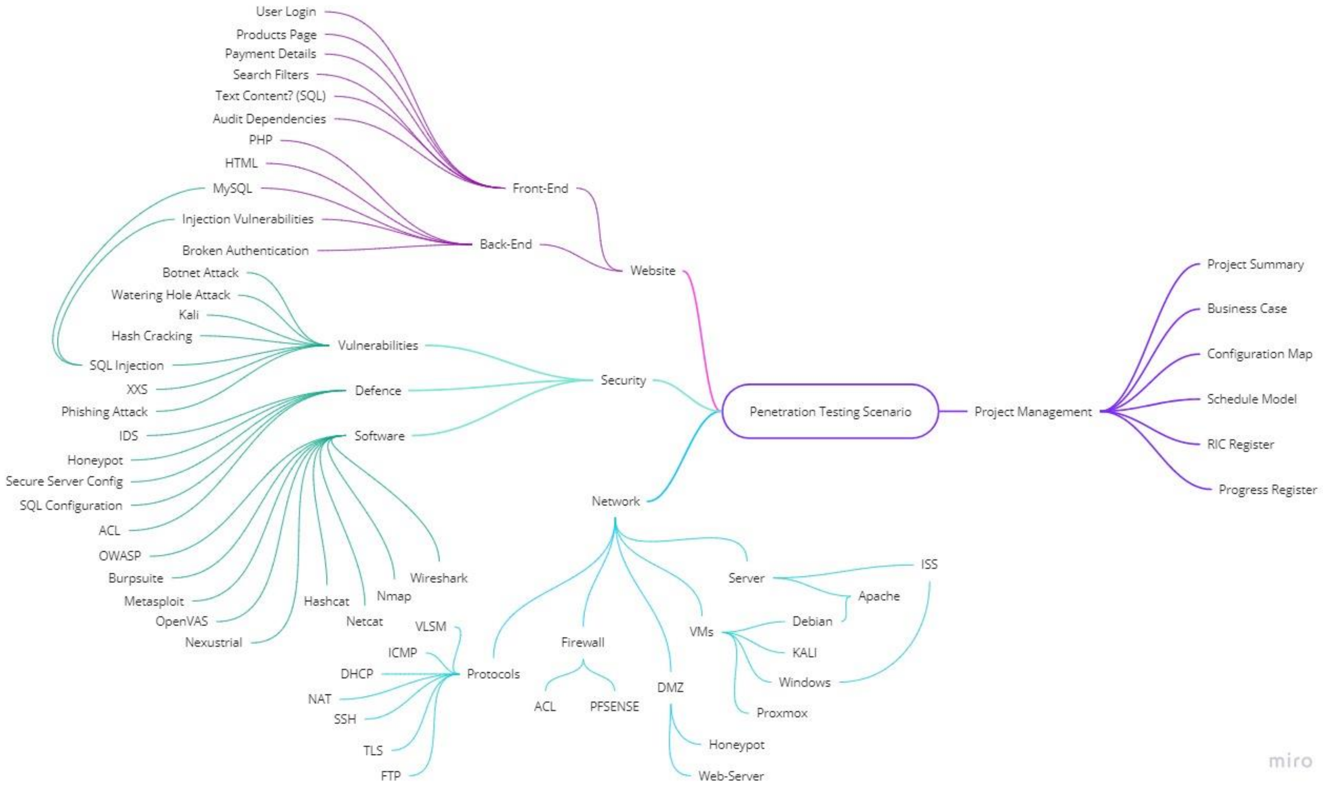
Configuration Map



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Client Sign-Off

Documents checked:

- Project summary
- Business case
- Configuration map
- Schedule model

I confirm that the content of the project management documents listed above provides an accurate and adequate specification of the project requirements.

Signed:

Date:

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