IMAT3451 Project Contract Template

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Project Title	**"**Securing Home Networks**" / "**Secure Home**"**
Project Proposer / Supervisor	Helge Janicke, Professor in Computer Science, Head of School of Computer Science and Informatics, Head of the Cyber Technology Institute (CTI), 01162577617, heljanic@dmu.ac.uk

Introduction

The aim of this project is to develop a mobile app that ordinary and non-technical home network user can use to help them set up and configure their home networks. Making sure that all security measures have been taken under consideration.

Project Background

Nowadays, with the increasing number of devices that connect to your home network puts your personal data at risk. Many home networks are improperly set up due to the lack of information and know-how on how to secure their home network, making them vulnerable to attacks from hackers. This is why it is very important to assist and guide home owners in securing their network.
As many home internet consumers, especially those who do not have an IT background, would generally leave all the default settings in place including the default password of their WIFI. Therefore, it is important to make sure they understand every security option made available to them.

Aim/Objectives/Deliverables

This is the heart of the Contract, and will require discussion with your supervisor and possibly several iterations to get it right. It is against the objectives and proposed deliverables that the final product will be assessed. So, it is important to ensure that all aspects of the assessment criteria (see Blackboard) are included in the list of objectives/deliverables.

Aims: The aim of this project is to develop a user-friendly android application to help non-technically minded home users set up securely their home network. Therefore, making sure that no device connected to the network is at risk.

Objectives:

- To understand and be comfortable at programming in java and using Android Studio
- To investigate all types of home networks security
- To investigate the implementation of Nessus in an app
- Add a glossary of all network security related terms
- Design the app in a user-friendly way

Deliverables: a list of your Project's deliverables with some general description.

	Research Projects	Development Projects	Hybrid Projects
First Submission (first deliverable) Week 7	• Project contract • Ethics form • Project Plan (e.g., Gantt Chart) • Global Checklist • Scoping Review	• Project contract • Ethics form • Project Plan (e.g., Gantt Chart) • Global Checklist • Literature Review	• Project contract • Ethics form • Project Plan (e.g., Gantt Chart) • Global Checklist • Literature Review

	(mapping out the key concepts and work in the field) • Research Questions	• Requirements • BCS checklist (if pertinent)	• Requirements • BCS checklist (if pertinent)
Final Submission (final deliverable) These are some examples: each project will need a complete set of objectives/deliverables Week 29	• Full literature Review • Updated (if needed) Research Questions • Report on the field study • Findings and analysis • Conclusions etc. • Reference list • Appendices (surveys, interviews evidence etc) • Maximum word count (main body): 15.000	• Use Case Diagrams/Use Case Descriptions/Class diagrams/ER model/State transition diagrams • Story boards/Interface Designs • Design Documentation • Test Plan • Prototype • Final report, including critical evaluation • Software • Appendices (e.g. further design documentation, test logs) • Maximum word count (main body): 15.000	• Use Case Diagrams/Use Case Descriptions/Class diagrams/ER model/State transition diagrams • Story boards/Interface Designs • Design Documentation • Test Plan • Prototype • Final report, including critical evaluation • Software • Appendices (e.g. further design documentation, test logs, surveys, interviews evidence) • Maximum word count (main body): 15.000
Viva examination: attended by the supervisor and the 2nd marker Weeks 30-32	• Oral examination (presentation of your work) During week 28 supervisors and students will need to start communication for setting up the Viva	• Oral examination (demo of your work) During week 28 supervisors and students will need to start communication for setting up the Viva	• Oral examination (presentation and demo of your work) During week 28 supervisors and students will need to start communication for setting up the Viva

Resources and Constraints

Resources: Android Studio, my smartphone for testing the app, papers on 'Home Network Security', Nessus vulnerability scanner, Wikipedia.com
Constraints: Home network with IoT devices connected to test the scanner

Sources of Information

- DMU Library
- The internet
- Android

Risk Analysis

- Compatibility issues between my phone and android studio. If this issue happens, I shall either get another android device or install an android emulator on my computer
- Not being able to implement Nessus scanner in the app. If this happens, I shall look for a similar scanner and try to integrate it to my app instead

Schedule of Activities

Week 5 -6: Research and learn all the different ways to secure a home network from different types of attacks and write literature review
Week 7: Make sure everything is in order for initial submission
Week 8: Draw up the design of the app: how the app will look like: main page, menu tab, splash screen, logo of the app
Week 9-11: Build the main structure of the app, without any feature: bare bones of the app, home screen, menu
Week 12: Add glossary page to the app with general network security terms
Week 14 -19: Build the main part of the app: Adding checklist component to the app, different configuration procedures depending on default routers from ISPs.
Week 20: Linking technical terms from the 'checklist' and router setup guide to the glossary
Week 21-22: Implement Nessus to the app
Week 23: Fully test the app
Week 24: Add graphics and improve the 'Front End' of the app
Week 25-28: Write the report: convert all the notes and drafts taken during these week to a well written paper.

Student_____**Naïm Maoun**_____ **Date**____**24/10/2017**__

Proposer _____ **Date**_____

Supervisor_____ **Date**_____

Keep the signed copy somewhere safe: include it with your initial submission. Your supervisor will require a copy as well.