

#### REPORT ON

## INFORMATION TECHNOLOGY (IT) STUDY OF

#### **AUTOMATED DRIVERS TEST**

For the period September 2013 – August 2017

**Prepared by** 

OFFICE OF THE AUDITOR GENERAL BRADES, MONTSERRAT
AUGUST 2018

# INFORMATION TECHNOLOGY (IT) STUDY ON AUTOMATED DRIVERS TEST

#### **AUTOMATED DRIVERS TEST**

This is a Report of an Information Technology (IT) study conducted by the Office of the Auditor General pursuant to Section 103 of the Montserrat Constitution Order 2010

Florence A. Lee Auditor General Office of the Auditor General August 2018

#### **PREAMBLE**

#### **Vision Statement**

"To be a proactive Supreme Audit Institution that helps the nation make good use of its resources."

#### **Mission Statement**

"The O.A.G is the national authority on public sector auditing issues and is focused on assessing performance and promoting accountability, transparency and improved stewardship in managing public resources by conducting independent and objective reviews of the accounts and operations of central government and statutory agencies; providing advice; and submitting timely Reports to Accounting Officers and the Legislative Assembly."

#### The Goal

"To promote staff development, enhance productivity, and maintain a high standard of auditing and accounting in the public sector, thereby contributing to the general efficiency and effectiveness of public finance management."

#### **TABLE OF CONTENTS**

PREAMBLE		iii
Vision Stateme	ent	iii
Mission Stater	ment	iii
The Goal		iii
Table of Conten	ts	iv
AUDITOR GENER	AL'S OVERVIEW	vi
EXECUTIVE SUM	MARY	vii
CHAPTER 1	INTRODUCTION	1
Overview		1
Management	Responsibility	1
Auditor's Resp	onsibility	
Audit Mandate	e	2
Audit Standard	ds & Guidelines	2
Audit Objectiv	es	2
Audit Scope ar	nd Methodology	2
CHAPTER 2	BACKGROUND	4
National ICT (I	NICT) Policy, Strategy & Implementation Plan Objectives	4
National ICT C	ouncil	4
Ministry of Co	mmunication, Works & Labour (MCWL)	5
CHAPTER 3	PRIVATISATION AND AUTOMATION OF THE DRIVERS' LICENCE ROAD TESTS	
Royal Montse	rrat Police Service (RMPS) - Traffic Division	6
Pre-Driving Te	st Fees and Driving Examination Procedures	6
Current Driver	s Licence Test Procedures	7
Samuel Enterp	orise	7
Duties of an A	ppointed Examining Officer	8
Observations.		8
CHAPTER 4	NATIONAL ICT AUTOMATED DRIVERS TEST PROJECT	11
Will-Tech Orde	ering Services Software (Will-Tech)	11
Project Ration	ale and Approach	11
Government P	<sup>9</sup> olicy	11
Project Object	ive	12
Project Descri	ption	12
Automated Dr	ivers Test Program	13
Wireless Clien	t-Server LAN Network	15
Observations.		16
CHAPTER 5	OUTSOURCING	18
Service Level A	Agreement and Contracts	18
Vendor/Contr	actor Monitoring	18

Retaining Ow	nership of Business Process/Business Knowledge and Data Rights	19
Observations		19
CHAPTER 6	INFORMATION SECURITY	20
Physical Secu	rity	20
Environmental Controls		
Logical Acces	s Controls	20
Network Con	trols	20
Security Polic	y	20
Observations		21
CHAPTER 7	APPLICATION CONTROLS	22
Input Contro	s	22
Processing Controls		
Output Contr	ols	22
Application S	ecurity	22
CHAPTER 8	BUSINESS CONTINUITY	23
CHAPTER 9	INFORMATION TECHNOLOGY (IT) OPERATIONS	24
Problem and	Incident Management	24
Change Mana	agement	24
CHAPTER 10	FINDINGS & RECOMMENDATIONS	25
CHAPTER 11	OVERALL CONCLUSION	27
CHAPTER 12	MANAGEMENT RESPONSE	28
REFERENCES		31
Web Pages		31
Documents		31
Publications.		31
APPENDIX I -	Excerpt from CAP 7.06 Road Traffic Act on Duties of an Examining Officer	33
APPENDIX II -	Excerpt from CAP 7.06 Road Traffic Act on Fees	34
APPENDIX III	- Samuel Enterprise Server and Router Setup	35
APPENDIX IV	- Exterior of Samuel Enterprise's Converted Container	36

#### **AUDITOR GENERAL'S OVERVIEW**

GOM undertook several initiatives to seek to modernize and improve the services it offers to the public. One such initiative was the introduction of an Automated Drivers Test programme where applicants for the driver's test can use automated driving tests on the computer.

Our review revealed that network architecture is secure and has adequate application controls in place to ensure the integrity, completeness and accuracy of the test results including the security of the automated software itself. Further, the system provides the flexibility for persons to instantly re-take the test.

On the other hand, we found some significant matters surrounding the programme that needs to be addressed. For example, GOM paid for the software but it was gifted to a private entity without the appropriate write-off and thus still remains on MCW's books. The entity that performs the driving tests is technically operating as a Licensing Officer. This is contrary to CAP 7.06 Road Traffic Act.

We have suggested actions that if implemented will address the matters highlighted.

Florence A. Lee

Auditor General
Office of the Auditor General

Angelos Complex,

Brades,

Montserrat

August 2018

#### **EXECUTIVE SUMMARY**

#### The Focus of our Audit

Government of Montserrat set out to encourage, favour and promote the identification, development, adoption and utilisation of ICTs, in order to advance the achievement of national strategic goals. They approved a National Information & Communication Technology (NICT) Policy, Strategy & Implementation Plan complete with guidelines on how the activities and initiatives were to be executed. The overall responsibility for the National ICT Policy, Strategy and Implementation Plan falls under the Ministry of Communications, Works and Labour (MCWL). In 2015/2016, MCWL through the NICT Council solicited submissions of NICT Projects and Innovations from the public and fourteen (14) projects proposals were successful. The Automated Driving Test Environment by Will-Tech was one of the successful proposed ICT projects.

#### **Key Findings and Recommendations**

Although there were several findings, only the most pressing concerns pertaining to MCWL were highlighted and the following recommendations were proposed:

- The Automated Drivers Test program and related computer equipment were publically gifted to Samuel Enterprise by MCWL on 15 November 2015; however, the Ministry did not follow proper protocol for the recording, writing off, and/or gifting of the assets.
- As per the revised *CAP 7.06 Road Traffic Act*, by law only the Licensing Officer is responsible for the collection of fees for both categories of the drivers licence tests, to be paid into the Treasury. There is no amendment in the law that permits Samuel Enterprise to do the same.
- The trudging of the candidates back and forth between the Licence Division and Samuel Enterprise to obtain and show proof of payment for the drivers' road and theory tests, is very tiresome and impractical.

We recommend the following considerations:

- I) MCWL did not follow protocol when gifting Samuel Enterprise with the automated test program and equipment; and therefore MWCL should correct this oversight by following procedure for the recording, writing off, and/or gifting of the assets.
- II) If Part 1, Section 7. (1) of the current *Road Traffic Act* is followed, Samuel Enterprise, by law, is not supposed to be collecting monies for administering the Automated Drivers Test and conducting the road test. This is not practical; as being a private company they must charge for the service they provide to candidates, in order to stay in business. This law needs to be regularised.
- III) MCWL, should consider streamlining the tedious back and forth with Samuel Enterprise, of the payment scheme process between them by making it paperless; i.e. emailing the receipts and road test forms. A paperless system will reduce the department's administrative overheads, increase its efficiency, and maximize customer service.

#### Conclusion

The Office of the Auditor General determined that the Automated Drivers Test program modernised the drivers' theory test. It provides the flexibility of instantly re-taking the test numerous times, and generates revenue for the GoM.

The client server network that houses the Automated Drivers Test provides centralised control from the server laptop where access to the test from the client laptops, storage of all the automated test files and resource allocation, is done by the server. This type of network architecture is secure and has adequate application controls in place to ensure the integrity, completeness and accuracy of the test results including the security of the automated software itself.

#### CHAPTER 1 INTRODUCTION

#### Overview

In 2012, the Government of Montserrat (GoM) set out to encourage, favour and promote the identification, development, adoption and utilisation of ICTs, as appropriate, in order to advance the achievement of national strategic goals. They approved a National Information & Communication Technology (NICT) Policy, Strategy & Implementation Plan complete with guidelines on how the activities and initiatives were to be executed. The National ICT Policy identified specific objectives in the focus areas: Environment, Learning, Access, Virtual, and Adoption (e-lava) and the NICT Policy, targeted these five focus areas for ICT intervention and/or development in order to realise the National ICT Vision. In an effort to ensure that the National ICT Strategy was successfully executed, a detailed Implementation Plan was prepared, which included major programmes and timelines along with considerations for governance, funding, change management and stakeholder engagement.<sup>1</sup>

The overall responsibility for the National ICT Policy, Strategy and Implementation Plan that resides with the Ministry of Communications, Works and Labour (MCWL). The Director of the Strategic Management and Administration division, in conjunction with a Cabinet-appointed National ICT Council, oversees and ensures the successful implementation and execution of the National ICT Policy Strategic Implementation Plan. Subsequently, in 2015/2016, MCWL through the NICT Council extended a request to the general public for submission of their NICT Projects and Innovations for consideration and approval. Only Fourteen (14) projects were ranked as the top and selected out of a total of twenty-seven (27) proposals, and the fourteen (14) successful applicants were collectively awarded grants in the region of XCD\$500,000.00.

The Automated Driving Test Environment, submitted by Will-Tech, was one of the successful proposed ICT project. The software developer's objective was to make the written or theory segment of the drivers' license test be, "...electronic and automated thus improving efficiency within the Traffic Department..."<sup>2,3,4</sup>

#### **Management Responsibility**

Management is responsible for ensuring that appropriate policies and effective controls exist. More specifically, management must ensure that policies and controls exist to facilitate IT Operations, Outsourcing, Information Security, and to guide the development of Business Continuity planning. Management is also responsible for establishing appropriate Application Controls and for ensuring that they function effectively.

#### **Auditor's Responsibility**

Our responsibility is to independently express a conclusion on IT Operations, Outsourcing, Information Security, Business Continuity, and Application Controls, for the Ministry of

<sup>&</sup>lt;sup>1</sup> Montserrat's National ICT Policy, Strategy & Implementation Plan 2012 - 2016

http://www.mnialive.com/articles/14-ct-projects-approved-in-phase-1-of-montserrats-national-ict-policy-plan-implementation

http://www.mnialive.com/articles/the-ministry-of-communications-works-and-labour

<sup>4</sup> https://m.facebook.com/MontserratGOV/posts/526542550838252

Communication Works and Labour (MCWL) based on our audit. Our work was conducted in accordance with ISSAI 100, 5300, and ISAE 3000. These principles require that we comply with ethical requirements and plan and perform the audit in order to obtain reasonable assurance whether tried and true policies, plans, procedures, and internal controls exist and are functioning effectively, proper records have been and are being kept, and all the necessary information and explanations for the purpose of our audit, has been obtained.

#### **Audit Mandate**

The Office of the Auditor General (OAG) is mandated through the Montserrat Constitution Order 2010 to perform the audit. This mandate is supported by ISSAI 1, 200, 300, 400, and strengthened by the Revised Laws of Montserrat CAP 17.07 Public Finance Management and Accountability Act (PFMAA).

#### **Audit Standards & Guidelines**

The standards and guidelines used to assess the IT Operations, Outsourcing, Information Security, Business Continuity, Application Controls and assessments included the use of ISSAI 1, 100, 3100, 4100, 5310, COBIT 4.1, FISCAM, and NIST, together with the IDI Handbook for IT Audits.

#### **Audit Objectives**

The main purpose of this I.T. performance review is to assess and determine if:

- A. The automated test program
  - modernised the drivers theory test
  - generates revenue for the GoM, and
  - gives candidates the flexibility of re-taking the test instantly and any number of times that they so desire.
- B. The services of an outside entity was solicited and/or contracted to develop the Automated Drivers Test application software.
- C. The key stakeholders run the inherent risk of loss of the Automated Drivers Test program's business knowledge, and abdicating or losing the ownership of test's business process, which may be claimed by the service provider as their intellectual property.
- D. The network is secure with adequate and suitable application controls in place to ensure the integrity, completeness, and accuracy of the test results and also the security of the software itself.
- E. Provisions were made by stakeholders to ensure continuance of the service, especially if there was a security breach of the application software, or onset of inclement weather or the unforeseen incidences of emergency.

#### **Audit Scope and Methodology**

The study will cover the period September 2013 to August 2017 and will focus on the examination of the policies, procedures, and controls that guide the operations, outsourcing,

physical, environmental and logical access and security and business continuance of the Automated Drivers Test.

A combination of techniques were utilised to gather information and assess whether relevant controls existed, were implemented, and if they were effective in ensuring that candidates' personal data and automated test itself are protected and there is continuance of service. These included, but were not limited to, interviewing of the key stakeholders of the ICT project from MWCL, RMPS, Samuel Enterprise, Will-Tech, and other relevant personnel, inspection of documents and assets, and issuance of questionnaires to the key stakeholders in order to gather in-depth information about the software program Automated Drivers Test.

The findings of this report were discussed with the Director (Ag) of Strategic Management and Administration Ministry of Communications, Works & Labour, and her view(s) were taken into consideration when finalising the report.

#### CHAPTER 2 BACKGROUND

#### National ICT (NICT) Policy, Strategy & Implementation Plan Objectives

- In 2012, the Reuben Meade Administration set out to encourage, favour and promote the identification, development, adoption and utilisation of ICTs, as appropriate, in order to advance the achievement of national strategic goals. They approved a National Information & Communication Technology (NICT) Policy, Strategy & Implementation Plan complete with guidelines on how the activities and initiatives were to be executed. The National ICT Policy identified specific objectives in the focus areas: Environment, Learning, Access, Virtual, and Adoption (e-lava) and the NICT Policy, targeted these five focus areas for ICT intervention and/or development in order to realise the National ICT Vision.
- 2. In an effort to ensure that the National ICT Strategy was successfully executed, a detailed Implementation Plan was prepared, which included major programmes and timelines along with considerations for governance, funding, change management and stakeholder engagement.
- **3.** Key features of the governance structure for the implementation of the Strategy, included, among other things, the:
  - Overall responsibility for the National ICT Plan residing with the Ministry of Communications, Works and Labour (MCWL);
  - Creation of a Cabinet-appointed multi-stakeholder National ICT Council responsible for steering and advising on execution of the National ICT Strategy;
  - Creation of a National ICT Secretariat within the MCWL, with functional responsibility for the implementation and execution of the National ICT Strategy.
- **4.** This NICT Policy, Strategy & Implementation Plan have since then been revised for the period 2017 2021.

#### **National ICT Council**

- 5. The Cabinet-appointed National ICT Council's main function is to oversee and manage the defined National ICT Policy, Strategy and Implementation Plan activities and initiatives for 2012 2016 (including the revised ones for the period 2017 2021).
- **6.** The NICT Council consists of suitable persons from the public and private sectors including the civil society, who together provide the level of expertise and experience necessary for effective oversight of the National ICT Strategy.
- **7.** The NICT Council was established to specifically:
  - (i) execute management and advisory functions and reporting to the Minister of Communications, Works and Labour
  - (ii) acts as the steering committee for the implementation and execution of the National ICT Strategy
  - (iii) serves as an advisory body to the Minister of Communications, Works and Labour on matters of ICT policy and priority and

(iv) assist with seeking funding and/or financial support for the Strategy's many initiatives and incubation-type activities.<sup>5</sup>

#### Ministry of Communication, Works & Labour (MCWL)

- 8. The overall responsibility for the National ICT Policy, Strategy and Implementation Plan that was approved by the previous government in 2012, resides with the Ministry of Communications, Works and Labour (MCWL). The Director of the Strategic Management and Administration division, in conjunction with a Cabinet-appointed National ICT Council, oversees and ensures the successful implementation and execution of the National ICT Policy Strategic Implementation Plan.
- 9. It was stated by the previous government, in Cabinet documentation, that operational costs should be proposed in recurrent budgets to implement the strategies outlined in the NICT Policy, Strategy and Implementation Plan. However, this mandate was not executed by the then Honorable Minister who was responsible for MCWL.<sup>6</sup> Nonetheless, MCWL continued to submit proposals to Cabinet to include the NICT plan operations element in their recurrent budgets and as recent as May 2017, Cabinet acknowledged this proposal in a Decision.
- 10. However In 2015, the present Honourable Minister of MCWL discovered an overlooked portfolio of XCD\$1.8 million earmarked for ICT in the custody of the Office of the Premier (OotP). Consequently, four (4) years after the NICT Plan was effected, the GoM permitted MCWL to access this funding provided by the European Union and GoM, to be utilised in the advancement of the NICT Policy Strategy and Implementation Plan.
- 11. Subsequently, in 2015/2016, MCWL through the NICT Council extended a request to the general public for submission of their NICT Projects and Innovations for consideration and approval. Only Fourteen (14) projects were ranked and selected out of a total of twenty-seven (27) proposals, by the NICT Council. The fourteen (14) successful applicants were collectively awarded grants in the region of XCD\$500,000.00, after they signed the agreements that were drafted and executed by the Legal Department.
- **12.** The Automated Driving Test Environment, submitted by Will-Tech, was one of the successful fourteen (14) proposed ICT project. The software developer's objective was to make the written or theory segment of the drivers' license test be, "...electronic and automated thus improving efficiency within the Traffic Department..."<sup>7,8,9</sup>

Montserrat's National ICT Policy, Strategy & Implementation Plan 2012 - 2016

<sup>&</sup>lt;sup>6</sup> Cabinet Decision on Memorandum No: 64/2017, dated 25 May 2017, by Hon Minister of Communication, Works and Labour

http://www.mnialive.com/articles/14-ct-projects-approved-in-phase-1-of-montserrats-national-ict-policy-plan-implementation

<sup>&</sup>lt;sup>8</sup> http://www.mnialive.com/articles/the-ministry-of-communications-works-and-labour

https://m.facebook.com/MontserratGOV/posts/526542550838252

### CHAPTER 3 PRIVATISATION AND AUTOMATION OF THE DRIVERS' LICENCE WRITTEN AND ROAD TESTS

#### Royal Montserrat Police Service (RMPS) - Traffic Division

- **13.** Traditionally the Royal Montserrat Police Service (RMPS) were responsible for the oversight and administration of drivers licence written tests and drivers licence road tests. Various Police Officers had been appointed as Examining Officers for this purpose.
- **14.** The RMPS, with the support of the Government of Montserrat (GoM), chose to outsource this service. Consequently the Transportation Board and the Driving Tutor Committee recommended that the function be assigned to civilian private personnel.
- **15.** A call for proposals on the privatisation and administration outside of the RMPS was circulated. A single proposal was received from Samuel Enterprise and the offer was accepted. Conjointly the company and the Traffic Department of the RMPS, designed a transition plan for the privatisation of drivers licence written and road tests. The plan was implemented in January 2014 as a pilot project. <sup>10</sup>

#### **Pre-Driving Test Fees and Driving Examination Procedures**

- **16.** Before the administration of the drivers licence written and road tests service was privatised and the Automated Driving Test Program was implemented, persons desirous of obtaining a driver's licence for
  - a private motor vehicle or motor bike,
  - upgrade from Temporary to Private, or
  - upgrade from Private in order to operate larger motor vehicles (omnibus, truck, lorry, heavy equipment),

#### had to do the following:

**A.** Obtain a Learner's Permit from the MCWL License Division, "...For the purpose of learning to drive, a person (in this section referred to as a "learner") may, though he does not hold a driver's licence, drive a motor vehicle on a road if he holds a written permission to do so (in this section referred to as a "learner's permit") granted by the Licensing Officer:..."

Licensing Officer:..."

Learners had to be 17 years of age for motorcars and 16 years of age for motorcycles.

This receipt was retained to show as proof of payment.

- **B.** After contracting a suitably qualified driving instructor, or the aid of an experienced licensed motorist, to instruct them on how to correctly drive/operate/ride a motor vehicle, heavy duty equipment or motor cycle on the public road, the learner had to pay the Licence Division for the written or theory, and road tests, respectively.
- **C.** Sit the written/theory examination consisting of 60 short answers on driving and road procedures, plus the identification of road traffic signs, road markings and hand signals,

<sup>&</sup>lt;sup>10</sup> MEMORANDUM BY H E THE GOVERNOR MEMO NO.: 45/2014, DATE: 07 February 2014

<sup>&</sup>lt;sup>11</sup> Montserrat Chapter 7.06, Road Traffic Act and Subsidiary and Related Legislation, Revised Edition January 2013

set by the RMPS Traffic department from the Driving Examination Study Guide. Learners had to obtain a passing grade of 70%.

Motorcyclists sat a separate theory examination paper consisting of 20 multiple choice questions. The passing grade was also 70%.

- **D.** Learners had to pass the road test. Once successful, they will be given a certified competency form by the RMPS Examination Officer to submit to the Licence Division in order to obtain their drivers licence.
- **E.** RMPS Traffic Department would also conduct a Board Test with the new drivers. This lecture was geared at educating them about the proper use of the roads, how to conduct themselves in cases of emergency or road accidents, etc., and using relatable scenarios.
- **F.** After the Board Test, a Certificate of Completion was also issued to the new drivers for them to take to the Licence Division in order to obtain their drivers licence.

#### **Current Drivers Licence Test Procedures**

- **17.** The existing post-privatisation drivers licence test procedures consist of the above steps, including the following:
  - **G.** Presenting MCWL's Licence Division receipt to Samuel Enterprise's Examination Officer as proof of payment, before paying the company's own fee for the Automated Driving Test or Road Test.
  - **H.** Sit the Automated Driving Test and obtain a pass mark of 85%. The test can be re-taken immediately, once the candidate pays Samuel Enterprise on the spot, or on another designated day of the week. Motorcyclists do not take a theory examination; their knowledge of how to ride a motor bike, road safety procedures, etc., is instead tested verbally by the Examination Officer.
  - I. Samuel Enterprise does not conduct a Board Test as their predecessors; they however give the new drivers a pep-talk on how to conduct themselves on the road after receiving their drivers' licence, using real life experiences as illustrations. In addition, they disseminate to the new drivers, helpful driving information (handouts) that can apply locally and abroad, i.e. in United Kingdom.
- **18.** Samuel Enterprise also officiates the theory/written portion of the drivers' licence test. Customarily, all applicants had to write down their answers and their test papers graded by an Examination Officer, until the automated version of the test was created by Will-Tech Ordering Services Software.

#### **Samuel Enterprise**

19. Samuel Enterprise is a small private company established in 2013, owned and operated by a veteran driving instructor, assisted by a retired RMPS officer from the Traffic Division. Initially, Samuel Enterprise operated their business out of the RMPS Station until they relocated to a modified storage container adjacent to the John Alfred Osborne airport, in Geralds.

- **20.** According to Former Premier Reuben T. Meade, in the 2013/2014 budget speech, "...A key policy outcome is that of encouraging private investment to the island, and to support local entrepreneurs in business development. This is being done by creating the necessary framework within which they can operate. We will, among other things, continue to critically analyse the public sector and identify services which can be more efficiently provided by the private sector...". 12
- **21.** Consequently, in 2013 when it was decided by the GoM that the administration of the drivers licence written and road tests should be privatised, a request was made to the presiding Governor at the time, to have the owner/manager of Samuel Enterprise appointed as an Examining Officer with a duplicate notification to the Licensing Officer at the MCWL.<sup>13</sup>

#### **Duties of an Appointed Examining Officer**

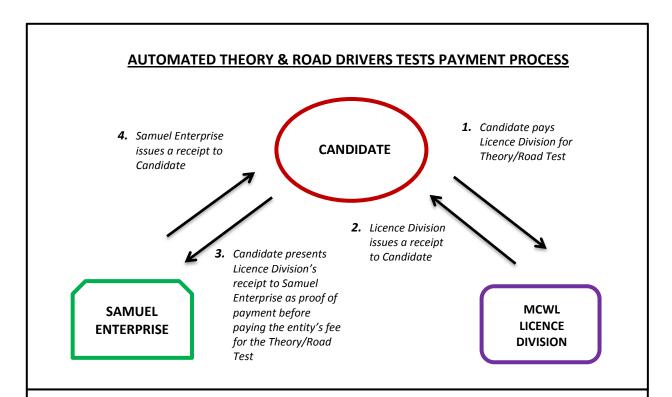
**22.** In accordance with the January 2013 revised edition of CAP 7.06 Montserrat Road Traffic Act (see excerpt below), the owner of Samuel Enterprise was appointed by the Governor as an Examining Officer. He is responsible for testing and determining the competence of applicants for drivers' licenses, to maneuver and control a motorcar, motor or quad bike, motor lorry, omnibus, or heavy equipment, on the public roads. Once satisfied, a certificate of competency is issued to the applicant.

#### **Observations**

- **23.** We were unable to review and verify the tender or proposal documents received by the GoM to privatise the oversight and administration of the drivers licence written and road tests service. No related documentation was submitted to us, despite our request.
- 24. Previously, the RMPS provided drivers licence written and road tests services free of cost to the general public as it was a subsidised function that was a part of the department's operations. However, the previous ruling government decided to privatise the oversight and administration of the drivers licence written and road tests function in order to reduce the financial and administrative burden on the RMPS. Consequently, more of the department's manpower and resources have been liberated and have enabled them to concentrate on Road Traffic enforcement.
- **25.** As stated in the MEMORANDUM BY H E THE GOVERNOR: Memo No.: 45/2014, Date: 07 February 2014, only the owner of Samuel Enterprise, is an appointed Examining Officer with the authority to conduct road tests and issue certificates of competency. His assistant does not have the authority to sign-off the road test forms, nor issue certificates of competency.
- **26.** Traditionally, the Licence Division only collected money for the drivers licence road test. Currently, both the Licence Division and Samuel Enterprise, collects fees for the automated theory and road test as outlined, below. This payment scheme and process, translates into a very tedious and costly one for members of the general public as outlined below:

<sup>&</sup>lt;sup>12</sup> Budget Statement 2013/14 – Counting Our Blessings Amidst The Challenges

<sup>&</sup>lt;sup>13</sup> MEMORANDUM BY H E THE GOVERNOR: MEMO NO.: 45/2014, DATE: 07 February 2014



SAMUEL ENTERPRISE SCHEDULE OF FEES (XCD)			
Automated Drivers Test	\$30		
Road Test (as per category of motor vehicle)			
Motorbike	\$100		
Quad Bike	\$100		
Motor Car	\$200		
Motor Lorry	\$200		
Omnibus	\$200		
Heavy Duty Equipment	\$200		
Excavator	\$200		

MCWL LICENCE DIVISION SCHEDULE OF FEES (XCD)			
Automated Drivers Test	\$20		
Road Test	\$50		

**27.** As per the CAP 7.06 Road Traffic Act, by law only MCWL's Licensing Officer is responsible for the collection of fees for both categories of the drivers' license tests, to be paid into the Treasury. There is no amendment in the Road Traffic Act that states that Samuel Enterprise is allowed to do the same. However, in order for the private company to be viable, it has to charge the candidates for services rendered.

#### CHAPTER 4 NATIONAL ICT AUTOMATED DRIVERS TEST PROJECT

#### Will-Tech Ordering Services Software (Will-Tech)

28. Will-Tech Ordering Services Software (Will-Tech) was one of the successful applicants who submitted an ICT project proposal in response to MCWL's/NICT Council's request for the submission of NICT Projects and Innovations for consideration and approval. Will-Tech's ICT project proposal was to automate the written drivers' test in order "...to improve the written driving test to make it electronic and automated thus improving efficiency within the Traffic Department..." The company was awarded a grant totaling XCD\$27,000 to design, construct, and implement the automated driver's theory test program. 14,15

#### **Project Rationale and Approach**

- **29.** The rationale behind Will-Tech's project proposal was that the written theory portion of the Drivers Licence Test was outmoded, in comparison to other governments that had gravitated towards paperless or green systems. Another drawback was that the candidates who sat the exam had to wait for over a week to receive their examination results (pass or fail). The implementation of the proposed project would enable the candidates to get their grades immediately.
- **30.** In addition, the administrators of the test would benefit from the enhanced features such as storage of the test records, the ability to query these records, and to produce statistical results in the form of reports. The information would be useful for MCWL as licensing falls under its portfolio. Furthermore, a fee for taking the drivers licence theory test could be introduced.
- **31.** The project was conceptualized mainly due to the large number of complaints from applicants, about the week-long waiting period for their written test results. Also, it was realised, that the RMPS could only facilitate the written test on one particular day per week (Thursdays) within a specific time frame and only to a limited number of applicants [five] at a time. The traffic division attributed the long turnaround time for test results to lack of sufficient human and physical resources.
- **32.** The network design was to be a simple one, that is, a small wireless local area network that would be independent of the GoM's/Department of Information Technology and e-Services (DITES') network.

#### **Government Policy**

**33.** The project would be categorised under ICT Infrastructural and institutional development. It would enhance an area of the MCWL's portfolio and business activities thereby leading to an effective delivery of service with the appropriate facilities. <sup>16</sup>

http://www.mnialive.com/articles/14-ct-projects-approved-in-phase-1-of-montserrats-national-ict-policy-plan-implementation

<sup>15</sup> http://www.mnialive.com/articles/the-ministry-of-communications-works-and-labour

<sup>&</sup>lt;sup>16</sup> Project Proposal for the Automated Driver's Testing Environment, Will-Tech Ordering Services Software, 2014

#### **Project Objective**

- **34.** The objectives of Will-Tech for developing this program were to:
  - Provide an electronic medium for taking the driver's theory test on a weekly or biweekly basis based on demand, thereby increasing the number of people or attempts at taking the test
  - (ii) Modernise the test to enable MCWL or Police Department to become a new revenue centre for the GoM via fees being charged for taking the drivers theory test
  - (iii) Generate monthly reports to verify amount of revenue going to the Treasury from taking the test, as well as give statistical measure in the number of persons taking the test.
- **35.** The project's monthly reports were to be the indicators, to measure whether or not the project was capable of its worth and to furnish statistical measure of the revenue being generated.
- **36.** There were to be two measurable outputs from the project, that is:
  - (i) The statistics generated from the records stored in the program and
  - (ii) The revenue paid into the Treasury from the automated test fee.

#### **Project Description**

**37.** Phase 1: Purchase of the Equipment

Sourced and ordered all equipment and devices. Estimated time to complete the procurement process was two weeks to one month.

**38.** Phase 2: Configuring of Equipment

Configured and networked the devices. Estimated time to ensure that all of the devices were working correctly and that the network topology functioned properly in order to support the Automated Drivers Test software was two weeks.

39. Phase 3: Development of Software

Designed the Automated Drivers Test software, which was the backbone of the project and very intricate process. Consequently, estimated timeline for the coding, testing, and modification in order to create the best quality software and user experience, was three weeks to month.

40. Phase 4: Deployment of Software

Final stage where the Automated Drivers Test was implemented/installed on the actual working environment. Estimated time for this process was one week to give allowance for testing purposes. <sup>17</sup>

<sup>&</sup>lt;sup>17</sup> Project Proposal for the Automated Driver's Testing Environment, Will-Tech Ordering Services Software, 2014

#### **Automated Drivers Test Program**

- **41.** The Automated Drivers Test Program is very straightforward and user-friendly and it is a prerequisite for new drivers, before they can take the road test.
- **42.** The design of the test was structured based on the information obtained through meetings with all of the stakeholders. It was created using Microsoft Office Access with Visual Basic codes that allowed the developer to write coding/script to create the test. The quizz took into consideration previous multiple choice questions from the original handwritten test and some reconfigured long answer questions, as well as new questions formulated by the developer from the designated study handouts (Driving Examination Study Guide). Some of the questions were later revised by Samuel Enterprise after the program was launched, because as pointed out by Will Tech in one of the reports, "...stakeholders are not always sure what they want until they see the actual or beta format of the product..."
- **43.** The test consists of forty (40) multiple choice questions, twenty-five (25) of which are theory and fifteen (15) are road signs; it is divided into four (4) sections each of which contains ten (10) questions. Therefore, if more than 6 questions are answered incorrectly, the candidate will automatically receive a failing grade. Candidates must obtain 85% and up, in order to pass.
- **44.** To start the Automated Drivers Test Program, From the Main Menu window, Candidates have to click on the Take Test button. There is also the option to exit the test by clicking the Quit Application button.

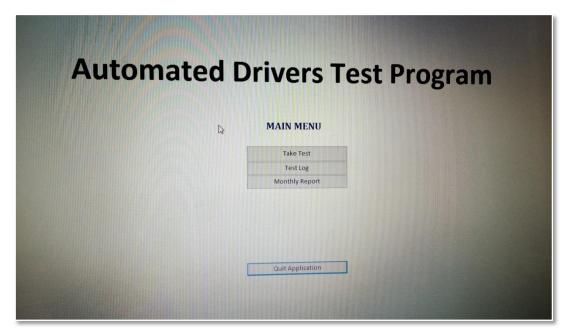


Figure I – Automated Drivers Test Program Main Menu Page

**45.** Candidates enter their First Name, Last Name, Email (optional), and Entry Date. The Entry Date (or date the test was taken) can be inserted either manually by the candidate, or by

<sup>&</sup>lt;sup>18,</sup> ICT Project Final Report, Automated Driver's Theory Test Environment, Will-Tech (George Willian O'Brien)

<sup>&</sup>lt;sup>19</sup> GoM Development Project Quarterly Progress Report, Report/2015-2016/ICT Project/MCWL, Will-Tech

clicking on the calendar icon that is provided. Once icon is clicked, a calendar appears with the current month and dates for candidate to select. All of these inputted details are displayed in tabular form in an Excel report, on the server. The candidates can be monitored by the test administrator from this report format, i.e., the number of times they took the test, their scores and results, and if they have completed and/or submitted the test. The actual automated test program being taken by candidates cannot be viewed or accessed from the server.

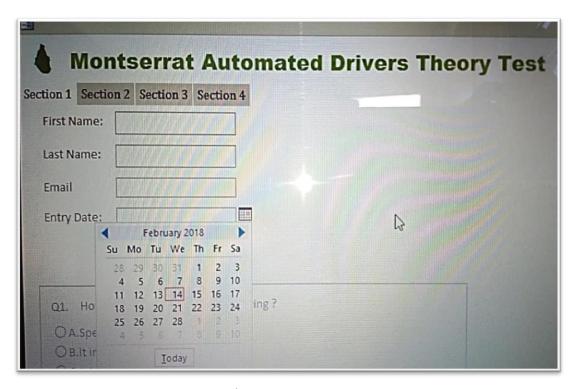


Fig II – Automated Drivers Test Program Section 1 Page

**46.** To discourage cheating between candidates, there are four (4) different versions of the test, which are randomly selected by the program. Each test has a random variable function numbered from 1 – 4 that corresponds with a test:

Variable 1 = Test 1

Variable 2 = Test 2

Variable 3 = Test 3

Variable 4 = Test 4

therefore, when an applicant clicks on the **Take Test** button, a number is generated by the random variable function which chooses the test. Hence, no two candidates will ever sit the same version of the theory examination, concurrently.

**47.** Candidates select their answers by clicking on the corresponding radio buttons. The program automatically tallies all of the correct answers and outputs the candidate's scores and results (pass/fail). Once the person taking the test clicks on the Submit button, these score/results, along with their name and the entry date, will be instantly posted to the Excel report on the server laptop.

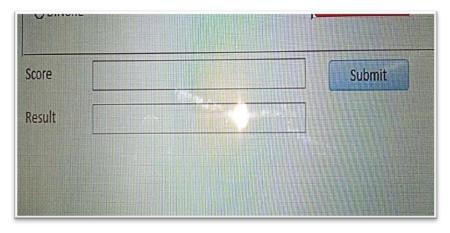


Fig III – Automated Drivers Test Program Score/Result Fields

#### **Wireless Client-Server LAN Network**

- **48.** Funds for the procurement of the wireless network equipment/devices for the project (listed below), were included in the ICT Grant:
  - 1 Dell Optiplex 760 desktop computer
  - 6 ASUS X551 15.6-inch laptops
  - 6 Optical Wireless mouse
  - 1 HP Officejet Pro 8610 Wireless all-in-one printer and ink cartridges
  - 3 APC Uninterrupted Power Supply (UPS)
  - 1 Wireless Router
  - 3 Power Strips

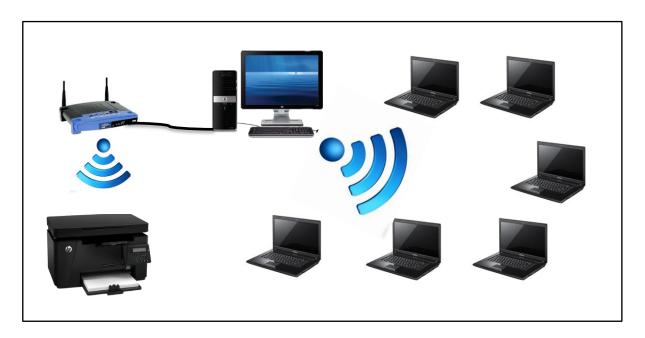


Diagram 1 – Samuel Enterprise's (Original) Wireless LAN Configuration

- **49.** The network is an uncomplicated Wireless Local Area Network (LAN) with client-server architecture where the desktop PC is a dedicated backend database server (host) that stores the main copy of the Automated Drivers Test Program. Currently, one of the six (6) laptops is being utilised as the server, because the desktop PC went bad.
- **50.** All of the equipment is networked through the wireless router. The server houses the main copy or the backend, of the Automated Drivers Test Program in a shared drive folder. Subfolders in the shared drive were also created during the configuration to distribute Microsoft Office 2013 suite and the printer drivers.
- **51.** Hence, whenever any of the 6 laptops (clients) wants to gain access to the automated test, it has to first connect to the server, which in turn runs and serves up the test application to the requesting laptop (client). This Wireless LAN configuration was adopted to facilitate future expansion i.e. by just adding more laptops (scalability).
- **52.** The remaining five (5) laptops (or clients) only contain client applications that enable them to connect to the server. The laptops are setup between or behind, narrow wooden partitioned mini-cubicles that provides each candidate with some semblance of seclusion.



Fig VIII – Partitioned Cubicles with Laptops

#### **Observations**

- **53.** The functionality for the generation of monthly revenue verification reports exist on the server. Samuel Enterprise would have to enter a start and end date in order to run these statistical reports. So far the entity has not utilised this feature, or the statistical measure on the number of candidates who sat the test. Candidate records span from September 2015, until present.
- **54.** Although the automated theory examination is still facilitated only on one day per week (Wednesdays) and to a maximum of five (5) persons at a time, the candidates have the

- flexibility of re-taking the test immediately, if they so desire, once they can pay Samuel Enterprise right on the spot.
- **55.** Samuel Enterprise personnel are not computer savvy and are not adept at monitoring the candidates taking the automated test, on the server laptop. Consequently, there have been recurrent incidents of persons re-taking the exam 2 and/or 3 times until they have passed, without the invigilator's knowledge, and also without paying. However, once Samuel Enterprise belatedly reviews the records and became aware of the underhandedness, they will recall the offender(s) and reclaim payment for the additional exams that were repeated dishonestly.
- **56.** The All-in-one printer has not been set up/or used since Samuel Enterprise to their new premises at Geralds. It was being stored on the floor in the original carton box it was shipped in, near a window, and as a consequence got wet during the passage of one of the hurricanes in September/October 2017.
- **57.** Due to the lack of use of the All-in-one printer, Samuel Enterprise is spending a good percentage, of what little revenue they earn, on printing forms and study handouts.

#### CHAPTER 5 OUTSOURCING

- **58.** MCWL has no formal and/or documented outsourcing policy, or any list highlighting the services that could be outsourced or any clear approval process for the outsourcing of a function/service.
- **59.** Will-Tech was one of the 27 applicants who responded to a public/open invite from the MCWL, via the NICT Council, to tender their ICT innovations and projects for consideration. It was also one of the 14 successful projects that were selected and awarded funding by the MCWL under the Montserrat National Information Communication Technology (ICT) Policy Strategy and Implementation Plan.

#### **Service Level Agreement and Contracts**

- **60.** Will-Tech signed an Agreement for ICT Grant or a Contract that was drafted and executed by the GoM's Legal department. The clauses/terms of the contract included the following:
  - 1. Definitions
  - 2. Term of Agreement
  - 3. Grant
  - 4. Will-Tech Ordering Services Software Contribution
  - 5. Undertakings of the Grantee
  - 6. Undertakings of the Grantor
  - 7. Ownership
  - 8. Variation to ICT Project Proposal
  - 9. Delay
  - 10. Termination
  - 11. Dispute Resolution
  - 12. Variation to Agreement
  - 13. Severability
  - 14. Governing Law
  - 15. Notice

#### **Vendor/Contractor Monitoring**

- **61.** As per Clause 5, and terms vi & vii of the ICT Grant Agreement, Will-Tech did the following to allow periodic monitoring by MCWL/NICT Council:
  - Submit Schedule 1 Project Description
  - Submit Schedule 2 Work Plan
  - Submit a Quarterly Progress Report
  - Submit a Final Project Report
  - Conduct a single demo of the programme at the opening ceremony to all of the stakeholders and MCWL, in November 2015.

#### Retaining Ownership of Business Process/Business Knowledge and Data Rights

- **62.** According to the terms of clause 7 of the signed Agreement for ICT Grant, the Grantor, which is MWCL, retained ownership of the Automated Drivers Test programme. This included any copyright, patent, trade secret, and any other intellectual property right (data rights), that Will-Tech may have in anything created or developed, under the agreement.
- **63.** The current ruling government's gesture of gifting assets in the form of the Automated Drivers Test program and the associated computer network hardware/equipment, to Samuel Enterprise, was not executed properly.
- **64.** As per the Agreement for ICT Grant that the MCWL presented to Will-Tech, the OWNERSHIP clause or clause 7, clearly states:
  - A. The Grantor retains ownership rights to any hardware, equipment or item acquired by the Grantee from the expenditure of the grant amount.
  - B. The Grantor retains all copyright, patent, trade secret, and any other intellectual property right that the Grantee may have in anything created or developed by the Grantee under this Agreement.
- **65.** In other words, the software, electronic devices, and other items, are the property of MCWL/GoM and are classified as government assets; all Government assets have to be documented in an asset register.
- **66.** Secondly, as per the Revised Laws of Montserrat CAP 17.07 Public Finance (Management and Accountability (Act)), Part 11 Section 55. Gifts of Stores and other property, permission has to be granted by the Financial Secretary (FS) to dispose of, or gift assets, once their value is under XCD\$5,000. If over that amount, then the Minister of Finance has to impart the authority.
- **67.** Consequently, the OAG realised the following oversights:
  - (i) Neither the Automated Drivers Test software, nor the computer equipment/hardware/items that were developed/purchased and relinquished by Will-Tech over to MCWL, were documented in their departmental asset register.
  - (ii) No formal authorisation was given by either the FS, or Minister of Finance, to gift the aforementioned items to Samuel Enterprise.

Therefore, MCWL still owns these assets and the Automated Drivers Test software.

#### **Observations**

**68.** Will-Tech, stated in its final report that the company would provide three (3) months of gratis helpdesk support, after which a fee would be charged. However, Will-Tech still provided helpdesk services after the gratis period and to date has not been paid by Samuel Enterprise for the helpdesk services rendered. It was found that Will-Tech themselves have been tardy about invoicing Samuel Enterprise.

#### CHAPTER 6 INFORMATION SECURITY

#### **Physical Security**

- **69.** Samuel Enterprise operates out of an old, converted, 20-foot container that they purchased with their own funds. Security is a concern, as the front door of the converted container cannot be locked with a key; it is instead secured with a metal hasp & pin and an ordinary padlock. The back door is more secure as it has both deadbolt and cylindrical door knob, locks that have to be opened by key.
- 70. The sole wooden and metal exterior window on one side (facing Sliver Hills) shows visible signs of deterioration and water damage from prolonged exposure to the elements. The other set of windows on the other side of the container are aluminum louvers, some are hard to open as winders are either stiff or are broken. They have to be forcibly opened, manually.

#### **Environmental Controls**

**71.** The network at Samuel Enterprises is supported by a backup UPS and power surge strips. Although there is no sign of water leakage/damage inside, the exterior of the container is showing visible signs of wear and tear from being exposed to the elements (holes derived from rusting, warping, growth of moss on window sill, etc.). There is also no air conditioned environment as recommended by Will-Tech to keep the network equipment, cool.

#### **Logical Access Controls**

**72.** Samuel Enterprise's wireless router access is open and not password protected; therefore anybody within range of their building can connect to the router. Also, the server and client laptops are not password protected.

#### **Network Controls**

- 73. Client-server environments are popular because they increase application processing efficiency while reducing costs and gaining the maximum benefit from all resources working together. These benefits are gained by splitting processing between the client machine/software and server machine/software. Each process works independently but in cooperation and compatibility with other machines and applications (or pieces of applications).20
- **74.** Samuel Enterprise's network is a simple Wireless LAN with client-server configuration where control is centralised that is, access, resources, and integrity of the automated test data, are all controlled by the dedicated server.

#### **Security Policy**

**75.** MCWL has no IT security policy document in existence. However, there is no inherent risk of loss of business knowledge or data rights to the information stored by the automated test. The Agreement for ICT Grant that was drafted by the Legal department and signed by Will-Tech, clearly states that MCWL retained ownership of the Automated Drivers Test

<sup>&</sup>lt;sup>20</sup> https://www.techopedia.com/definition/441/database-server

programme, including any copyright, patent, trade secret, and any other intellectual property right (data rights), that Will-Tech may have in anything created or developed, under the agreement.

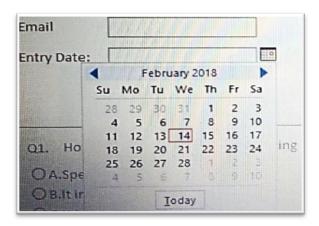
#### **Observations**

- **76.** The container is properly grounded or earthed to ensure that persons and sensitive electronic equipment inside the container are not harmed by stray electrical current.
- 77. Flooring consists of large plywood boards which are sloping in some areas; interior walls are covered with strips of wood paneling strips and the wooden interior roof is termite infested.
- **78.** Should the galvanize/galvalume roof sheeting become dislodged during inclement weather, there would be significant flooding internally
- **79.** None of the windows are not storm resistant nor sealed, which allows for water infiltration in inclement weather.
- **80.** Forcible access can be gained via the single exterior window (facing Silver Hills) where the wooden section is already weakened from water damaged. A determined intruder(s) can punch/kick, or even use a sharp tool to chop, their way in. The aluminum louver windows (facing the airport) are also a security risk where windows, that have broken winders, can be easily opened from the outside. At least two (2) of the laptops are within easy reach and could be slipped out through the open louvers.
- **81.** There are four (4) rusted heavy duty chains being used to anchor/batten down the container; one of these anchoring chains is broken and lying on the ground (near the back entrance facing airport).
- 82. There is no Class B/CO2 fire extinguisher in case of an electrical fire emergency.
- **83.** Due to lack of logical access controls i.e. passwords, during this audit, in February 2018, a malicious individual was able to install a password on the wireless router. Access was possibly gained either from a cellphone from outside of the modified container, or from inside of the container, or from one of the laptops by a candidate who sat the test. As a result, access from the laptops was blocked to the server from the router; consequently, candidates were unable to take the test for that day.
  - Will-Tech was called to resolve the issue; the technician had to reset the router and install a new password, which he also placed on the server and on each individual laptop.
- **84.** Candidates cannot access the backend database of the automated test on any of the laptops as the main copy is stored on the server.
- **85.** The server laptop is not password protected. This presents the potential for any random computer savvy candidate/malicious person, to gain access to the folder that houses the test application if the front desk is not closely monitored, or manned, at all times by the test administrator.

#### CHAPTER 7 APPLICATION CONTROLS

#### **Input Controls**

**86.** No integrity checks are performed by the automated test as there are no input controls for when Candidates key in the wrong information. There are no error messages, no prompts enabling re-input (for e.g. incorrect data is underlined in red), etc. Consequently, there is more than one Candidate record with the incorrect year (2019 and 2020) although there is an embedded calendar adjacent to the "Entry Date:" data field that would insert the correct month, date, and year.



#### **Processing Controls**

**87.** The Candidates are not required to enter/input data into the automated test application they select one of the set answers by clicking on the corresponding radio buttons. The software then automatically tallies the number of right and wrong answers. The test scores are not posted to the Excel report on the server until the Candidate clicks on the **Submit** button.

#### **Output Controls**

- **88.** The automated test application outputs/displays the Candidate's final test scores and results (pass/fail) at the end/bottom of the quiz in the respective field boxes. Once the candidate submits the test results their name, the date, their test grade and result, are instantly posted to the Excel report on the server laptop.
- **89.** Even if the Candidate did not submit their score/result, their name and the date the test was taken, will still be posted to the Excel report on the server.

#### **Application Security**

**90.** The automated test application is very secure as it cannot be altered/modified by the candidates as access to the automated test cannot be gained from the client laptops. In addition, the Excel report serves as an audit log/trail by means of capturing the name of the candidate, the date, and the number of times that each Candidate took the test.

#### CHAPTER 8 BUSINESS CONTINUITY

- **91.** There is a lack of physical and environmental controls in place to prevent and/or minimise damage of the network.
- **92.** Also neither Samuel Enterprise nor Will-Tech, have any formal Business Continuity or Disaster Recovery plan, which outlines the backup and recovery plans for the Automated Drivers Test Program software and data it stores, and the client-server network hardware.
- **93.** Should the entire network equipment/devices be damaged or destroyed by natural disasters such as hurricane, flooding, or fire, Samuel Enterprise would have to go back to the manual/written procedure of the Drivers Licence theory examination.
- **94.** Samuel Enterprise has never performed any backups of the Excel report that stores all of the candidate records. Therefore, if this Excel report file became corrupted, the data could be irretrievably lost.

#### **CHAPTER 9** INFORMATION TECHNOLOGY (IT) OPERATIONS

- **95.** There was no SLA but an *Agreement for ICT Grant* (or contract) instead, that was produced by MCWL that Will-Tech had to sign.
- **96.** There is no clause in the Agreement that states Will-Tech is to provide helpdesk and incident management support. However, the software company did propose in their Project Proposal document under heading 5. Project Implementation subheading 5.2 Management Arrangements that they would, "...provide up to three months support after the project has been completed. After this three months period has passed it is advised that MCW seek contractual arrangements with Will-Tech for continual support of the proposed project..."

#### **Problem and Incident Management**

**97.** Neither Will-Tech nor Samuel Enterprise has any mechanism in place for the detection and documentation of conditions that could lead to the identification of an incident. There are no documented procedures for detecting and recording abnormal conditions, for example, the recent security breach of the wireless router was not formally logged by either entity.

#### **Change Management**

**98.** There is no change management process and it is not necessary, because the Automated Drivers Test Program is static, i.e. the drivers licence theory material hardly ever changes. In addition, the Wireless LAN client-server architecture facilitates relatively uncomplicated expansion of the network by just adding other laptops.

#### **CHAPTER 10 FINDINGS & RECOMMENDATIONS**

- 99. Samuel Enterprise is a private company took over the administration of the drivers licence written and road tests from the RMPS, in 2013. It was noted, that unlike some of the other privatised entities, Samuel Enterprise was not mentioned in the ODG's Strategic Plan 2014 2017 or any of the strategic planning documents that the OAG reviewed. The entity was never subsidised by the GoM either; customers pay them directly for services rendered.
- **100.** Although the Cabinet Memo 45/2014 dated 7th February 2014, states that a single proposal was received and accepted from Samuel Enterprise21, to date, OAG is unable to verify said proposal due to non-submission of said documentation.
- 101. The software company Will-Tech was selected by MCWL and the NICT Council, under the National ICT Policy Strategy and Implementation Plan. Will-Tech was required to sign an Agreement for ICT Grant, which outlined the terms of the agreement for the undertakings of both parties (Grantor & Grantee), payment, the ownership of the program and the associated network equipment, penalties, and legal implications, etc. The Automated Drivers Test application that was developed and implemented by the entity, met all of the propositions that were outlined in Will-Tech's project proposal.
- **102.** The Automated Drivers Test software is a clear-cut, user-friendly and self-calculating program that is housed and run from a simple client-server wireless LAN architecture. The program is very secure and does not need to be maintained or amended as the drivers licence test questions and answers are more or less static, that is, unless the Traffic Division makes future changes to the Road Traffic Laws.
- **103.** Will-Tech continues to provide Samuel Enterprise with helpdesk assistance although they are not formally contracted by the company and the gratis period that was extended by Will-Tech, has long since expired.
- **104.** Ownership of all the assets, which included the automated test software and wireless network equipment, was to be transferred over to Samuel Enterprise as a gift from MCWL. However, the proper protocol for recording, writing off, and/or gifting of these assets, was not followed, and it was determined during this audit that MCWL is still the rightful owner of the above-mentioned assets.
- **105.** Samuel Enterprise's environmental and physical controls are lacking or very poor at best, which leaves the software and networked equipment vulnerable to theft and/or damage by an intruder, or by the elements. Logical access controls were non-existent; neither the router dedicated server, or client laptops, were password protected.
- **106.** During the course of this audit, Will-Tech found it necessary to password protect the wireless router and the laptops due to a security breach. Access to the Internet and client-server network was blocked, via the router, by a malicious individual who placed their own password on the router. Consequently, the automated test could not be accessed until Will-Tech resolved the issue.

<sup>&</sup>lt;sup>21</sup> Performance Audit on Selected Outsourced Activities in the Montserrat Public Sector, Office of the Auditor General, September 2016

- 107. In terms of contingency, Samuel Enterprise does not have a Business Continuity Plan (BCP) or Disaster Recovery Plan (DRP). In addition, no back-ups of the automated test Excel report are being done by Samuel Enterprise. Backing-up of the test data stored on the server is necessary for recovery purposes after a disaster, or in the event that the Excel report file somehow becomes corrupted.
- **108.** Although there were several findings from this IT study, only the most pressing concerns pertaining to MCWL are being highlighted. Listed below are the concentrations we pinpointed and we propose that the department consider addressing as follows:

#### **Automated Driving Test Payment Scheme**

- **109.** MCWL, in conjunction with Samuel Enterprise, should consider streamlining the tedious back and forth of the current payment scheme between them, by making it paperless. A paperless system will reduce administrative overheads and increase efficiency and maximise customer service.
- 110. Therefore, instead of MCWL's Licence Division manually writing up payment receipts, electronic ones could be generated. A copy of these electronic receipts can be attached in an email and sent instantly to Samuel Enterprise before the candidates leaves the MCWL building in Brades. The emails can be accessed by Samuel Enterprise personnel, 24/7, from any smart device or computer, once there is internet access or data.
- **111.** This method can also be applied in regards to the road test form that successful applicants have to take from Samuel Enterprise, to the Licence Division, in order to pay for their driver's licence.

#### **Road Traffic Act**

- **112.** If Part 1, Section 7. (1) of the current *Road Traffic Act* is followed, Samuel Enterprise, by law, is not supposed to be collecting monies for administering the Automated Drivers Test and conducting the road test. This is not practical; as being a private company, they must charge for the service they provide to candidates, in order to stay in business.
- **113.** Consequently, there is a need to regularise the Road Traffic Act to reflect the legal right of Samuel Enterprise to collect payment for administering both tests.

#### Public Finance (Management and Accountability (Act)) Procedures

- **114.** Because proper protocol was not followed by MCWL when they presented Samuel Enterprise with the software and network equipment/items, there is the issue of ownership, which must be clarified and resolved without delay. It is imperative that they record the network equipment/items, and the software, in their assets register.
- **115.** If the Ministry, is still of the mind to gift the assets again to Samuel Enterprise, the proper procedures are to be executed as per the *Revised Laws of Montserrat CAP 17.07 Public Finance (Management and Accountability (Act))*, pertaining to writing off and gifting of assets that have a value that is more than XCD\$5,000.00.

#### **CHAPTER 11 OVERALL CONCLUSION**

- **116.** From this Information Technology (IT) study, we the Office of the Auditor General concluded that the majority of objectives were achieved.
- **117.** The only issue that we surmised from this audit is that there is the need for proper and adequate provisions to be put in place, by whichever body that ends up attaining ownership of the automated test software.
- **118.** These countermeasures must ensure continuance of the automated drivers test service to the general public should there be any security breach attempts; onset of severe weather; or if there are unforeseen incidences of emergency (for e.g. fire).

#### CHAPTER 12 MANAGEMENT RESPONSE

#### **Auditor General's Overview**

"The entity that performs the driving tests is technically operating as a Licensing Officer".

#### **Management Response**

This statement is incorrect. The individual who performs that function is the Examining Officer who falls under RMPS, as per Road Traffic Act 7.06. The roles of both entities/officers are made clear by law.

#### **Finding & Recommendation**

104. Ownership of all the assets, which included the automated test software and wireless network equipment, was to be transferred over to Samuel Enterprise as a gift from MCWL. However, the proper protocol for recording, writing off, and/or gifting of these assets, was not followed, and it was determined during this audit that MCWL is still the rightful owner of the above mentioned assets.

#### **Management Response**

The finding is noted.

#### **Finding & Recommendation**

- 109. MCWL, in conjunction with Samuel Enterprise, should consider streamlining the tedious back and forth of the current payment between them, by making it paperless. A paperless system will reduce administrative overheads and increase efficiency and maximize customer service.
- 110. Therefore, instead of MCWL's License Division manually writing up payment receipts, electronic ones could be generated. A copy of these electronic receipts can be attached in an email and sent instantly to Samuel Enterprise before the candidates leave the MCWL building in Brades. The emails can be accessed by Samuel Enterprise personnel, 24/7, from any smart device or computer, once there is internet access or data.
- 111. This method can also be applied in regards to the road test form that successful applicants have to take from Samuel Enterprise, to the License Division, in order to pay for their drivers licenses.

#### **Management Response**

**109, 110, 111**. It is accepted that the payment process is tedious and the recommendation of making it paperless is a good one. However, adjustments are being made in the system to remove, all but one, payment to MCWL, which will then remove the need for the customer to be 'back and forth'.

#### **Finding & Recommendation**

112. If Part 1, Section 7 (1) of the current Road Traffic Act is followed, Samuel Enterprise, by

law, is not supposed to be collecting monies for administering the Automated Drivers Test and conducting the road test. This is not practical; as being a private company, they must charge for the service they provide to the candidates, in order to stay in business.

113. Consequently, there is a need to regularize the Road Traffic Act to reflect the legal right of Samuel Enterprise to collect payment for administering both tests.

#### **Management Response**

**112, 113**. Cabinet by its Decision #347/2014 on 5 June 2014 approved amendments to the Road Traffic Act Cap 7.06; First Schedule of Fees - Driving Examinations, payable to the appointed Vehicle Examining Officer; Written Driving Test \$30, Invigilation \$100 and Examining Certificate \$100.

Following this on 24 July 2018, Cabinet by its Decision #449/2014 approved the submission of an attached Road Traffic (Amendment No 2) Bill 2014 to the Legislative Assembly. The AG's Chambers and Legislative Office would have then put in place the related SRO.

It should also be noted that the Automated Driver's Test is one of the functions carried out by the Examining Officer who receives his or her directive from the Traffic Commissioner where the responsibility lies. The Examining Officer is appointed and is under the direction of the Traffic Commissioner, so it is the duty of the Traffic Commissioner to ensure that the Examining Officer is operating as it should as per Road Traffic Act 7.06 Part 1 section 4 (2).

Of further note, the MCWL licensing department collects all fees specified in first schedule, which are all paid into the GoM Treasury as per the Road Traffic Act 7.06. No amendment was made to the Road Traffic Act when Samuel Meade was appointed Examining Officer to revoke any fee from being pay to the Licensing Officer at MCWL. Fees must therefore continue to be collected until amendments are made.

#### **Finding & Recommendation**

114. Because proper protocol was not followed by MCWL when they presented Samuel Academy with the software and network equipment/items, there was an issue of ownership, which must be clarified and resolved without delay. It is imperative that they record the network equipment/items, and the software, in their assets register.

#### **Management Response**

The software and network equipment/items will be recorded in the Asset Register.

#### Finding & Recommendation

115. If the ministry is still of the mind to gift the assets again to Samuel Enterprise, the proper procedures are to be executed as per the Revised Laws of Montserrat CAP 17.07 Public Finance (Management and Accountability Act) pertaining to writing off and gifting of assets that have a value that is more than and XCD\$5,000.

#### **Management Response**

Once the said software and network equipment/items are more than XCD\$5,000, the ministry will make arrangements to have the items gifted.

#### **Overall Conclusion**

The only issue that we surmise from this audit is that there is the need for proper and adequate provisions to be put in place by whichever body ends up attaining ownership of the automated test software.

These countermeasures must ensure continuance of the automated drivers test service to the general public should there be any security breach attempts; onset of severe weather; or if there are unforeseen incidences of emergency (for e.g. fire).

#### **Management Response**

Given the responsibility of Traffic Commissioner as outlined under the Management response 112 & 113 above, the Traffic Commissioner should put these countermeasures in place.

#### REFERENCES

#### **Web Pages**

https://discovermni.com/2015/09/25/list-of-successful-ict-projects/

https://www.esds.co.in/blog/advantages-and-disadvantages-of-client-application-server/#sthash.mGTvWevn.dpbs

https://m.facebook.com/MontserratGOV/posts/526542550838252

http://www.ianswer4u.com/2011/05/client-server-network-advantages-and.html#axzz57lr65ugv

https://www.investopedia.com/terms/b/business-continuity-planning.asp

http://www.mnialive.com/articles/14-ct-projects-approved-in-phase-1-of-montserrats-national-ict-policy-plan-implementation

http://www.mnialive.com/articles/the-ministry-of-communications-works-and-labour

http://www.unescap.org/sites/default/files/Pub\_1855\_Ch4.pdf

#### **Documents**

Project Proposal for the Automated Driver's Testing Environment, Will-Tech Ordering Services Software, 2014

#### **Publications**

Budget Statement 2013/14 - Counting Our Blessings Amidst The Challenges

GIC Limited, Government of Montserrat Department for International Development, May 2018 - Montserrat Outsourcing Policy & Procedures, Version 2

Montserrat Sustainable Development Plan 2008 - 2020

Performance Audit, September 2016 - Selected Outsourced Activities in the Public Sector

WGITA – IDI HANDBOOK on IT Audit for Supreme Audit Institutions, February, 2014

## **APPENDICES**

#### APPENDIX I - Excerpt from CAP 7.06 Road Traffic Act on Duties of an Examining Officer

#### **Duties of Examining Officer**

- **6.** It shall be the duty of an Examining Officer, when so required by the Traffic Commissioner—
  - (a) to test applicants for drivers' licences as to their competence to drive, and, if satisfied, to grant the necessary certificates of competency; and

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12 CAP. 07.06

Road Traffic

LAWS OF MONTSERRAT

Revision Date: 1 Jan 2013

(b) to perform all such other duties as are or may be conferred or imposed upon him by this or any other Act or by any regulations made thereunder.

(Amended by Act 17 of 2011)

#### APPENDIX II - Excerpt from CAP 7.06 Road Traffic Act on Fees

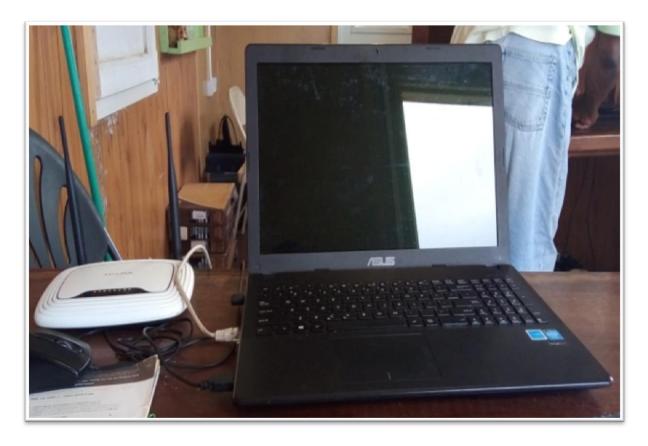
#### Fees and duties

- 7. (1) The fees and duties specified in the First Schedule shall be payable to the Licensing Officer in respect of the several matters to which they are applicable.
- (2) All fees and duties received by the Licensing Officer shall be paid into the Public Treasury of Montserrat to the credit of the General Revenue.
- (3) The Governor may by order amend, vary, suspend or revoke any or all of the provisions of the First Schedule:

Provided that, an order made under this subsection shall be subject to a negative resolution of the Legislative Assembly passed within ninety days of signature.

(Amended by Acts 14 of 1998 and 9 of 2011)

#### **APPENDIX III - Samuel Enterprise Server and Router Setup**



Server Laptop and Wireless Router

**APPENDIX IV - Exterior of Samuel Enterprise's Converted Container** 















