## **Final Security Test Specification and Tools Report**

Architeture IoT System
Application domain type Smart Home

Authentication Username and Password

Has DBYesType of data storageSQLWhich DBMySQL

Type of data stored Personal Information; Critical Data

User Registration Y

Type of Registration Will be a administrator that will register the users

 Programming Languages
 C/C++

 Input Forms
 Yes

 Upload Files
 No

 The system has logs
 Yes

 The system has regular updates
 No

 The system has third-party
 No

 System Cloud Environments
 Public Cloud

Hardware Specification Yes

HW Authentication TPM (Trusted Platform Module)

HW Wireless Tech Wi-Fi ; Bluetooth

Data Center Phisical Access Yes

In order to avoid or prevent Botnet, DoS and DDoS Attacks, the following security tests should be performed.

Test Parameter	Testing Types	Testing Methods	Tools		
			Both	Android	iOS
Add-ons	White Box	Static Analysis via		Addons Detector	
		Forensic Mobile		, iddono Dototo.	
DoS, DDoS Attacks		Dinamic Analysis via	NMAP, SlowBot Net,		
	Black Box	Penetration Test	MetaSploit, LOIC and Ka	di	
		r enetration rest	Linux		

In order to avoid or prevent Botnet, DoS, DDoS, Phishing, MITM, Spoofing and Sniffing Attacks, the following security tests should be performed.

Toot Doromotor	Testing Types	Tooting Mathada	Tools		
Test Parameter	Testing Types	Testing Methods	Both	Android	iOS
Mobile decryption,	White Box	Static Analysis via Test		Dex2jar	Clutch
unpacking & conversion		Penetration			Ciulcii
Secure backup and	Grey Box	Dinamica Analysis via		adh	
logging		Proxies		adb	
Data laakaga and Braach	Croy Poy	Dinamic analysis via	Wireshark	tPacketCapturepro,	
Data leakage and Breach	Gley box	Proxies	Wilestialk	tPacketCapturepro, DroidWall,	
	Grey Box	Dinamic Analysis via	VASTO		
	Gley box	Penetration Testing	VASTO		
	White Box	Dnamic Analysis via	Webfuzz, SPI Fuzzer,		
	WHILE DOX	Stressing Testing (fuzzin	g) Wfuzz		

In order to avoid or prevent Sniffing, Botnet, Phishing and Spoofing Attacks , the following security tests should be performed.

Test Parameter	Testing Types	Testing Methods	Tools Both	Android	iOS
Use of encryption	White Box	Static Analysis via Forensic Mobile	OpenSSL		
Poor use of certificate parameters	Grey Box	Dinamic analysis via Vulnerability Scanner	Acunetix, Web3af, Nikto, IBM Security AppScan Standard and HP WebInspect		
	Grey Box	Dinamic Analysis via Penetration Test	TCPDump, Wireshak		idb tool
Secure backup and logging	Black Box	Dinamic Analysis via Proxies		adb	

In order to avoid or prevent Botnet, Spoofing and Sniffing attacks, the following security tests should be performed.

Test Parameter	Test Parameter Testing Types		Testing Methods	Tools		
	resuing Types	resung wethous	Both	Android	iOS Xcode	
Exploit Database Vulnerabilities	White Box	Manual Dinamic Analysis via Penetration Test	SQLite browser		Xcode	

Proper SSL usage and Use of encryption	Black Box	Dinamic Analysis via Proxies	WebScarab		
Database frangibility scanner	Grey Box	Dinamic Analisys via Vulnerability Scanner	Database Scanner of Internet Security Systems Co. and MetaCortex		
Find Bugs	White Box	Static Analysis via Bytecode Scanner	FindBugs, BugScan of LogicLab Co.		
	White Box	Static Analysis via source code Analyser	C++Test, RATS, C Code Analyzer(CCA)		
	White Box	Static Analysis via Binary code Scanner	BugScan of Logi- cLab Co and Fx- Cop;BugScam	).	
Input validation of user SID	Grey Box	Manual Dinamic Analysis Checking input fields in GUI			
Test Parameter	Testing Types	Testing Methods	Tools Both	Android	iOS
Runtime manipulation: code injection, patching	Grey Box	Static Analysis via Test Penetration	Cydia Substrate		Cycript

In order to avoid or prevent *Buffer overflows*, the following security tests should be performed.

Test Parameter	Toot Doromotor	Testing Types	Testing Methods	Tools		
	resting types	resung wethous	Both	Android	iOS	
Input validation	Grev Box	Dinamic Analysis via	Sharefuzz			
	Gley Dox	Fuzzers	Silaitiuzz			

In order to avoid or prevent Malicious Insider and VM-Migration attacks, the following security tests should be performed.

Test Parameter	Testing Types	Testing Methods	Tools		
rest Farailleter	resung rypes	resung wethous	Both	Android	iOS
Input validation	Grey Box	Static Analysis via	Slueth Kit+Autopsy	AndroGuard, Drozer,	
	Gley Box	Forensic Mobile	Browser	apktool	

In order to avoid or prevent Malware injection and Side-channel Attacks, the following security tests should be performed.

Test Parameter	Tooting Types	Testing Methods	I OOIS			
	Testing Types	resting Methods	Both	Android	iOS	
Daham flam	White Box	Static Analysis via	BlackBag Blacklight,	AndroGuard, Drozer,		
Debug flag	Write DOX	Forensic Mobile	Encase forensics	FindBugs, Andriller		
Contant providera	White Box	Static Analysis via	Slueth Kit+Autopsy	AndroGuard, Drozer,		
Content providers	Wille DOX	Forensic Mobile	Browser	apktool		
0 1 17	White Box	Static Analysis via Byte-	FindBugs, BugScan of			
Code quality		code Scanner	LogicLab Co.			
	White Box	Static Analysis via source	C++Test, RATS, C Code			
	Write DOX	code Analyser	Analyzer(CCA)			
	White Box	Static Analysis via source	BugScan of LogicLab Co.		class-dump-z	
	Wille DOX	code Analyser	and Fx- Cop, BugScam		ciass-dump-z	

In order to avoid or prevent *physical attacks*, the following security tests should be performed.

Test Parameter		Test Method	Tools		
	Test Approach	Both	Android	iOS	
Debug flag, Content	White Box	Static Analysis via	AndroGuard, Drozer,		
providers, Code quality	Wille DOX	Forensic Mobile	FindBugs		
Leak, Breach and data		Manual Dinamic Analysis			
Loss	Black Box	Checking input fields from			
		device and GUI			