



# Web Defacement Monitoring Tool

## **Project Testing**

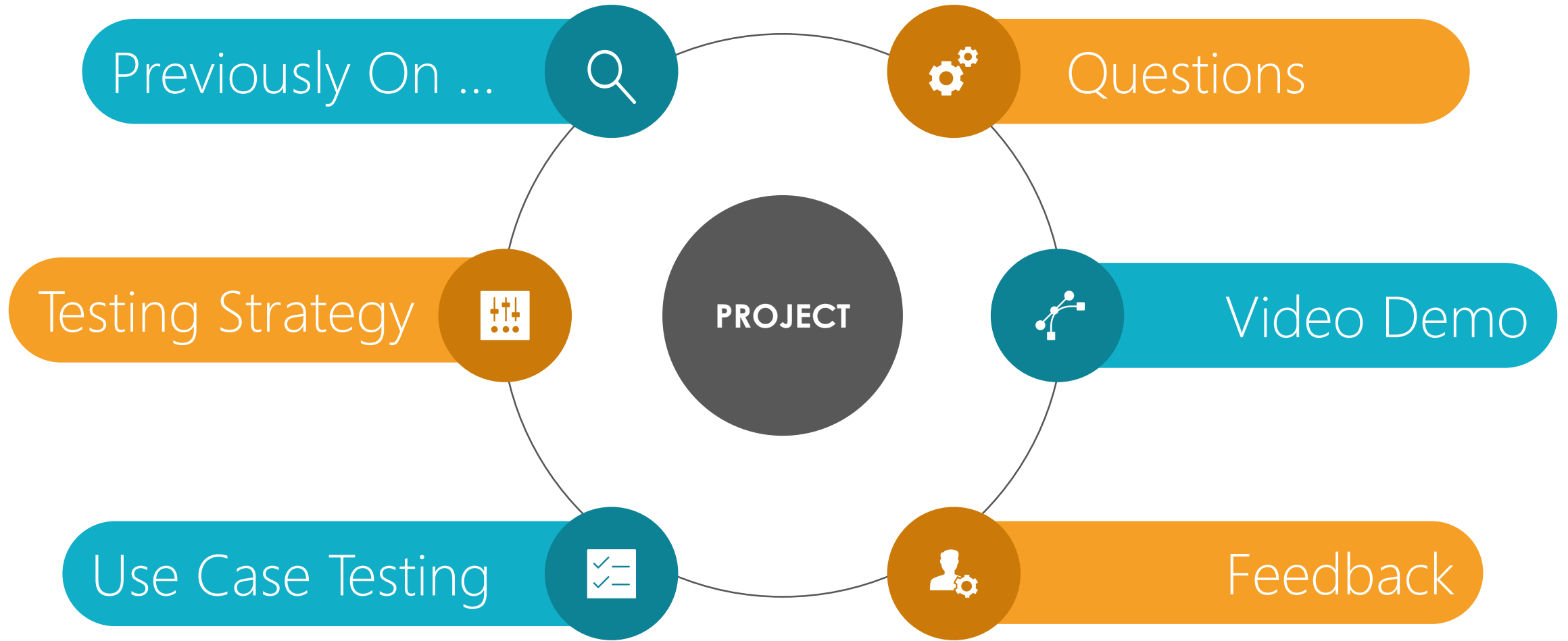


# Greetings!

I am Jia-Cong (Johnny) Hou

Project Supervisor Dr Norman  
Project Co-supervisor Mr Mutemwa  
(CSIR)

# Overview



# Previously On

Topic Research

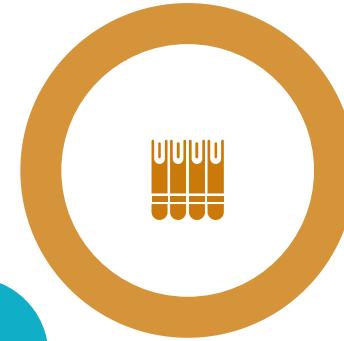
User Requirements

Low/High-Level Design

Prototype Demo

Coding

Implementation



# Topic Research & User Requirement



US Department of Justice

1996 Website Defaced



SA Presidency  
government

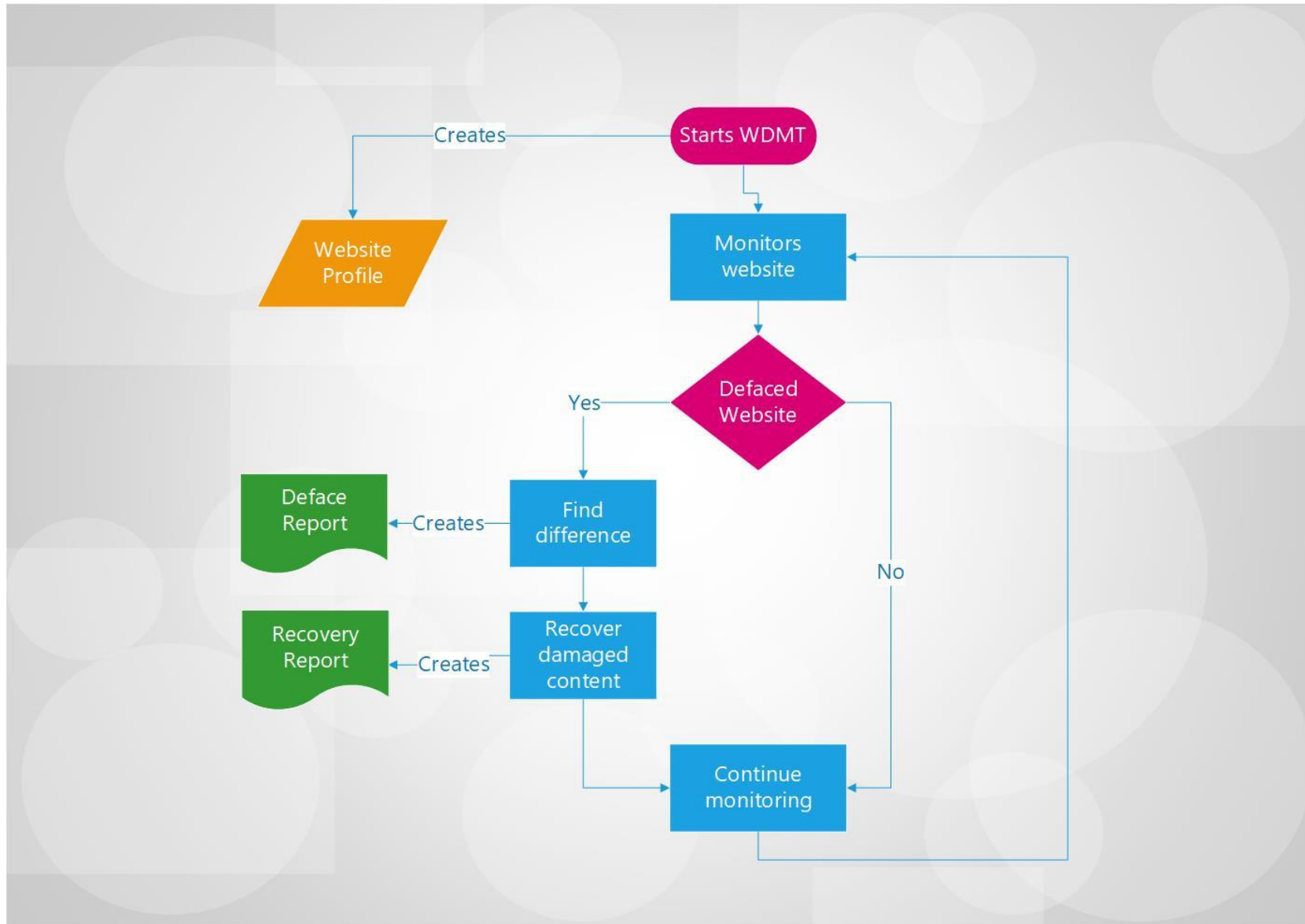
2018 July 7 Website  
Defaced

news  
24

What must  
I do ?

Web Defacement  
Monitoring Tool

# High-Level Design



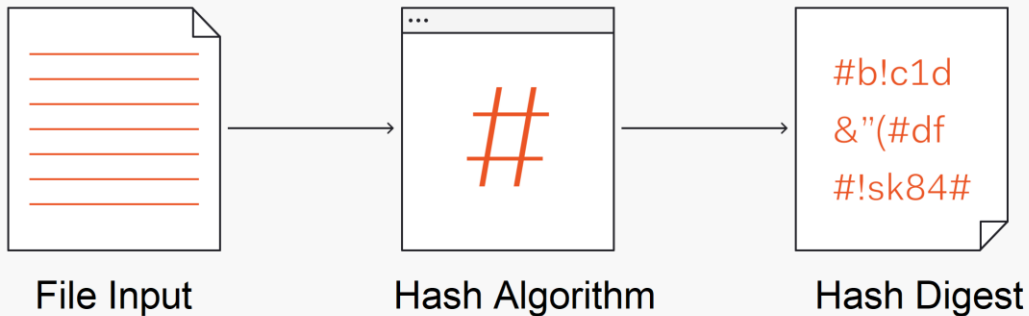
# Coding & Implementation

Coding



**BLAKE 2**  
fast secure hashing

Blake2Hash Algorithm



Implementation



# Testing Strategy

Unit Testing

Modularity

Segregate Code

User Acceptance  
Testing

Solutions works  
network administrator





# Test Design & Environment

Test Design

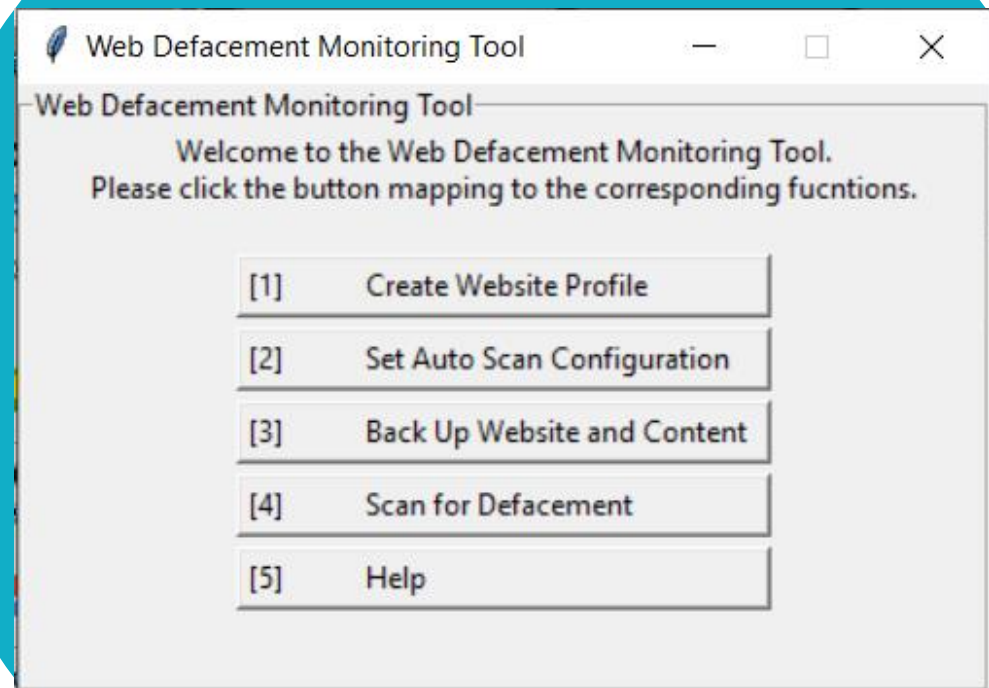
Peer students

Network Administrator

Test Environment

Simulate actual PC

Both OS used for testing



# Test Cases

## File Deface

- Detects change in hash digest with same file name
- Logs change
- Restore damage file
- Logs change

## Extra Files

- Detects unknown hash digest
- Logs unknown files
- Removes files and folders
- Logs change

## Missing Files

- Detects hash digest or folder name not found
- Logs these files and folders
- Restores all files and folders Logs change

# Feedback

## Unit Testing

### Pros:

- Modularity
- Easy to track errors and progress
- Inline documentation was clear

### Cons:

- Unexpected error handling
- Empty string name

## User Acceptance Testing

### Pros:

- Meets the network administrators requirements
- Simple navigation

### Cons:

- Interface GUI navigation could be improved
- Pop ups should be minimized

# Reference

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- [3] M. Mxolisi, "Presidency website up and running after hacking attack," News24, 7 July 2018. [Online]. Available: <https://www.news24.com/SouthAfrica/News/breaking-presidency-website-hacked-20180707>. [Accessed 6 March 2019].
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- [5] E. E. Enaw and D. Pagou Prosper, "A Conceptual Approach to Detect Webdefacement Through Artificial Intelligence," *International Journal of Advanced Computer Technology (IJACT)*, vol. 3, no. 6, pp. 77-83.
- [6] K. Tushar, "Implementing a Web Browser with Web Defacement," *World of Computer Science and Information Technology Journal (WCSIT)*, vol. 1, no. 7, pp. 307-310, 2011.



**Thank You**