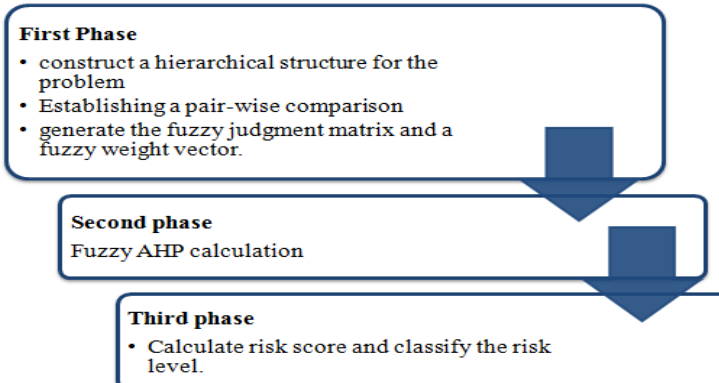# ANDROID MOBILE MALWARE DETECTION SYSTEM USING FUZZY AHP

INVENTOR: JULIZA BINTI MOHAMAD ARIF
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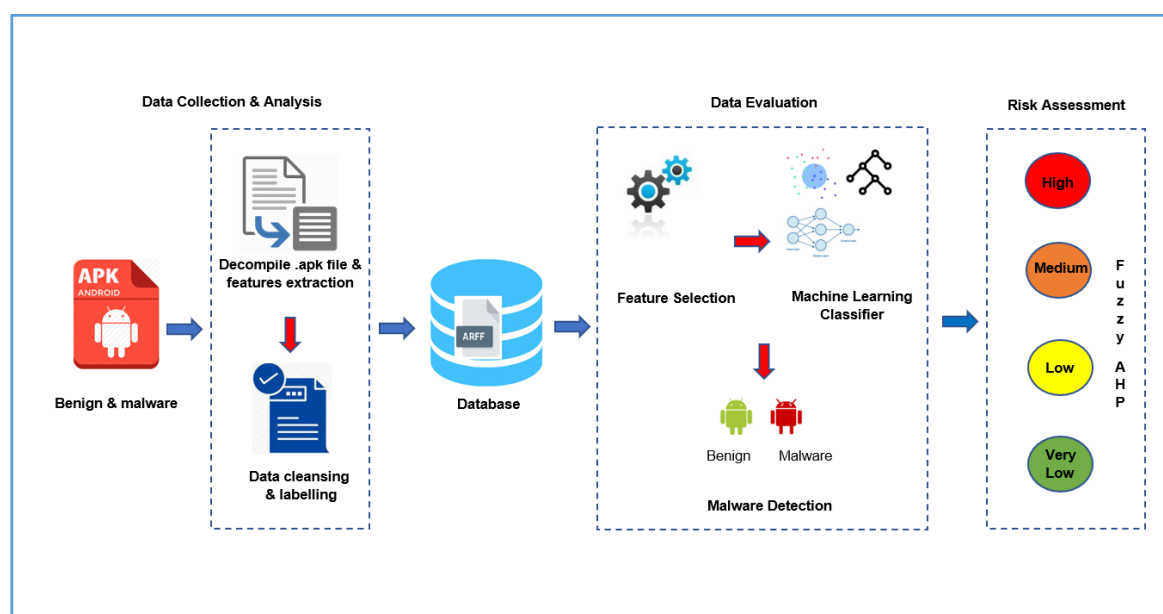CO-INVENTORS: TS. DR MOHD FAIZAL AB RAZAK , SHARFAH RATIBAH TUAN MAT

Research Background

- This research proposed a multi-criteria decision making based (MCDM) mobile malware detection system using a risk-based fuzzy analytical hierarchy process (AHP) approach to evaluate the Android mobile application.
- This study focuses on static analysis, that uses permission-based features to assess the mobile malware detection system approach.

Fuzzy AHP Process

First Phase
- construct a hierarchical structure for the problem
- Establishing a pair-wise comparison
- generate the fuzzy judgment matrix and a fuzzy weight vector.

Second phase
Fuzzy AHP calculation

Third phase
- Calculate risk score and classify the risk level.

Malware detection system framework

Applicability

- To increase awareness and a clear understanding the risk of malware attacks to mobile users.
- Important for identifying risk exposure to information security in depth.
- To identify vulnerabilities that may exist in the organization involved.
- To minimize financial losses.

Novelty

- The proposed method provide Android mobile malware detection with the risk assessment. The malware applications are classified by the risk levels (very low, low, medium and high) to notify mobile users.

Cost Analysis

- Zero cost due to openness of Android operating system

Publication

- Android mobile malware detection using fuzzy AHP - Under revision Journal of Information Security and Applications
- Towards a systematic description of the field using bibliometric analysis: malware evolution – (2021) In Journal of Scientometrics (Issue 0123456789). Springer International Publishing. https://doi.org/10.1007/s11192-020-03834-6