Chair of IT Security
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LLM Agent for Autonomous Execution of Mobile Applications in Sandbox Environment

Automating execution of mobile applications is essential for dynamic analysis, including sandbox-based malware detection. Most existing approaches rely on random event injection, such as UI actions, incoming messages, and calls. As a result they fail to resemble real user behavior and thus provide low code coverage and are not sufficient for precise analysis. In addition, the lack of context regarding user intention complicates detection of privacy leaks: whether an app accessing or transmitting some sensitive data constitutes malicious behavior depends heavily on the user interaction context.

Task Description

This project aims to implement an LLM-based agent capable of human-like interaction with Android applications. This includes planning of execution for the given user story and iterative perception and understanding of the current UI screen to choose the most suitable next action. The starting framework is provided by Google UIAutomation tool which enables remote control of execution.

Requirements

- High motivation and ability to work independently
- Experience in building AI agents, e.g.: LangGraph, LlamaIndex, OpenAI Agents SDK
- Programming experience in Java or Kotlin for Android

Contact

Please send your application with current CV and transcript of records to:

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