

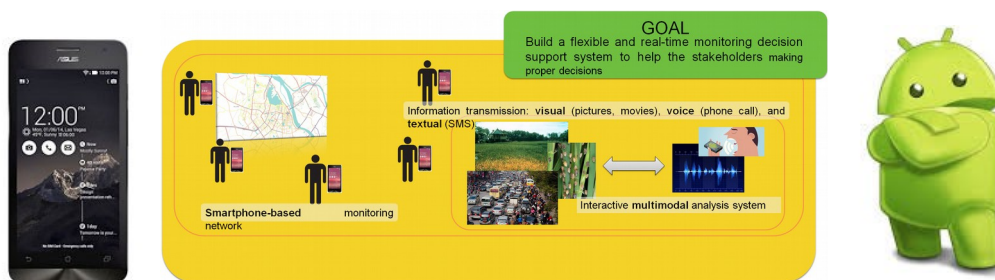
## Topic 1: Android application development for image, voice and text acquisitions

### Description :

The objective of this project is to build a flexible and real-time monitoring system using Android mobile devices. Information about place of interests (like construction sites, pagoda, etc.) is gathered using photos along with descriptive voice and text data. An Android application installed on mobile devices are in charge of this data acquisition task. The collected data will be send to a central server for further processing.

The applicative field of this project includes epidemiology (monitoring mosquito larvae in ponds, flower pots, fields, etc), and urban development modeling (monitoring risk sites, construction sites, pagoda, etc). The analysis can be later used for advanced visualization of the phenomenon (e.g. spread of epidemic on a map).

The work of this internship is integrated in project SWARMS of the ICTLab, USTH.



This work is divided into two parts:

- The first step is to design and implement an intuitive and ergonomic interface for the Android application. That means the application should be able to provide an easy way for the users to do the data acquisitions, including three different types of data: image, audio and text.
- The second step is to design and implement a robust and secure method for data transmission to the server.

At the end, this application will be downloadable from the Google Play Store.

### Expected outcomes:

- Application prototype
- User and technical documentation

### Supervisors:

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**Pre-requisites:**

- Motivations in research and innovation
- Good skills in programming
- Knowledge in Android development and network

**References:**

SWARMS project website: [http://ictlab.usth.edu.vn/?page\\_id=925](http://ictlab.usth.edu.vn/?page_id=925)

Play store: <https://play.google.com/store>

Android Developer reference <http://developer.android.com/index.html>