



# **ICT Virtual Organization of ASEAN Institutes and NICT ASEAN IVO Forum 2018**

**Secure and Sustainable Connected Society (1)**  
Istana Ballroom, Sari Pacific Jakarta, Jakarta, Indonesia  
November 27, 2018

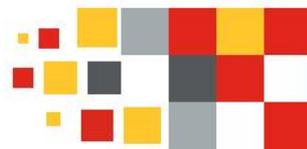
## **Intelligent Speech-Enabled Interactive Voice Response System for a Disaster Resilient Smart City**

**Dionis A. Padilla**, Febus Reidj G. Cruz, Noel B. Linsangan, Jocelyn F. Villaverde, Analyn M. Yumang, Meo Vincent C. Caya

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# The “Big One”



Philippine Red Cross

37 EDSA corner Boni Avenue, Mandaluyong City 1550

HOME > NEWS AND EVENTS > NEWS > PHILIPPINE RED CROSS READY FOR THE “BIG ONE”

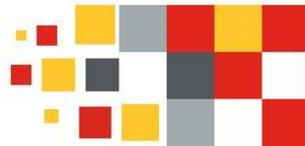
## PHILIPPINE RED CROSS READY FOR THE “BIG ONE”



Rubb Halls, ambulances, emergency field hospitals, rescue trucks, pay loaders, water tankers, generators, and thousands of doctors, emergency medical technicians (EMTs), surgeons, trained first aiders, and Red Cross 143 volunteers—the Philippine Red Cross (PRC) has mobilized its entire system in anticipation of the “Big One.”



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# Mapua University's Business Continuity Plan (Mapua BCP)

- **Components:**

- ✓ Asterisk server
- ✓ SIP Phone (Android, Linux, Windows)
- ✓ Raspberry Pi

- **Current Features:**

- ✓ Voice Call
- ✓ Text Messaging
- ✓ Fire Detection
- ✓ Emergency Messages Broadcasting



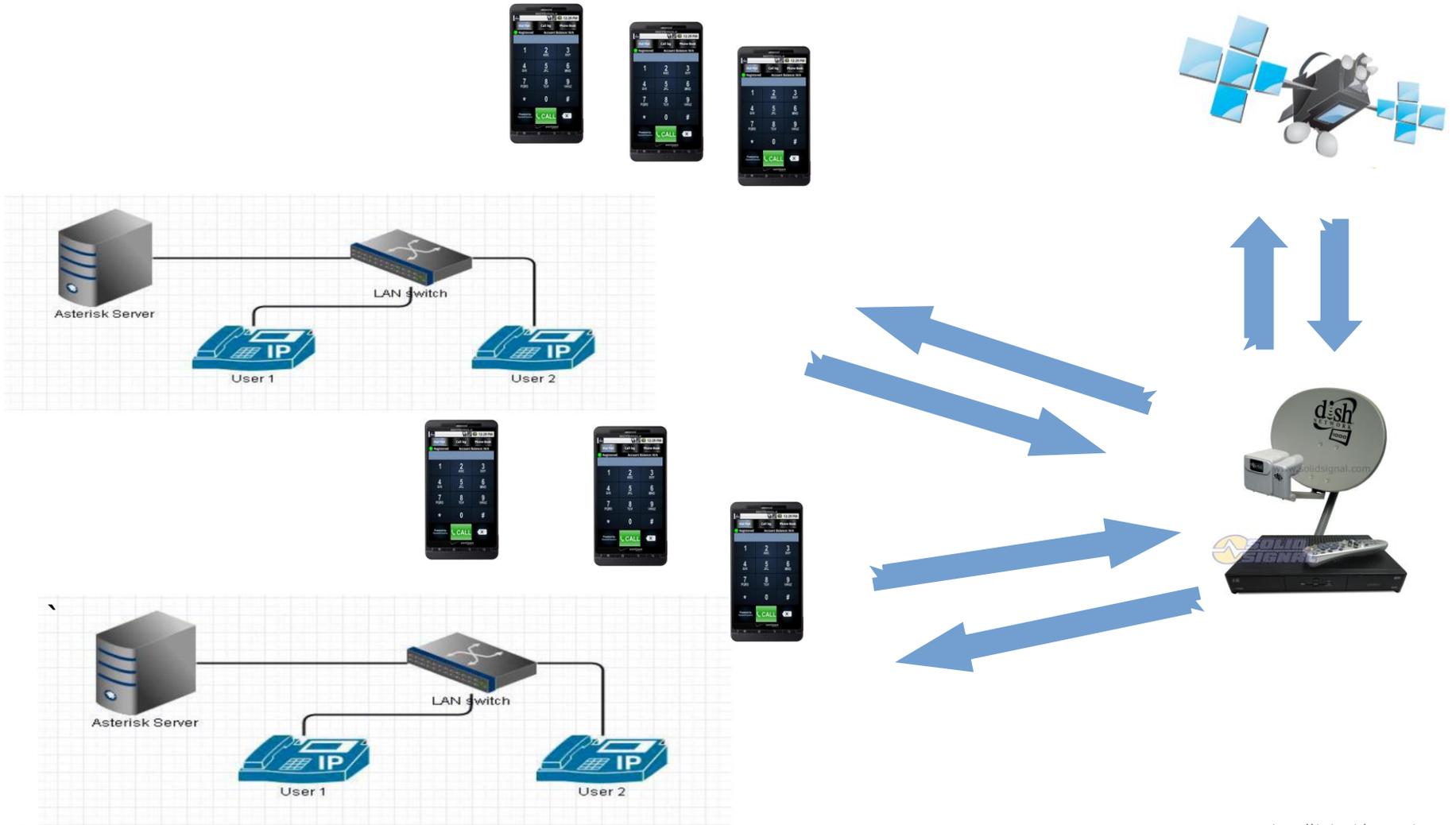
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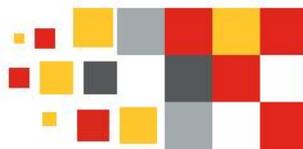
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# Mapua University's Business Continuity Plan (Mapua BCP)



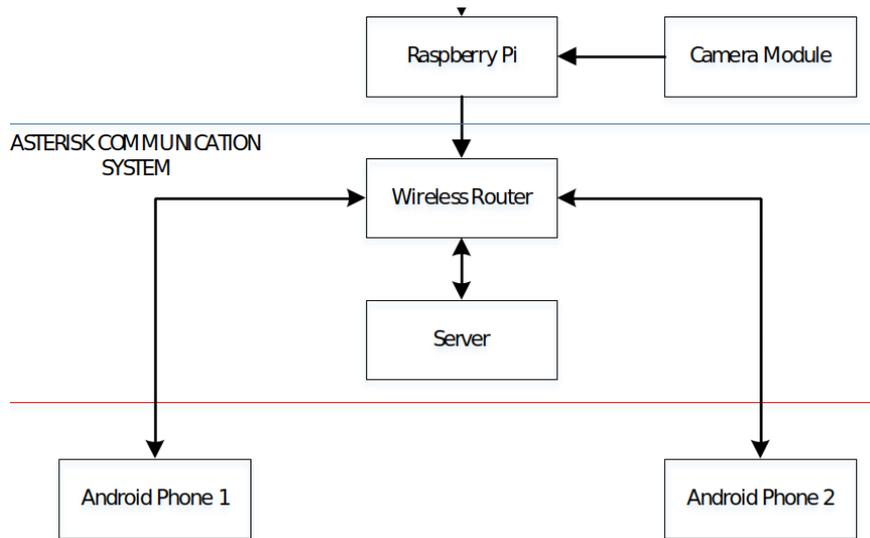
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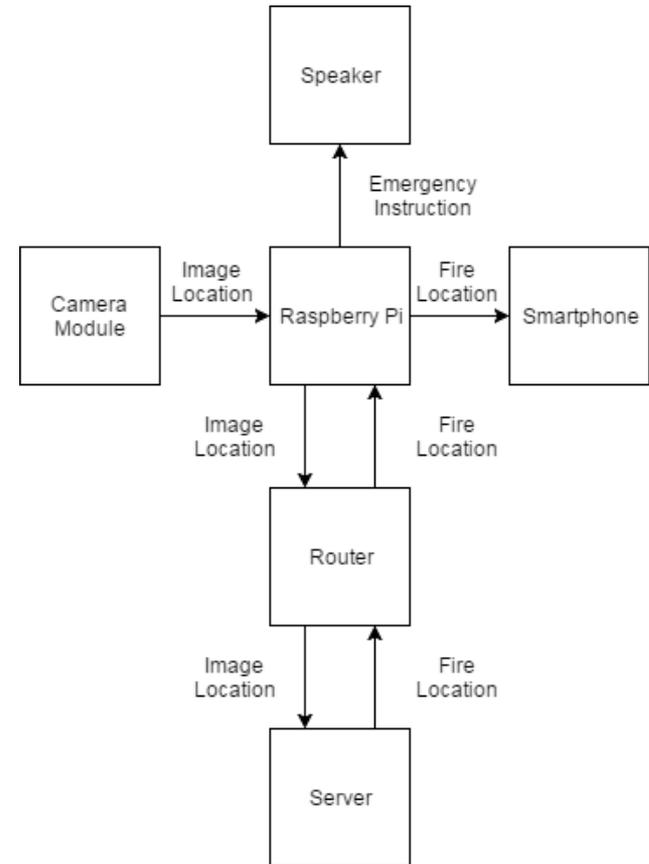
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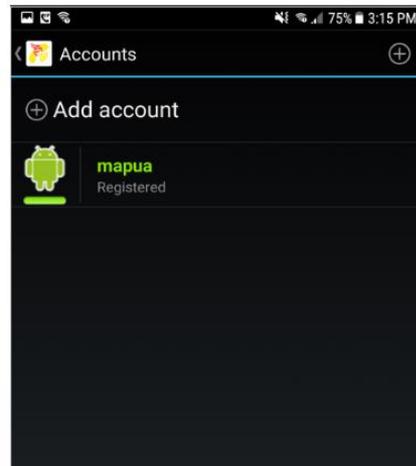
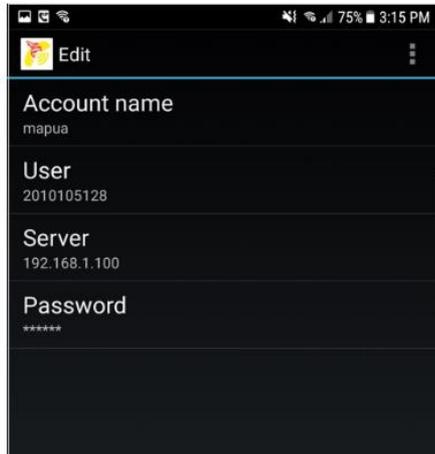
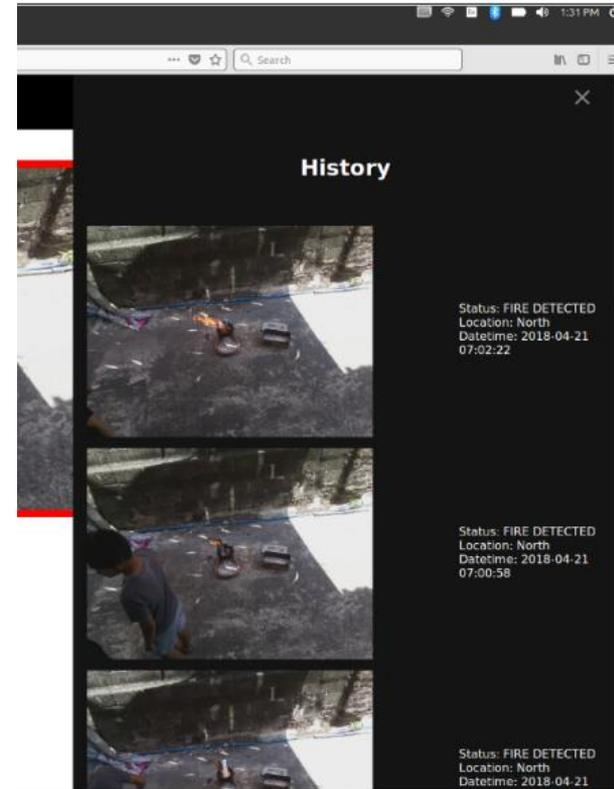
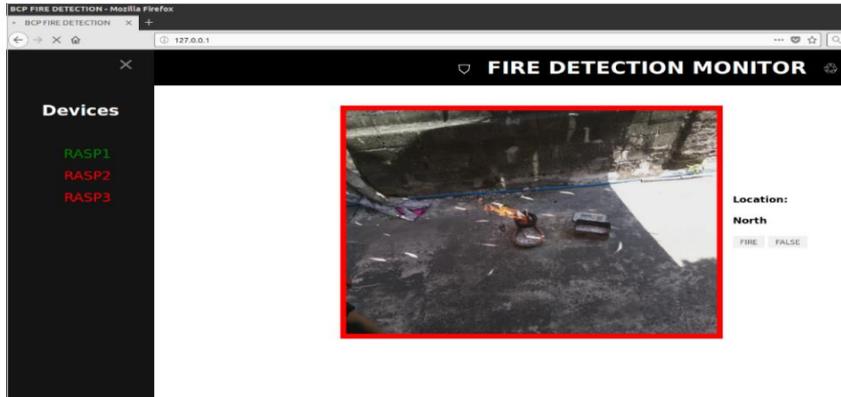
# Mapua BCP Modules



Module 1 – Fire Detection Module



# Mapua BCP Modules



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# Proposed Third Module: Intelligent IVR

- **Old IVRs:**
  - touch-tone and directed dialog-based with complicated menu trees
- **New IVRs**
  - ✓ human-like interactions
  - ✓ self-serve
  - ✓ issue resolution with IVR
- **Asterisk IVR**
  - ✓ audio playback and recording
  - ✓ digit collection
  - ✓ database and web service access
  - ✓ optional speech recognition and synthesis.
- **Use of NLP and Deep Learning**
- **Use of Gpu-based Device (NVIDIA Jetson Tx)**
- **Location will include selected places in Intramuros Manila**



# ASEAN IVO – Secure and Sustainable Connected Society

*Thank you very much!*

Dionis A. Padilla

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