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on Semiconductor and Electronics, Information and Communications Technology and Energy

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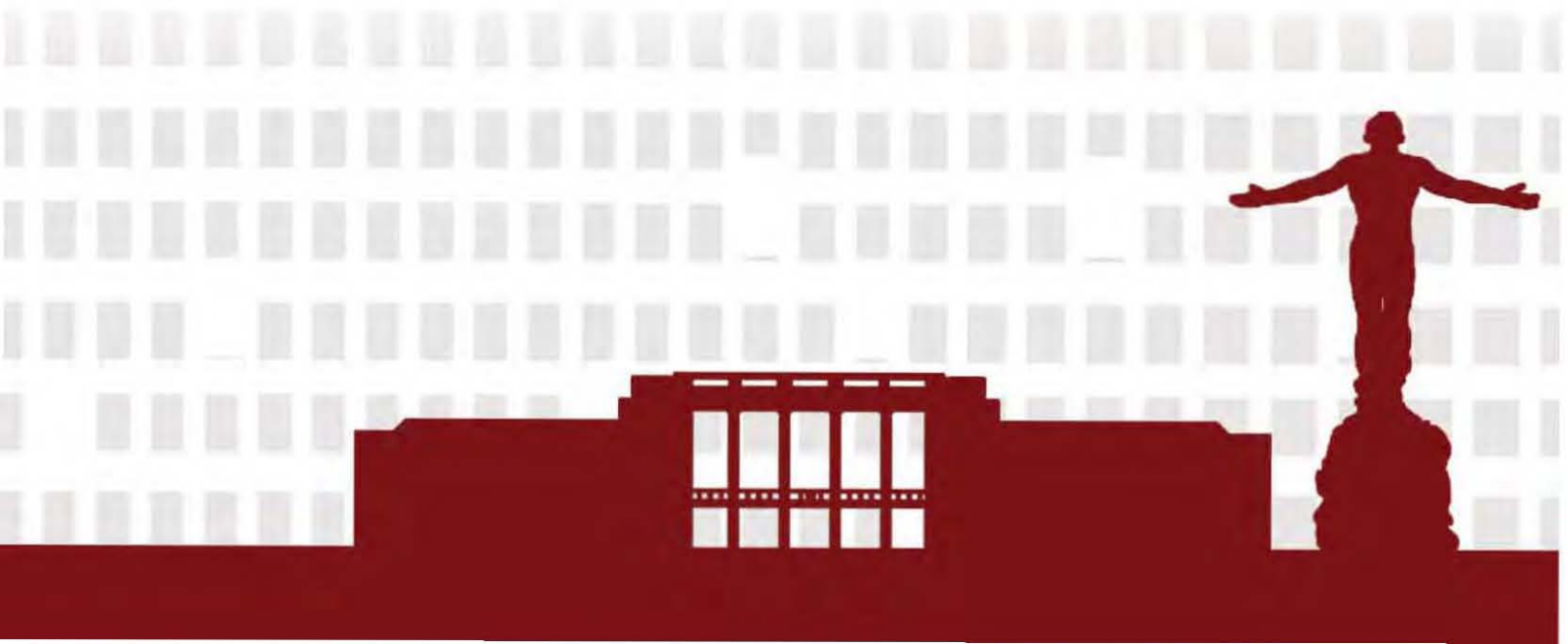
Metro Manila, Philippines



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INTERNET PROTOCOL TELEVISION (IPTV) AS AN INTERACTIVE APPLICATION FOR DISASTER MANAGEMENT AND EDUCATION

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ABSTRACT

As "a convergence of communication, computing, and content" [1], as well as "an integration of broadcasting and telecommunication" [2], Internet Protocol Television (IPTV) is expected to enhance user interactivity with technology inasmuch as personalized content, multi-screen interfaces and function-rich TV are concerned. IPTV as an integration of voice, video and data services, goes about by incorporating Disaster Management practices on and off-site functioning as a resilient communication system to enhance services and feed timely, relevant and important multimedia content specifically on T-information (news, weather, traffic, etc.) as provided for by the International Telecommunications Union - Telecommunications Standardization Sector (ITU-T), stemming from "the benefits of broadband, the rapid adoption of … networking technology and ... of software." [3].

At every stage of application development and as a series of experiments, enhanced user-content interaction capabilities will be demonstrated in terms of differing plug configurations, crowd-generated input and at some point, distributed TV. Thus, we see, that by engineering the user experience, we also create a story of interactivity. Throughout the deployment, several Lightweight Interactive Multimedia Environment (LIME) pages were developed mainly for disaster management and education. Since the ultimate goal is modelling an interactive environment, a number of databases were hosted in one of the servers – these would then function to be repositories of user input through plug computers which the IPTV channels would then parse. In the real world, these databases are accessible by news agencies, government institutions and rescue units so they can, at any moment, add data as the need arises.

Figure 1. Hybrid IPTV Set-Up 2

By prepositioning infrastructure assets such as IPTV, disaster education can be utilized in enhancing the readiness of communities concerned. With the rapid advancement of Internet technology and the steady growth of end users' bandwidth, IPTV becomes increasingly popular worldwide as a new convenient way of providing commercial-grade live broadcasting TV and Video on-Demand (VOD). As a local governance tool, this research also aims to design an IPTV System as a dashboard and community telecenter terminal in rural and vulnerable urban areas.

The research will also cover the installation of the One Seg OFDM modular converter and transmitter. One Seg is a terrestrial digital TV broadcasting service for mobile devices. With the One Seg service in place, live streaming through mobile devices will be possible.

Figure 2. Developed LIME Page : Integrated Government

Keywords: Disaster Management, Interactivity, IPTV, LIME, One Seg, User Experience

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