

# Com-Me: Community Media Toolkit

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## ABSTRACT

In this demonstration we show the Com-Me, community media toolkit, designed to support audiovisual content creation and sharing in locations where there is low textual and computing literacy and limited power and network coverage. We will present three out of four components of the toolkit that include a story creation app for a mobile phone; a tablet app for archiving stories and other media content; and a low cost device for relaying mobile phone content to analogue televisions. The toolkit is open source and free to use for communities worldwide, and is an output of the Community Generated Media project within the Digital Economy programme.

## Author Keywords

Community media; digital economy; toolkit.

## INTRODUCTION

One challenge of internet use and content creation by rural developing communities is textual and computer literacy. These two issues are related because low textual literacy will prevent users reading conventional internet content on computer screens even if it appears in local languages, and also constrains interaction with the computer or other ICT interfaces which comprise textual menus, textual messages and free-text entry. Additional challenges exist in the form of internet connectivity and affordability in poor regions with unreliable electricity supply.

In a prior project based in rural India we began to tackle these problems by exploring content creation and sharing in pictures and sound, using mobile phones and public display technology connected via Bluetooth or cable [1]. In the Community Generated Media project we attempted to extend this paradigm to the rural South African context, and release a generic solution in the form of an open source toolkit for creating and sharing information in audiovisual form. Here we showcase the elements of the toolkit itself rather than scientific lessons from the project.

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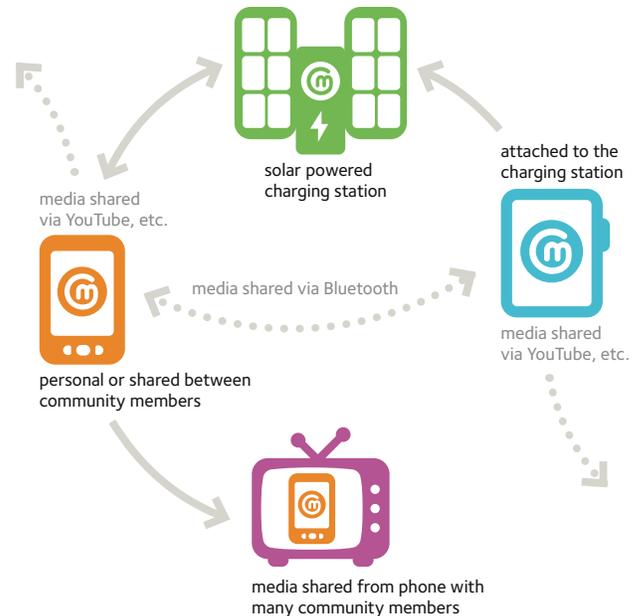


Figure 1. The Com-Me toolkit components.

The components of the toolkit, as shown in Fig. 1, include:

- Com-Charge** a portable and adaptable solar-powered mobile phone charging station
- Com-Phone** a multimedia narrative application for old and new mobile phones
- Com-Tablet** a tablet-based community multimedia repository
- Com-Cam** a device for sharing mobile phone or other content on old TVs

Used individually or together, these components allow groups such as NGOs, community associations and governmental organisations to facilitate digital content creation and establish community media sharing infrastructures within rural and other hard to reach populations the world over. Each of the components of the toolkit, including instructions, designs and source code downloads where applicable, are freely available from [digitaleconomytoolkit.org](http://digitaleconomytoolkit.org).

## COM-PHONE

Com-Phone is a mobile phone application that powerfully supports users in the construction of multimedia “narratives”

as it allows digital multimedia to be combined in creative and useful ways. The application runs on a standard Android phone, and there is also a lower-functionality version compatible with the Symbian and J2ME phones commonly used in low socio-economic status communities.

### **Creating narratives**

The application affords both practicality and originality. Each narrative can include any number of frames. Each frame can include an image, up to three layered audio tracks, even text content. Supporting the diversity of users, needs, and imaginations, the interface is completely flexible, and all elements of each frame are optional. For example, the application can be used as an annotated photo diary, a simple audio recorder, text and sound tool for discussion about current events, even a multimedia survey tool. Narratives can be created from an empty canvas or, alternatively, produced from templates one can pre-load into the application.

### **Sharing stories**

Produced narratives can be played back on the phone or shared with others using the application's export feature. The application is fully compatible with Com-Tablet, exporting SMIL media packages with small file sizes appropriate for the low-capacity devices that are common in the communities that the application is designed for. Additionally, narratives can be exported as movie files (for upload to YouTube, for example) or, conveniently, as a webpage that can be put online directly.

### **COM-TABLET**

Com-Tablet is a repository and browser for narratives created by Com-Phone, as well as any other digital media sent to it via Bluetooth. The application runs on a standard Android tablet, but if necessary can also be used on the same device as Com-Phone.

### **Community storage**

A simple three-level hierarchy, identifying people's media according to where they live, characterises Com-Tablet's interface. The initial view includes a panorama of the users' location – in our case this was at the top of a hill with a view of the surrounding area and users' houses. Using the tablet's touch screen, the panorama view is draggable, allowing people to find their house, indicated by an icon.

### **Browsing media**

As a user selects their house, the display shifts to show the people who live there; selecting a face from this screen displays any publicly shared media that person owns.

### **Playing and sharing**

Media can be filtered by type, shared with other tablet users, played back in the application, or sent (via Bluetooth) to another device. The media owner can unlock to view their private media, make any of their content public or private, or share directly with specific individuals.

### **COM-CAM**

It is well-known that photo, video and web content on a mobile phone is difficult to share with a group in settings where there is no other digital technology to upload to. Yet these settings may have existing analogue televisions that could be used as public displays. By filming from an overhead camera and taking an audio feed from the headphone socket of the phone, Com-Cam is a low cost device for relaying the screen and sound of a mobile phone to an analogue television. Our design shows how these components can be mounted on a simple stand made out of local materials such as boxes and rulers.

### **From mobile to TV**

Cables from Com-Cam plug into the SCART or audio-visual sockets of a TV switched to its AV input channel setting. A number of different versions for the device have been tried. The best one includes an adjustable "lamp-like" structure with a whiteboard or chalkboard base. The overhead camera is in the head of the lamp-like device, which can be manually focussed, and moved up or down over the screen of any mobile phone which sits underneath. The mobile phone controls are left accessible while relaying the screen image at an appropriate scale to fill the TV screen.

### **Community projection**

The overhead camera also supports the use of Com-Cam as a whiteboard and overhead projector for making group presentations on a TV. Writing or sketching on the whiteboard or chalkboard base appears on the TV screen. Usefully this can also be done on paper for quick removal and replacement. Additionally, printed documents and other objects and materials can also be placed on the base for presentation on the TV screen, as with an overhead projector.

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