FSenSync

by Förger Analytics

FSenSync is a software package that enables synchronized recording and streaming of sensor data from affordable Android devices (smart watches, phones and tablets). The software can be used for creating video documentation, and designing and running of installations and experiments that have both artistic and scientific requirements.

Fig. 1. A mobile laboratory powered by FSenSync

FSenSync is designed to work robustly in locations where full control of the environment is challenging such as in gyms, parks, or concert halls. The FSenSync apps allow access to for example accelerometers, video cameras, rings measuring EDA, media playback on the devices, and enable the use of touch screens as feedback channels that human participants can use in real-time. The software is available as a free download.

Services related to FSenSync include support for use of the software, consultation related to data analysis, development of customized versions, adding support for new sensors, and access to the source code.

Fig. 2. A composite video created with FSenSync

Demos: **http://forger.fi/demos/**
Downloads: **http://forger.fi/fsensync/**

Use cases for FSenSync

1. Video documentation

Videos are powerful for creating instructional tutorials, but capturing all information with one camera can be difficult, for example, one could need both an overall view and more detailed views. It can also be beneficial to compare work flows, for example by people in a cooking class, to find which way to do things is the most efficient.

FSenSync allows recording videos with several Android phones. The videos can then be downloaded to a computer, and a synced composite that shows the videos side-by-side can be created with little effort.

2. Scientific experiments

Mobile devices allow performing experiments with large groups of people as the devices can be used for recording sensor data, and touch screens allow collecting subjective experiences. However, managing a large number mobile devices can be challenging.

FSenSync eases the use of mobile devices by automating clock synchronization between devices, by allowing produced data to be downloaded easily, by tagging devices to ease the identification of the test participants, and by timestamping notes written during experiments.

3. Interactive art and games

Mobile devices can be used for interacting with your surroundings. However, the interaction is often limited to a single person, and getting data streamed from mobile devices in real-time may not be easy.

FSenSync can stream, for example, accelerometer data and screen touches over Wifi using OSC (Open Sound Control) protocol. As the streamed data is timestamped, it is possible to detect, for example, similarities in rhythm and behaviors like leading and following. This allows using group behaviors for controlling games and installations.

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