APPropriate
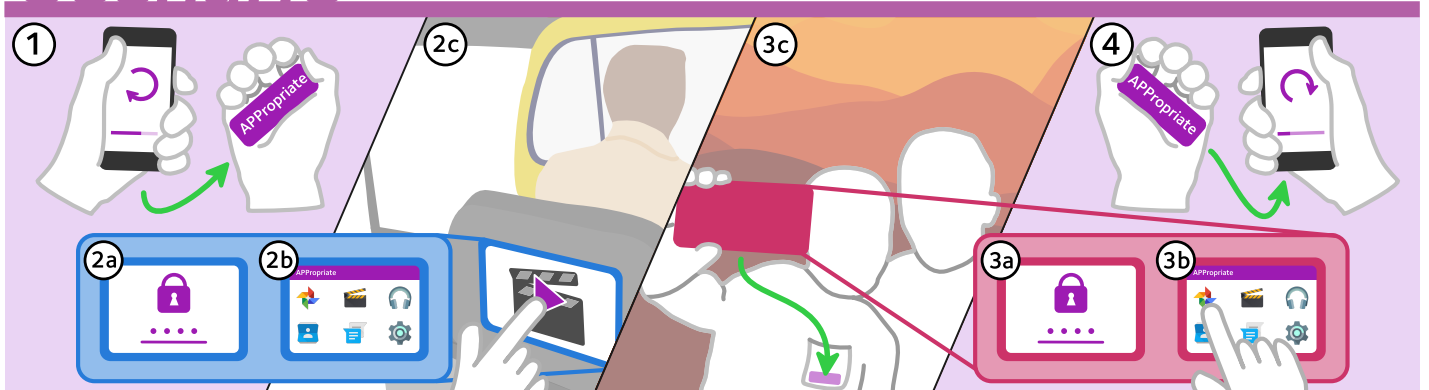

APPropriate is a small storage device that contains the owner's digital possessions, allowing them to leave their phone behind, but pick up and use any other device at will, as if it were their own.

Overview

We present APPropriate - a novel mobile design to allow users to temporarily annex any Android device for their own use. APPropriate is a small, cheap storage pod, designed to be easily carried in a pocket or hidden within clothing. Its purpose is simple: to hold a copy of the local content an owner has on their mobile, liberating them from carrying a phone, or allowing them to use another device that provides advantages over their own. Picking up another device when carrying APPropriate transfers all pertinent content to the borrowed device (using local no-cost WiFi from the APPropriate device), transforming it to give the impression that they are using their own phone. While APPropriate is useful for a wide range of contexts, the design was envisaged through a co-design process with resource-constrained emergent users in three countries. Lab studies and a subsequent deployment on participants' own devices identified key benefits of the approach in these contexts, including for security, resource sharing, and privacy.

Scenario

Before leaving home, the user synchronises their phone to the APPropriate (part 1). After doing so, any public or borrowed devices can be appropriated and used at any time (2a-2c and 3a-3c). For example, in part 2, the user is watching a video from their media library on a public display in an autorickshaw. In part 3, the user has borrowed a phone to take a photo - the photo is saved to their APPropriate, and does not remain on the phone. Before they are able to use other devices, the user is prompted for a secret PIN that protects their data (parts 2a and 3a). Entering the correct PIN loads the user's media from the APPropriate, and displays it in the same manner as on their own phone (i.e., in individual apps on a virtual home screen, as in 2b and 3b). Later, back at home, updated media is synchronised back to the owner's phone (part 4).