

Urban Biodiversity Identification and Tracking System

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This poster introduces a participatory mobile application for urban biodiversity identification, tracking, and habitat creation, UBITS (Urban Biodiversity Identification and Tracking System). School children, bird watchers, gardeners, hobbyists, and amateur naturalists use their mobile phones to capture images, sounds and locations of birds, butterflies, bees, insects, trees, and other plant life; query multiple databases to identify wildlife and plant species; participate in collaborative mapping of urban species by location, frequency and time of year; and increase habitat for urban biodiversity.

UBITS users identify wildlife and plant species by color, shape, and sound using mobile telephones' built-in audio recorder, camera, video, date-and-time function, geo-location, and search engine dialogues (see Figure 1). User data generates freely accessible online maps of urban biodiversity. The participatory network enables beginners and hobbyists to learn from scientists, and to correct and expand existing biodiversity databases by location and season. UBITS identifies, tracks, and increases beneficial wildlife, while also monitoring and controlling species known to be invasive or harmful.

By connecting existing mobile phone technology and scientific databases, UBITS supports popular participation in observing, protecting, and promoting urban biodiversity. UBITS builds online and real world social networks within cities and across the globe. Learning about urban wildlife and the landscapes that support them promotes both individual action for habitat creation and also informed dialogue with policy makers, property developers, land-owners, and corporations.

UBITS impacts are scientific, social, and environmental. Increased system usage promotes the planting of new urban gardens in yards, balconies, roofs, walls, and public spaces for habitat creation.

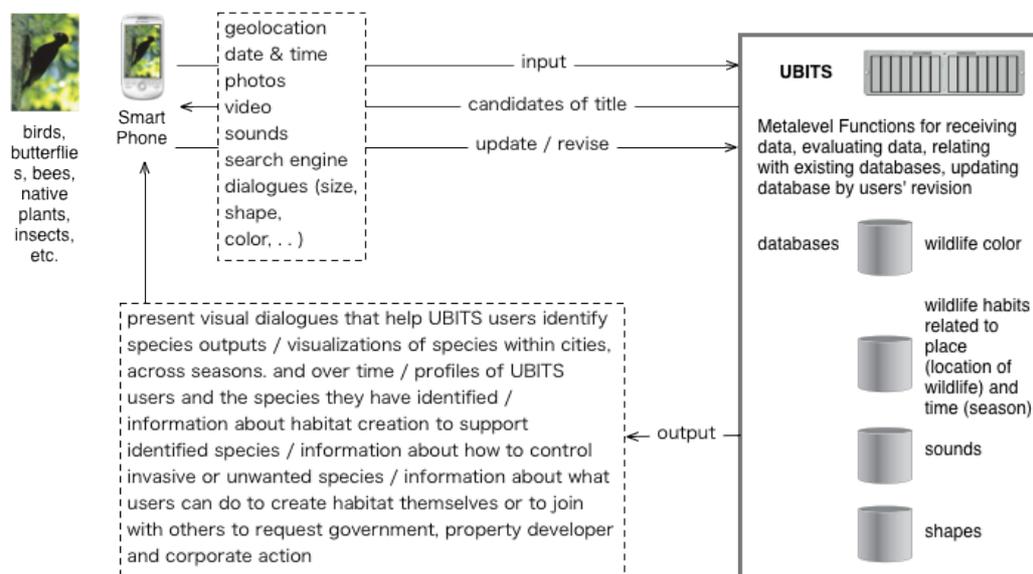


Figure 1: *System Architecture of UBITS*

The authors will perform experiments and evaluate the feasibility and scalability of UBITS by developing a prototype application on the iPhone and Google Android platforms. For the prototype application, we will focus on several wildlife species, including birds and butterflies.