Mobilising Citizen Science data for biodiversity monitoring

Veljo Runnel[1], Israel Pe'er[2], Kessy Abarenkov[1], Allan Zirk[1], Urmas Kõljalg[1]

[1] University of Tartu Natural History Museum, Estonia; [2] GlueCAD , Israel

EU BON survey on citizen science data use among researchers in biological sciences

The survey was aimed to reveal trends of volunteer involvement among researchers in natural sciences, also to explore the readiness and motivation of researchers using or not using volunteer help and roughly evaluate importance of citizen science for the outcomes of research.

151 researchers from 16 European countries responded to the survey, notable input from Norway, Sweden, Belgium, Estonia, United Kingdom, Bulgaria and Greece.

The survey indicates that researchers would like to involve even more volunteers in their work, but recruiting processes to allocate capable observers takes too long and consumes too much time and resources. There is a need for tools and guidelines for recruiting volunteers for use of both researchers and citizen science project managers.

Researchers in the field of environment protection were most inclined for citizen science involvement. Ecologists showed most interest in prospective use of volunteers in their work in future. Including ecologically relevant metadata in citizen science observations could help ecologists more effectively utilize the data.

60% currently engaging volunteers in research
85% would engage volunteers in future
52% of researchers who engaged volunteers also use public portals for data collecting.
36% of volunteers contribute to the research by (species) occurrence recording
62% of researches who engaged volunteers provided also training for them

Survey results are available http://natmuseum.ut.ee/eubon

EUBON citizen science data mobilisation through PlutoF workbench

PlutoF citizen science tool helps project managers – researchers, educators or activists – to reach towards their citizen science contributors by creating and publishing data collection forms and managing contributed data.
Collected data is organized to database which complies biodiversity international standards – Darwin Core arhive data structure, EML metadata standards.

Features:* customizable form for collecting observation data, specimen data, samples, etc
* title page with short description of CS project/bioblitz etc (customizable)
* unique url for easy publication in web
* project level data management with PlutoF workbench (data validation, dataset download etc)
* contributor level data management via PlutoF workbench (citizen scientist can review/edit their data)
* compatible with GBIF standards (Darwin Core, GBIF dataset metadata format)
* data/metadata mobilisation and synchronization with GBIF through IPT
* support for EUBON approved procedures, standards, best practises etc
Modul will be released in beta version by November 2014

PlutoF cloud
PlutoF provides cloud database and computing services for the taxonomical, ecological, phylogenetical, etc. research. The purpose of the platform is to provide synergy through common modules for the classifications, taxon names, analytical tools, etc. It allows to address integrated questions in ecology and coevolution of taxa. Different types of the species occurrences, viz. preserved specimens, DNA sequences, human observations, references can be stored in PlutoF as well. PlutoF has no restrictions on taxon and geographic coverage and therefore can be used for the databasing interacting taxa. It includes also collection management module.
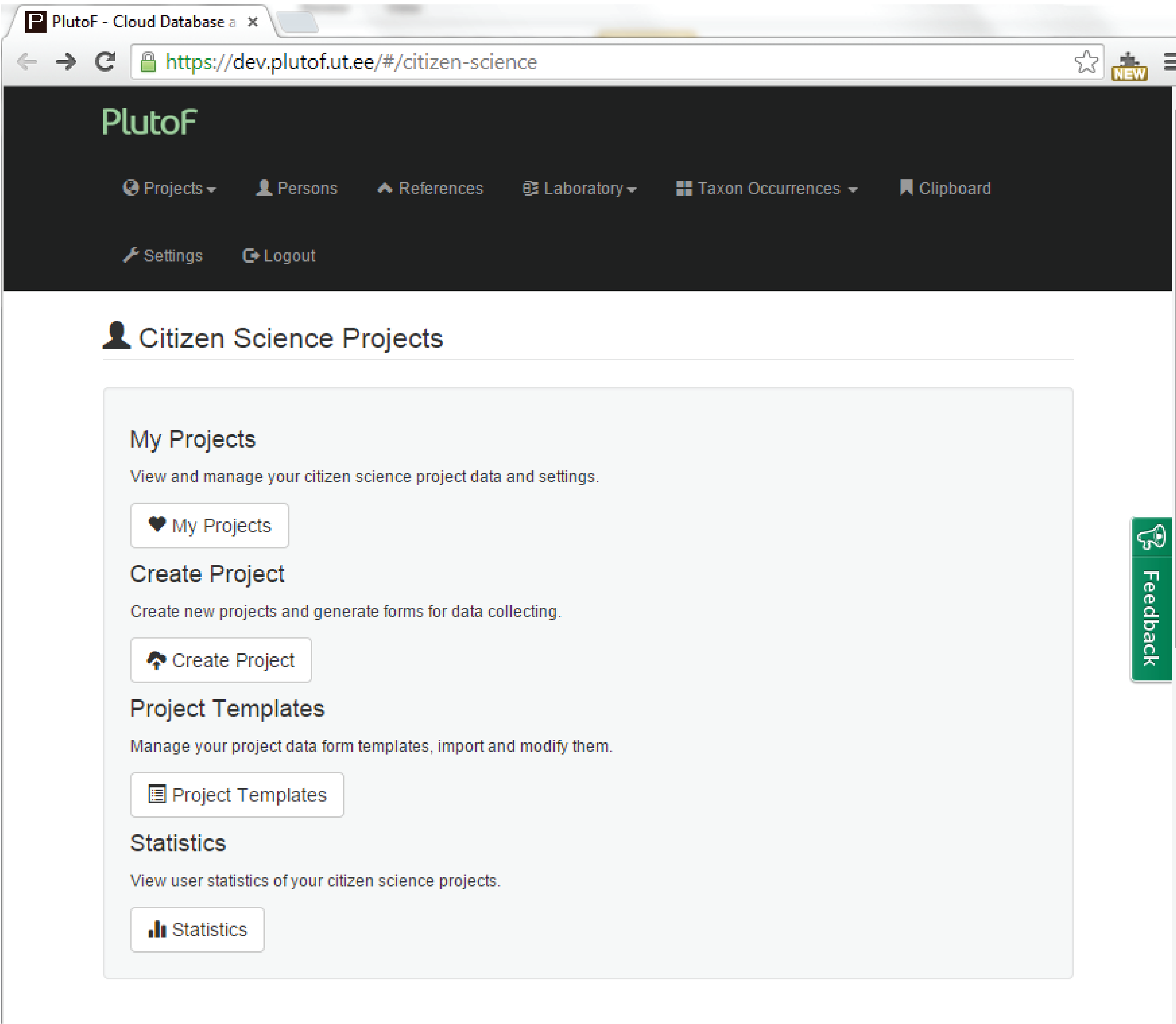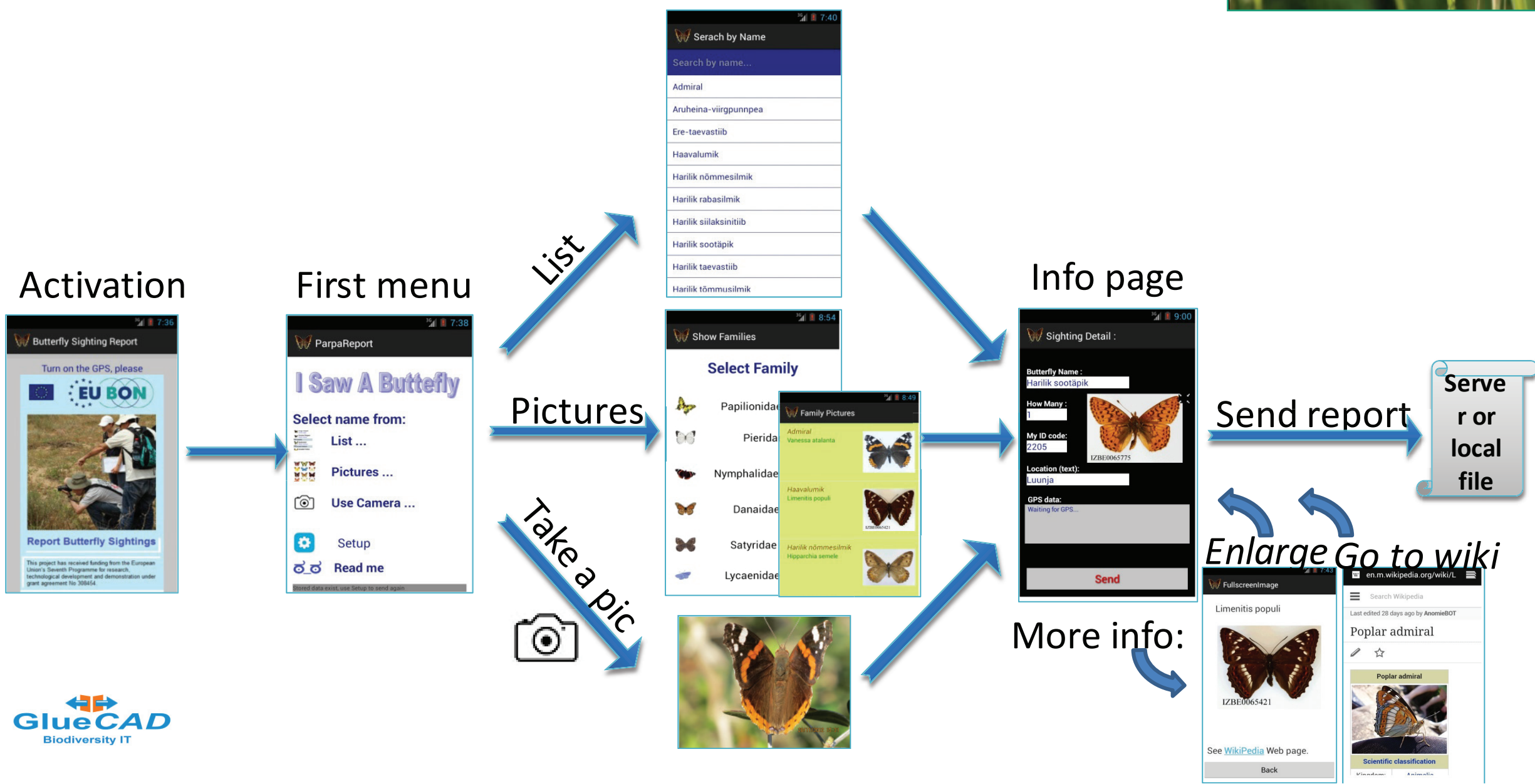

Mobile Apps to support and encourage public sighting reports

App advantages
• Attractive, especially among young people
• Offer advanced technologies to collect and communicate data in the field
• Convenient high-end IT tools to enhance data-accuracy and spatial precision
• Ease of use promotes rapid reporting of observations
• Cost effectiveness of development

App for butterfly sighting reports: Prototype (GlueCAD)
• Provides public-based reporting tools of opportunistic observations to PlutoF web-portal:
• User may chose to report using a) name-list, b) family-grouped pictures, c) Shoot & Send picture.
• Device-based data recorded: date and time, GPS coordinates, accuracy, altitude, user info.
• Web-based additional info: Temperature, Cloudiness, wind-speed, humidity
• Direct http post to PlutoF database

What is it good for?
• Support CS-groups lacking IT solutions or Web facilities
• Can provide biodiversity education and public engagement (schools, urban areas)
• Facilitate data mobilisation through and into EU BON CS-portal

Apharitis cilissa