Developing a General Framework / Platform for Annotating / Archiving Crowd-sourced Multimedia / Knowledge of Biodiversity / Ecology / Environment: Phytophilo Community as an Example

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2016 Workshop on Collaborative Data Projects

2016-12-08, Institute of Information Science, Academia Sinica

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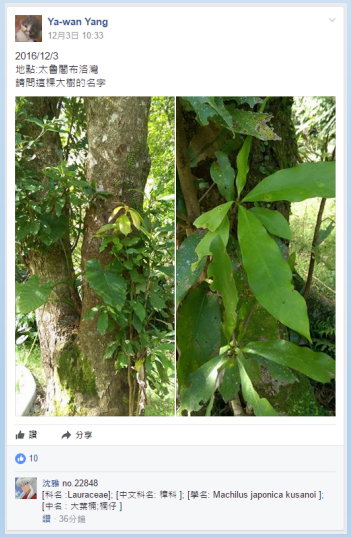
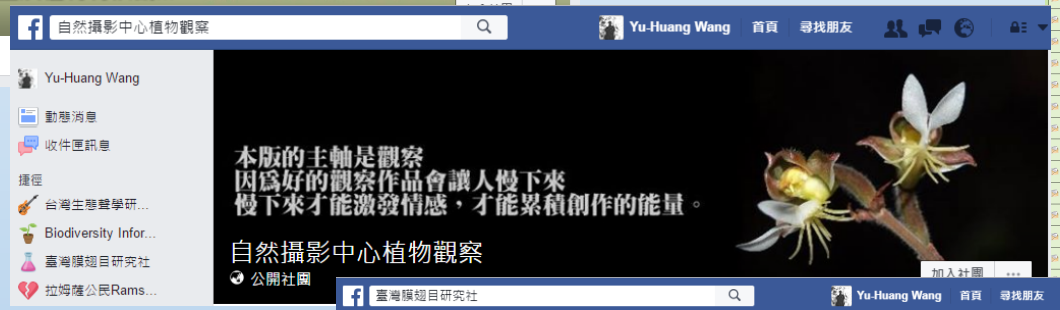
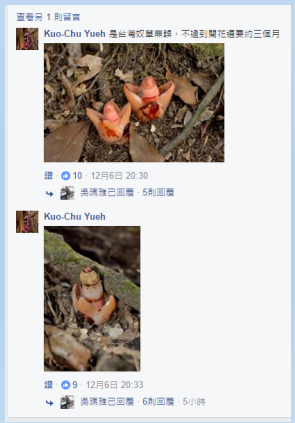
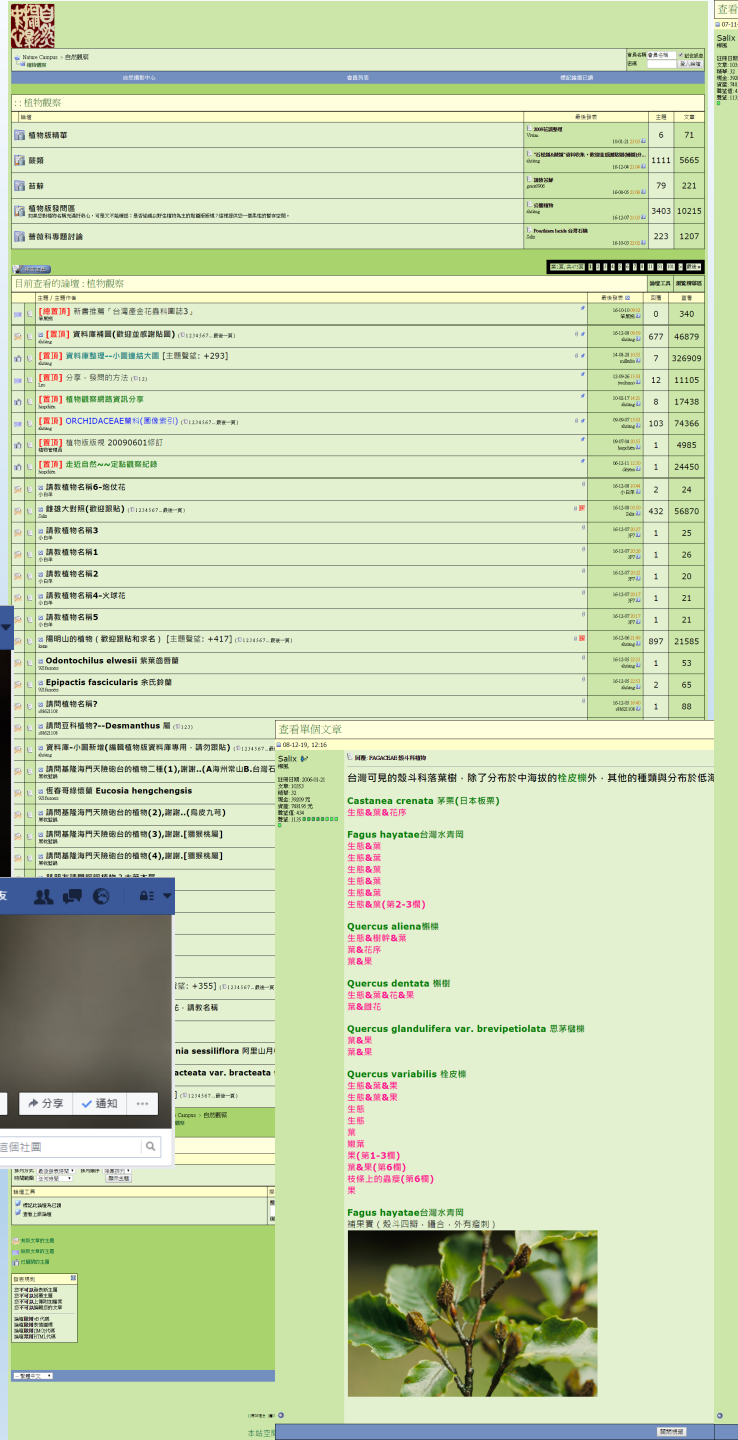
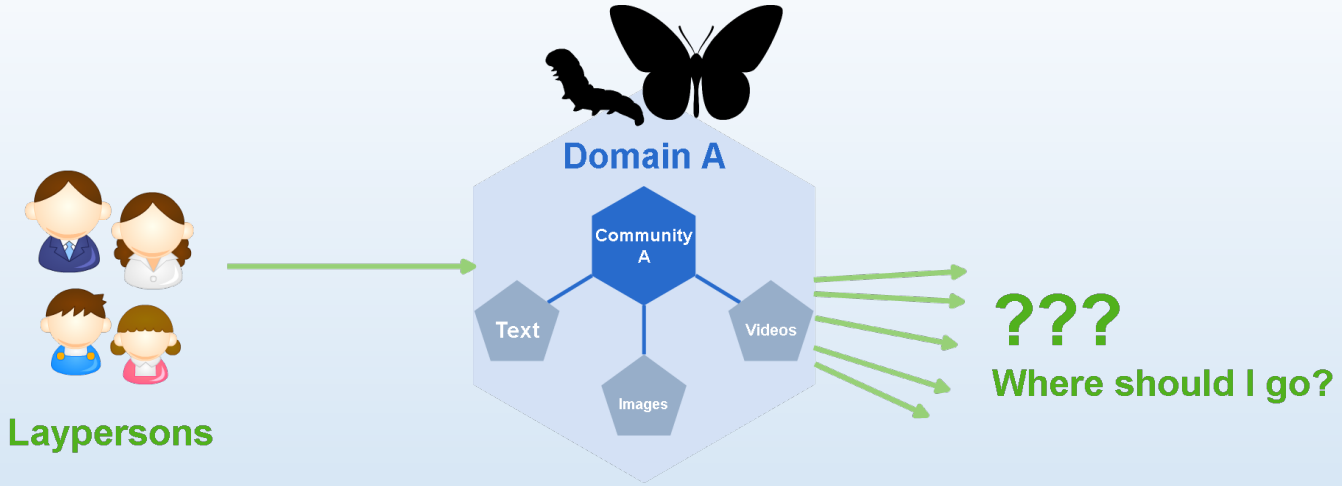
Abundant images / media / unstructured data on the web…but how to integrated them into useful knowledge?



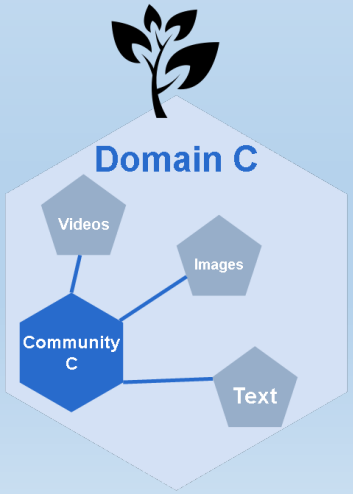


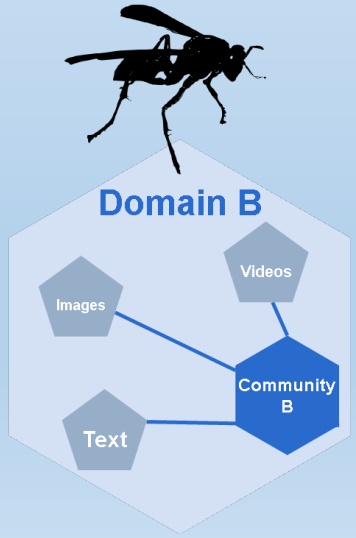






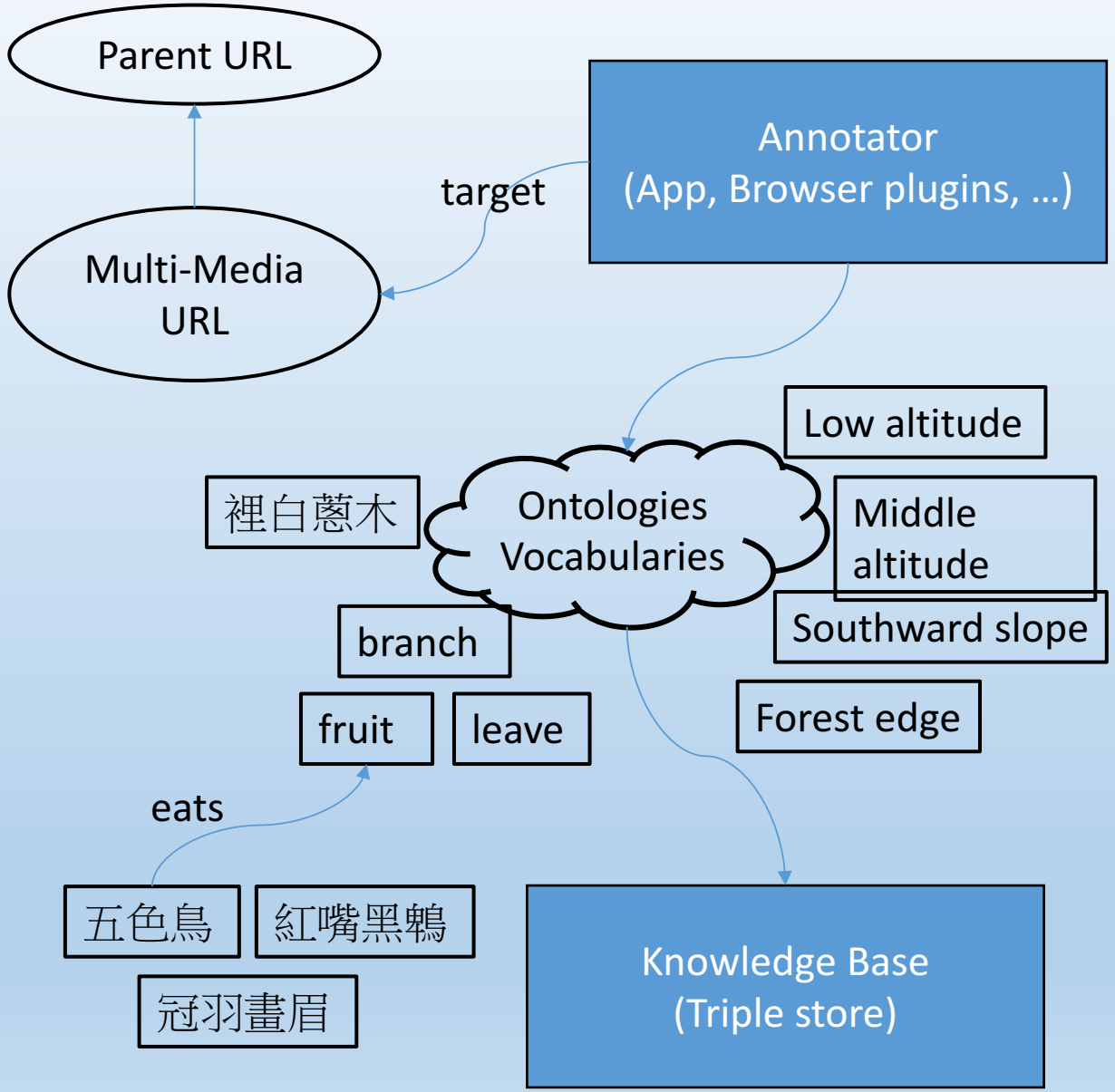
No Linkeage Between Communities and Their Knowledge on Web

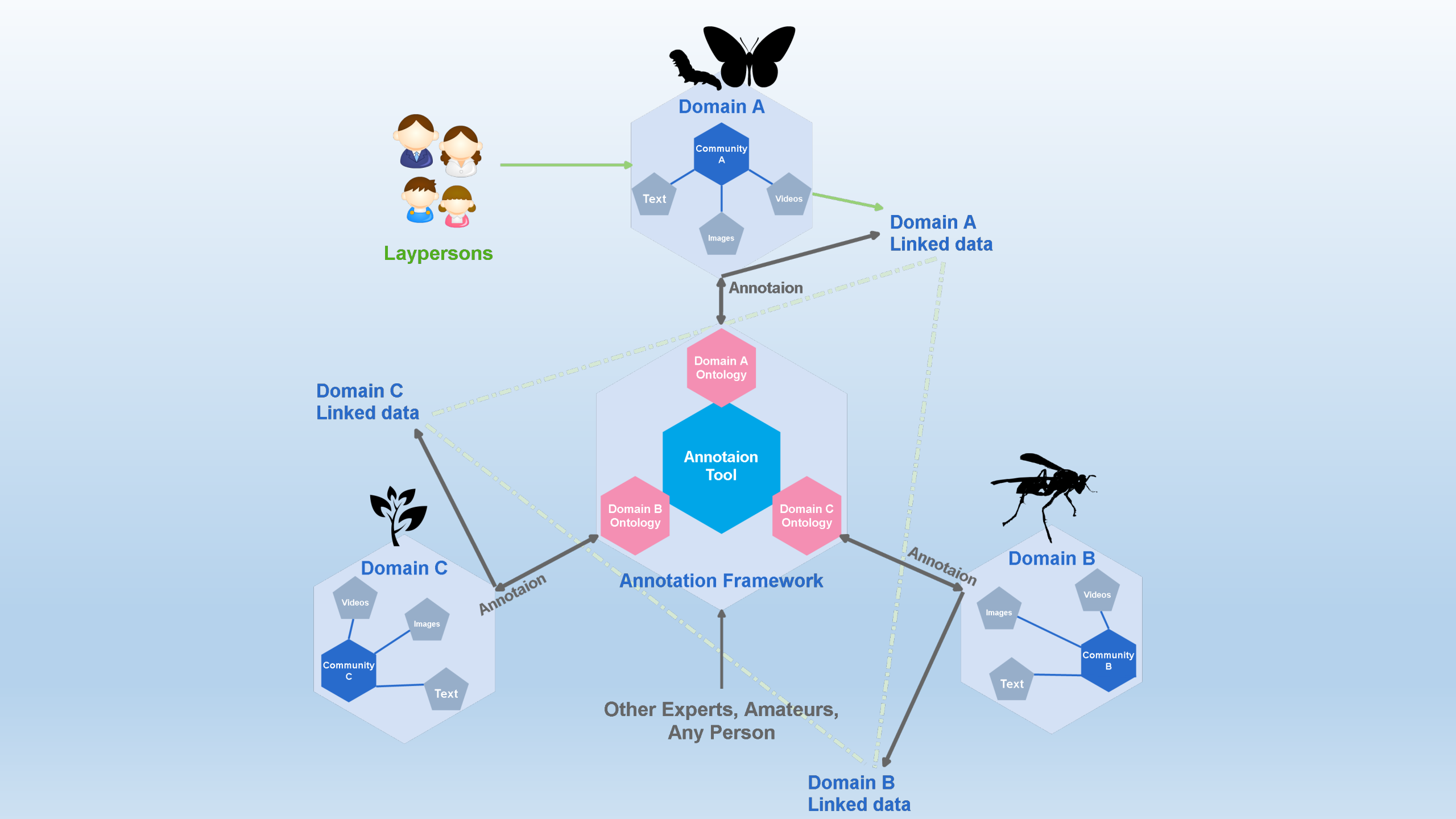




Other Experts, Amateurs, Any Person

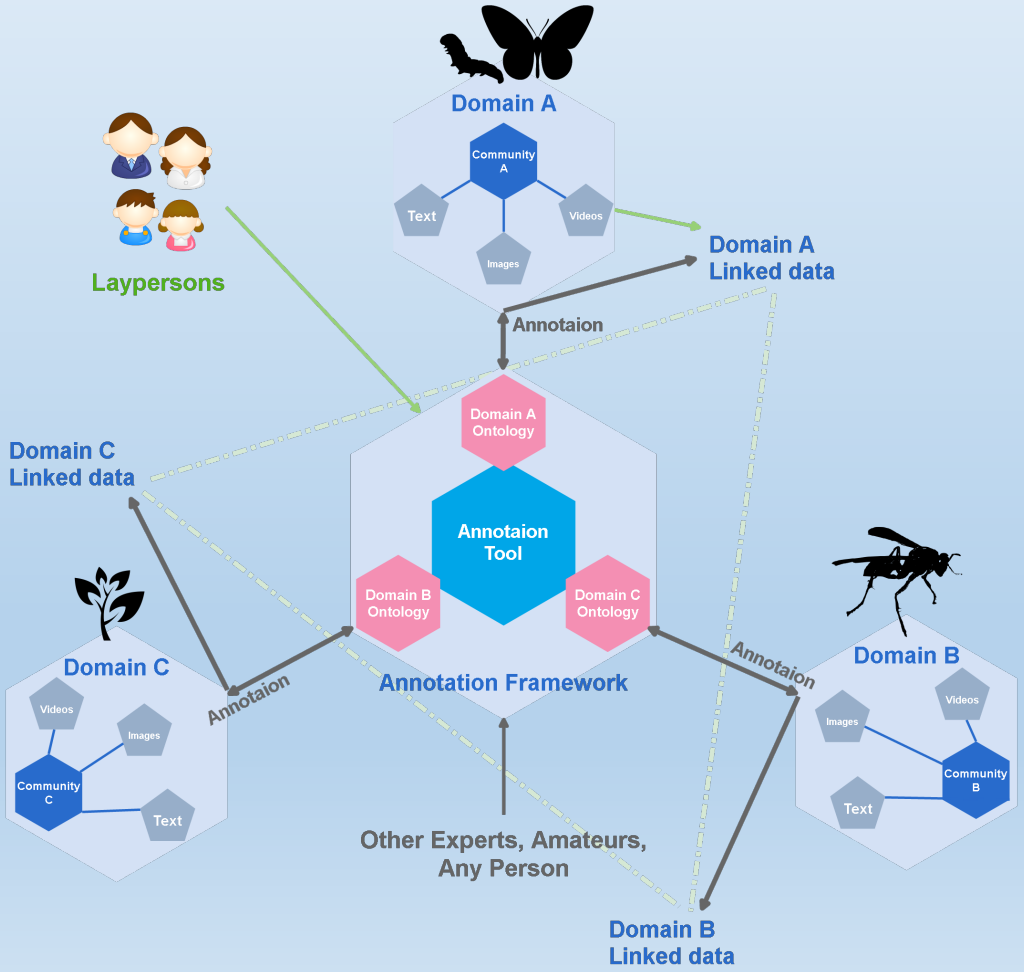
Image / multimedia annotation based on domain ontologies

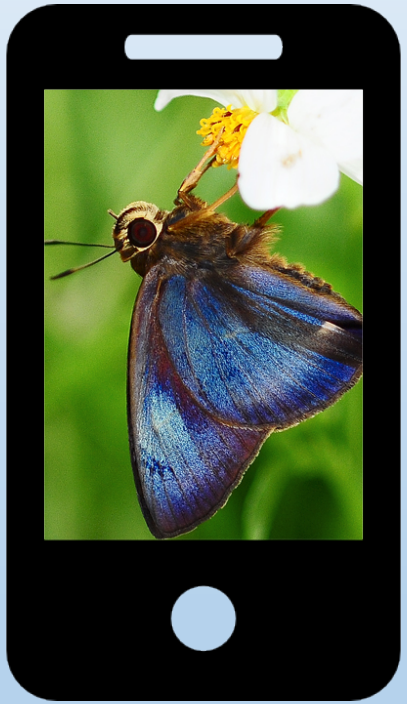



Domain A
Community A
Text
Videos
Images
Laypersons
Domain A Linked data
Annotaion
Domain A Ontology
Domain C Linked data
Annotaion Tool
Domain B Ontology
Domain C Ontology
Annotaion
Annotaion
Domain C
Videos
Images
Community C
Text
Annotation Framework
Domain B
Videos
Images
Community B
Text
Other Experts, Amateurs, Any Person
Domain B Linked data

Potential Application

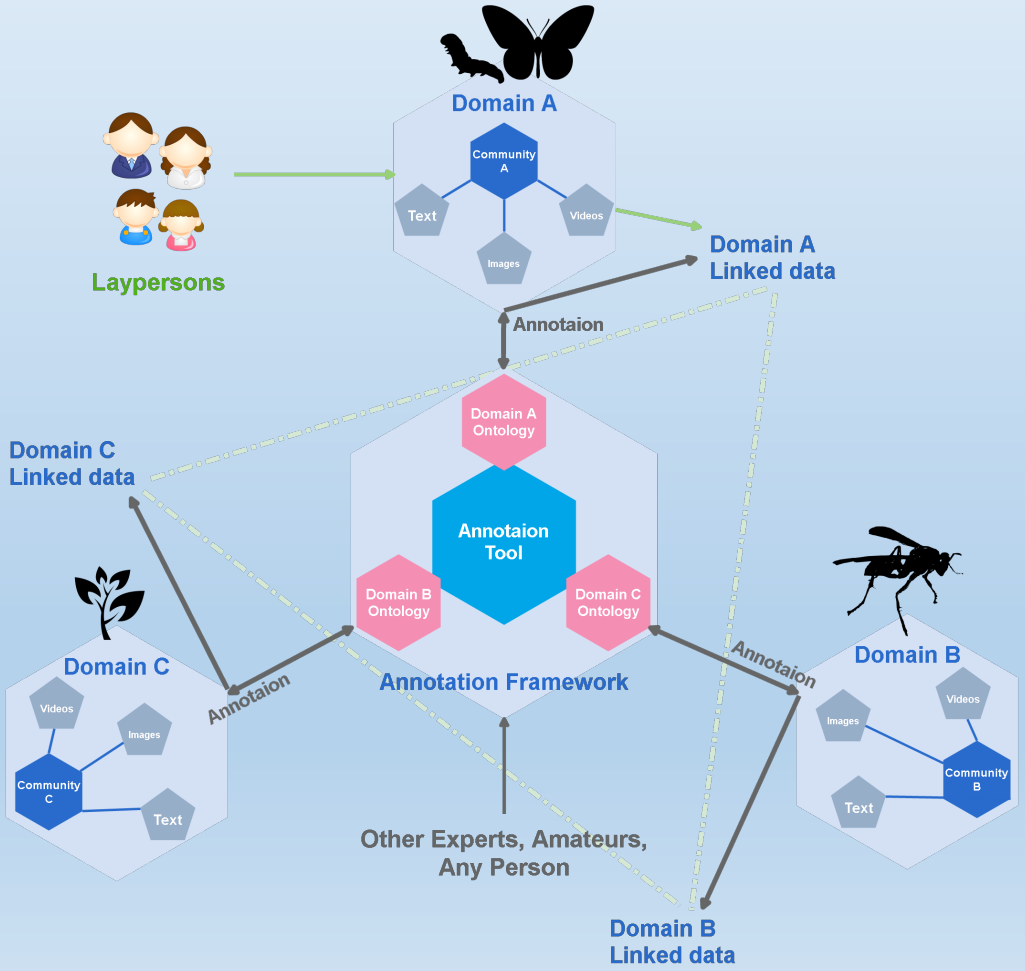
To help collect biodiversity / ecological data in digital format in ecological surveys using mobile devices





Potential Application

Many, many annotated data
→ Training data for deep learning



Survery and study existing semantic annotation data model

- W3C Open Annotation Data Model
  http://www.openannotation.org/spec/core/
- W3C Image Annotation on the Semantic Web
  https://www.w3.org/2005/Incubator/mmsem/XGR-image-annotation/
- DarwinCore RDF https://github.com/tdwg/rdf
- Plant ontology http://www.obofoundry.org/ontology/po.html
- EOL TraitBank data model

….

The whole idea…

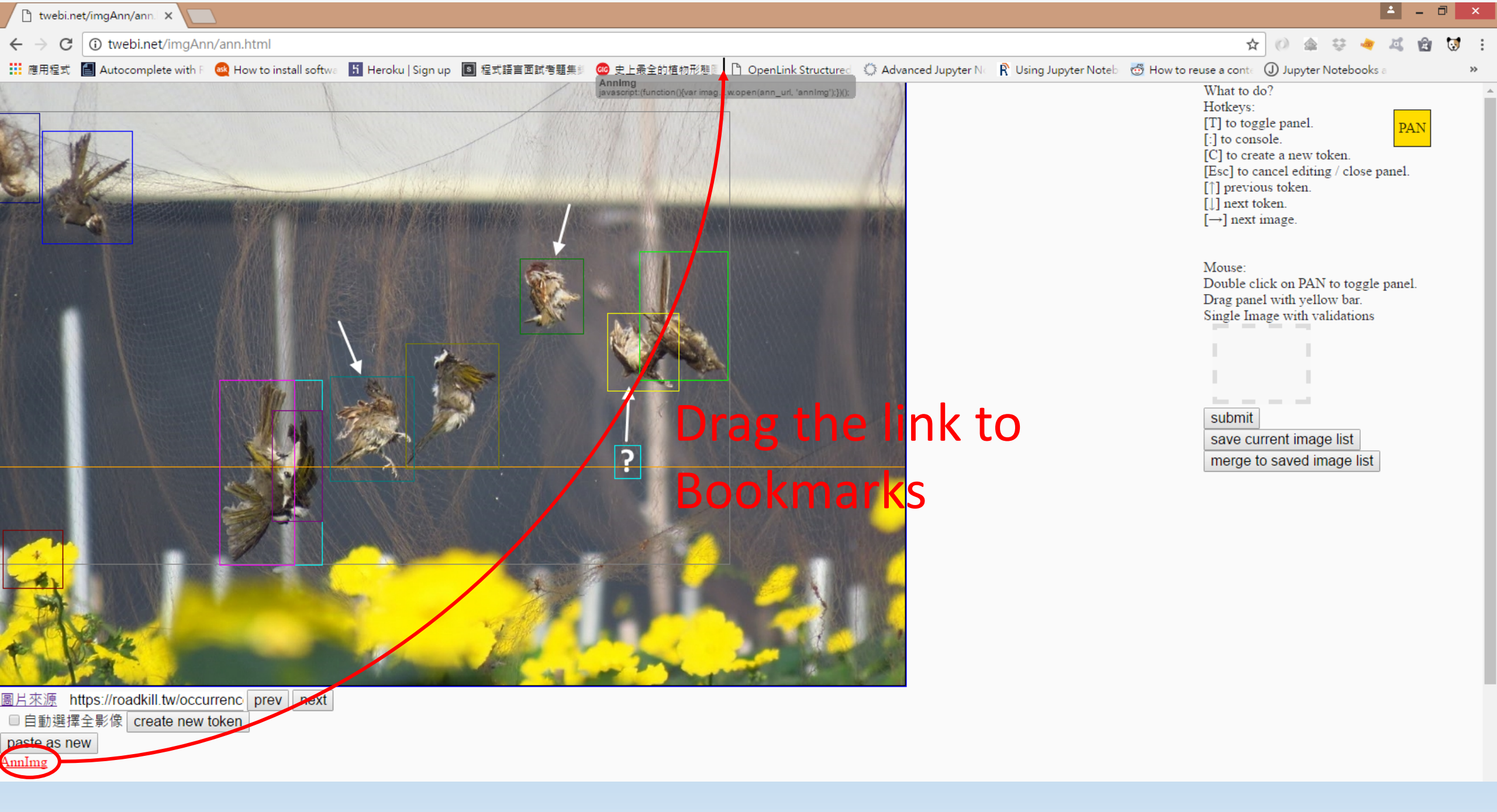
- Flexible annotation tools embedded with…
- Annotation data model / ontology
- Frontend mobile App for collecting multimedia (image, video, audio)
- Persistent storage for annotated multimedia
- Data center for integrating all kinds of biodiversity and ecological data based on GRID infrastructure to create an open data platform for integrating crowd-sourced data & knowledge of biodiversity / ecology

Demo

http://twebi.net/imgAnn/ann.html

Installation

(one step only)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AnnImg
javascript:(function(){var imag...w.open(ann_url, 'annImg');})();
OpenLink Structured
Advanced Jupyter N
Using Jupyter Noteb
How to reuse a conte
Jupyter Notebooks
What to do?
Hotkeys:
[T] to toggle panel.
[:] to console.
[C] to create a new token.
[Esc] to cancel editing / close panel.
[↑] previous token.
[↓] next token.
[→] next image.
PAN
Mouse:
Double click on PAN to toggle panel.
Drag panel with yellow bar.
Single Image with validations
submit
save current image list
merge to saved image list
Drag the link to Bookmarks
?
圖片來源
https://roadkill.tw/occurrenc
prev
next
自動選擇全影像
create new token
paste as new
AnnImg

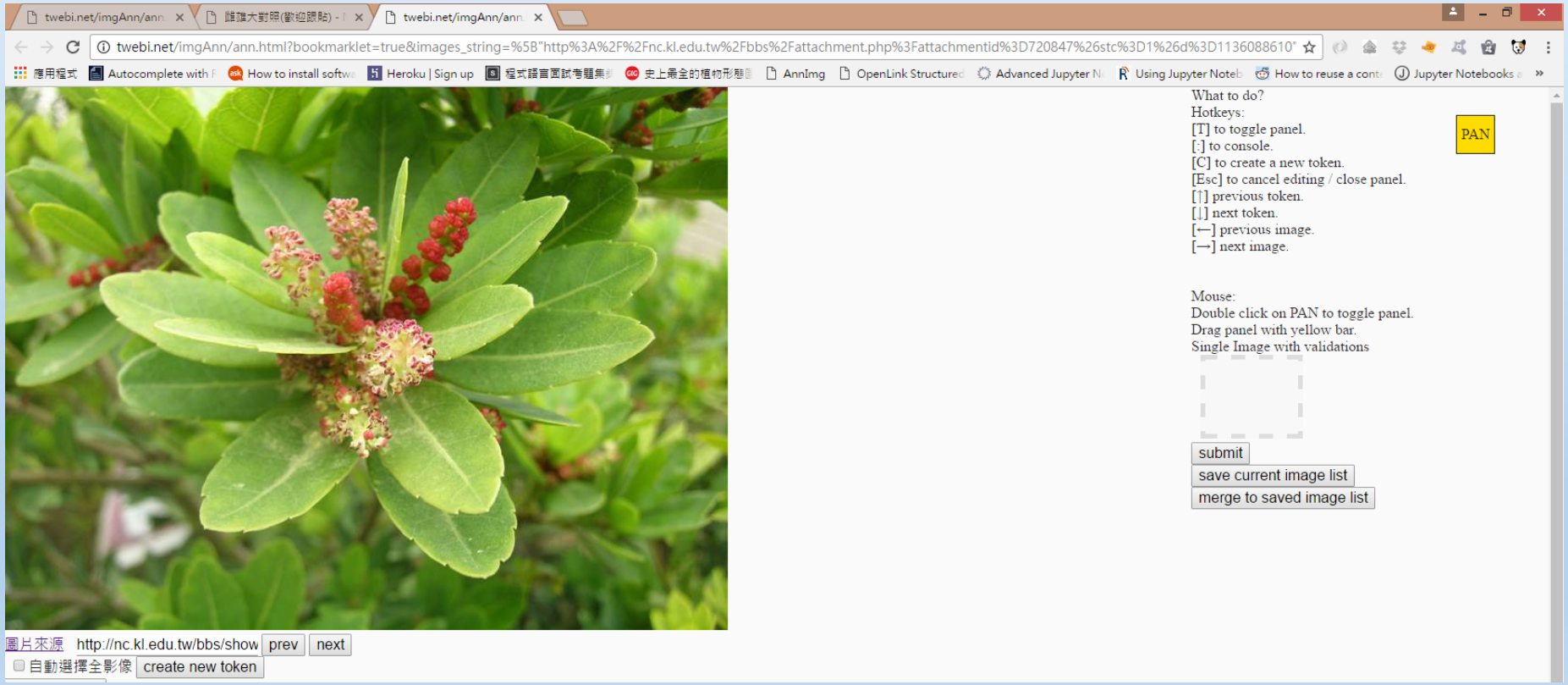
Quick start

While at any page with image(s)

- E.g. http://nc.kl.edu.tw/bbs/showthread.php?t=3798
- Click **AnnImg** on the Bookmarks

Switch to target image

- Click on **next / prev buttons** or press **arrow right / left** to switch



Happy annotating (?)