THE NIVA HACKATHON

How to share IACS environmental data to farmers?

WHAT IS AN HACKATHON?

A COMPETITION IN WHICH MULTIDISCIPLINARY TEAMS COME UP WITH CREATIVE, INNOVATIVE SOLUTIONS TO A SPECIFIC CHALLENGE IN A SHORT PERIOD OF TIME (24-48H).
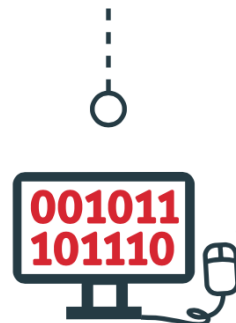
HACKATHON

BRAINSTORM

DEVELOPMENT
PROTOTYPE

PROGRAMMING

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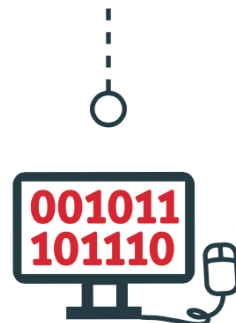
TIMING

TEAMWORK

GOAL

HACKATHON PREPARATION
NIVA meeting Dublin 20-22 April 2022

THE CANVAS (45 min)

SOLUTIONS
- Which problem does it solve?

DATA
- Which data is shared by the product?
- Who provides this data?

USER NEED
- How do farmers benefit from it?
- What are the product requirements?

STAKEHOLDERS INVOLVED
- Which stakeholders should be involved?
- How to ensure the solutuion is built? (ex: partnership, funding, etc..)

SKETCH
- What are the features of the product?
- What does it do?

DISSEMINATION AND OUTREACH

- Engagement with challenge owners
- Challenge definition
- Preliminary team formation on Farmhack forum
- Newsleters to attract participants

Challenge 1:
Environmental KPI Dashboard

Background

- Farmers need better insight on relevant data to improve their environmental footprint.

- An important data source is the data in PA' systems, that could be re-used for these purposes.

Challenge

- Prototype an interactive tool that allows farmers to see their environmental performance on a critical set of indicators.

- Such a tool could allow farmers to see their current performance, set new goals and benchmark with other farmers.

➢ Link with UC1b: Agro-environmental monitoring

Challenge 2:
Carbon sequestration

Background

- The models for predicting the impact of farm management on carbon sequestration in the soil depend on many factors

- There is thus a risk that the predicted reality doesn't match the actual carbon reserve

Challenge:

- What combinations of models and data can produce the most accurate estimate of carbon reserve in a plot over different points in time?

➤ Link with UC1b: Agro-environmental monitoring

Challenge 3: Geotagging

Background:

- In some cases, it's not possible to clearly detect from satellite images the difference among different land cover types (such as weed and grass).

- Geo-tagged photos allows to make this distinction

Challenge

- Develop a system to incorporate geotagged photo data into satellite imagery

- To train satellite imagery decision algorithms to detect land use changes more accurately.

➢ Link with UC4a (GeoTagged Photo App)

Challenge 4:
Strip cropping

Background

- Strip cropping is a novel approach in biodiversity enhancement

- The problem with strip cropping is that the strips are too narrow (6-12m) to be detected on satellite images

Challenge

- Which data and models can be used to detect strip-copping?

- Develop a product to demonstrate performance of biodiversity in strip cropping.
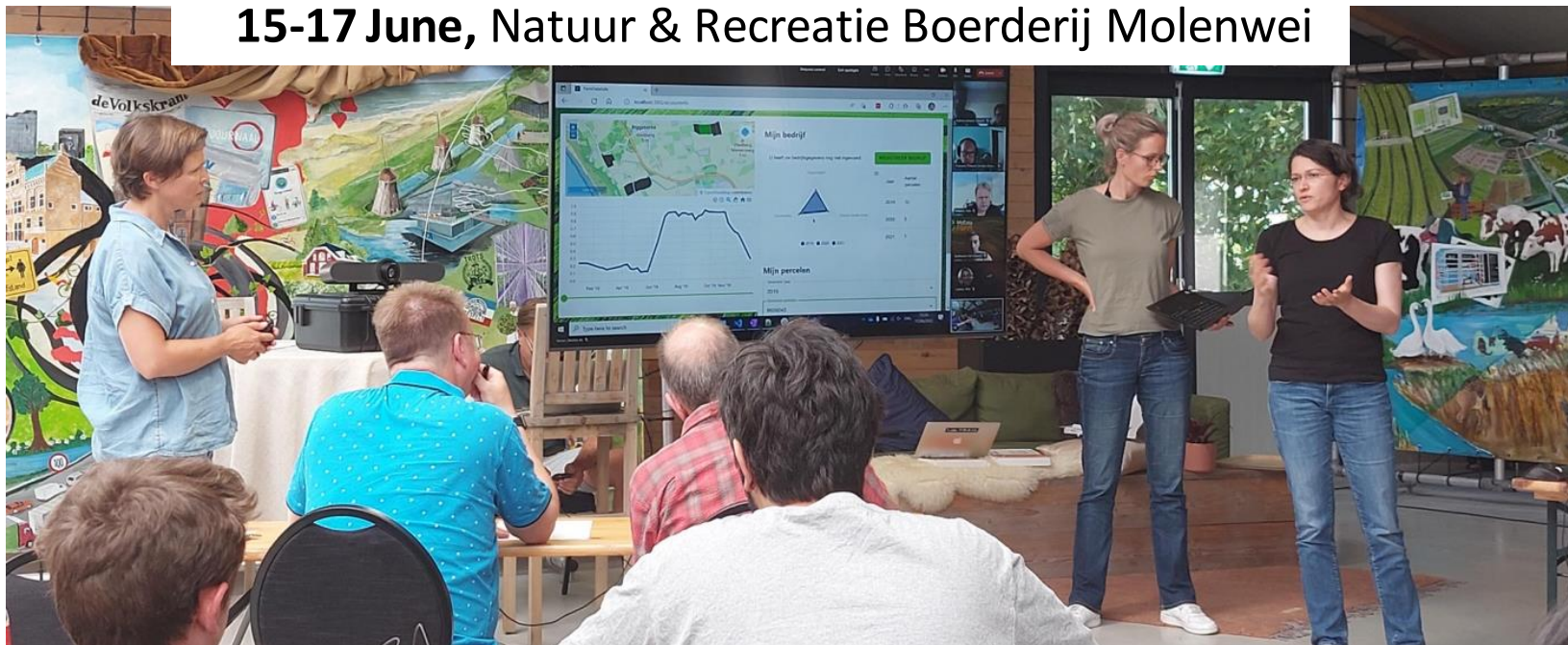
➢ Link with UC4a (machine data), UC5b (Seamless Claim)

NIVA HACKATHON video

15-17 June, Natuur & Recreatie Boerderij Molenwei

MORE ON THE PROTOTYPES?

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Check the FarmHack forum!

[Latest NIVA Hack topics - FarmHack Forum](#)

Hackathon video

https://youtu.be/agE9nlkqE_Y