



Environmental data mash-up

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- HY: Tommi Mikkonen, Niko Elomaa, Petri Kettunen
- And many others

Problem setting

- Need
 - Data, applications and services that enable more accurate analysis of the CO₂ emissions.
 - The knowledge should acculumate as new information becomes available
 - The cross-effects should be taken into account
- Approach
 - Build a data-mash platform that allows using of several existing and forthcoming data sources together.
 - Build enablers for new data-driven business using this data and platforms
- Benefit
 - services whose CO₂ optimization is based on real data, and to provide its customers and users to optimize their actions

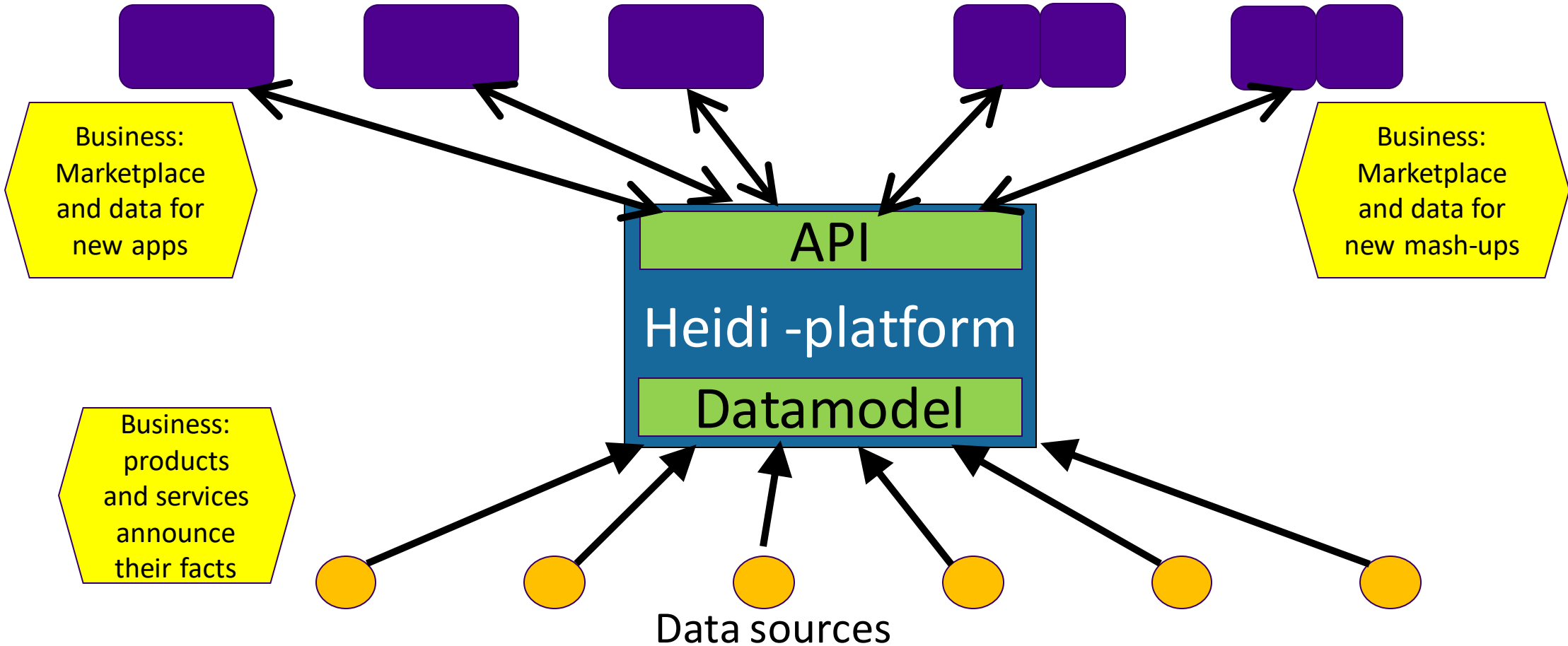
Background

- There are multiple data sources and data merging, too.
- However, none of them (based on our past studies) seem to aim at
 - cumulative addition now new data and new knowledge
 - enabling new application (new data mash-ups)
 - real-time and detailed data

Users: Individuals and communities

3rd-party applications

Mash-ups utilizing other applications and services



Examples of possible use case

- Realistic CO₂ emission data on everything for
 - Product data
 - Annual reports
 - ...
- Games and competitions based on data
- Various types of community efforts, challenges etc

Demo time

About the data sources

- Average CO₂ emission figures from Traficom (those used to calculate annual environment tax)
- Distances from Google Maps
- Current temperature from AccuWeather
- CO₂ emission factor from Fingrid
- Influence of temperature from a research article
- <https://ev-database.org>
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Learnings

- Data sources need different access keys
- and impose different usage rules
- The ways data is accessed is different
- The data is not always interoperable
- When this goes to business, everything becomes more complex
 - E.g. how is the income shared
- Side-note: https://www.gaia-x.eu/sites/default/files/2021-06/Gaia-X_Data-Space-Energy_Position-Paper.pdf

We are not in interesting challenges, yet.

- We sent several project proposal
 - Different variations
 - Different consortia and partners
- How professors spend their time ?
- And then we found a competitor: <https://www.hs.fi/visio/art-2000008227969.html>

Finally, <https://research.tuni.fi/cness>



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