



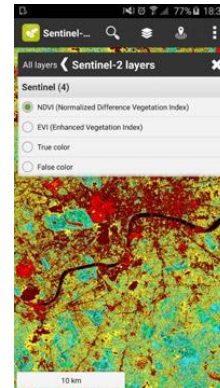
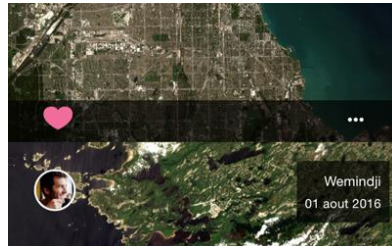
Developing a mobile application with Copernicus

Copernicus for Entrepreneurs and Developers



Mobile applications for citizens

- Copernicus often used in B2B
- Some companies have started offering B2C services, and provide citizens with information:
 - Wave – the city assistant (Subzero): air quality in the city
 - WeSenselt (University of Sheffield): flood monitoring
 - SnapPlanet: Social media network
 - Sentinel-2 NDVI Maps (Sinergise): vegetation monitoring





User
Uptake

Example: Wave – the city assistant

- Navigating and real time information on air and water quality on your phone
- Available for Vienna
- Uses the following Copernicus data:
 - Water temperature
 - UV index
 - Ozone and pollen levels
- Natural language processing:
 - Where can I swim today?
 - What is the air quality today?



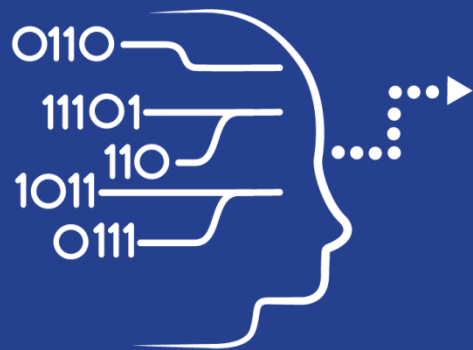
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User
Uptake

The entrepreneurial journey of Wave

- iOS developer of many apps
- Winner of the 2015 ESA App challenge
 - Receives a support package, which can include tech support, design, marketing, ...
 - Has chance to develop their idea further in one of the ESA Business Incubation Centers (BICs) in Europe



User Uptake

Demonstration

Copernicus for Developers



User
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DEMO: INTRODUCTION

- Creating a web map or web app with open source and ESRI tools, and open Copernicus data
- Links:
 - QGIS: <http://qgis.org>
 - ESRI: <http://www.arcgis.com>
 - Copernicus Services:
 - CAMS: <http://atmosphere.Copernicus.eu> - <https://software.ecmwf.int/wiki/display/MACSUP/Accessing+public+CAMS+WMS+products#space-menu-link-content>
 - CLMS: <http://land.Copernicus.eu>
 - CMEMS: <http://marine.Copernicus.eu>



User
Uptake

EXPLORE DATA

The screenshot shows a web browser window displaying a Copernicus map viewer. The browser's address bar shows a URL ending in '/viewer.html'. The page title is 'New Map' and the user is logged in as 'Annekatrinen'. The map shows a satellite view of a coastal area with green land and blue water. A scale bar at the bottom indicates 0, 10, and 20 miles. The browser's taskbar at the bottom shows various icons, including Windows, search, and application icons. A 'Convert' dialog box is open in the foreground, with the following settings:

- Source: screen://
- Type: screen
- Settings:
 - ☒ Convert
 - ☐ Display the output
 - ☐ Deinterlace
 - Profile: Video - H.264 + MP3 (MP4)
 - ☐ Dump raw input
- Destination:
 - Destination file: %and developers\Submodule E\Estonia_ArcGIS.mp4
 - Buttons: Browse, Start, Cancel

At the bottom of the browser window, there is a footer with links: Esri.com, ArcGIS Marketplace, Help, Terms of Use, Privacy, Contact Esri, Report Abuse. The bottom right corner of the browser window shows the system clock: 6:11 PM, 11/5/2017.



User Uptake

ADD TO ONLINE APPLICATION

The screenshot shows a web browser window with multiple tabs. The active tab is titled 'Copernicus' and displays a map application. A 'Convert' dialog box is open in the foreground, showing the following settings:

- Source: screen://
- Type: screen
- Settings:
 - ☒ Convert
 - ☐ Display the output
 - ☐ Deinterlace
 - Profile: Video - H.264 + MP3 (MP4)
 - ☐ Dump raw input
- Destination:
 - Destination file: and developers(Submodule E)\Estonia_webapp.mp4
 - Buttons: Start, Cancel

Below the dialog box, there is a text area with the following content:

from surface up to 5000m. Format GRIB edition 2.

▶ ESRI Imagery World 2D

The background map application shows a 3D view of the North Atlantic region, with a green and yellow overlay on the landmasses. The map is titled 'New Map' and includes a search bar and various navigation controls. The bottom of the browser window shows the Windows taskbar with the time 6:17 PM and date 11/5/2017.