CanAirIO Development 2022

In the last year on CanAirIO development we had achieves reached for give community support and also to have interoperability and integration with COS4Cloud in the next areas:

Software development and community engagement

In the beginning of the past year we looked for new technical and hobbyist communities close to the CanAirIO technologies. The result of this search was to find some communities in Europe that did give feedback, new users and new solutions to different problems.

CODOS Community engagement — February - March

Working together with the community CODOS, a group of people working to improve ventilation in indoors using CO2 sensors for reducing the COVID risk, we had feedback and collaboration around this sensors, and we releases the first versions of the CanAirIO Sensorlib with supports of some CO2 sensors

CanAirIO OTA Updates and CanAirIO Loader — March - May

In the search to give better support and improve the development flow, a new service was released. OTA updates, this service sends firmware updates to our users in two channels, stable and testing channel. Also, thanks to this development, we released CanAirIO Loader, it is a tool for improving the installation of CanAirIO firmware.

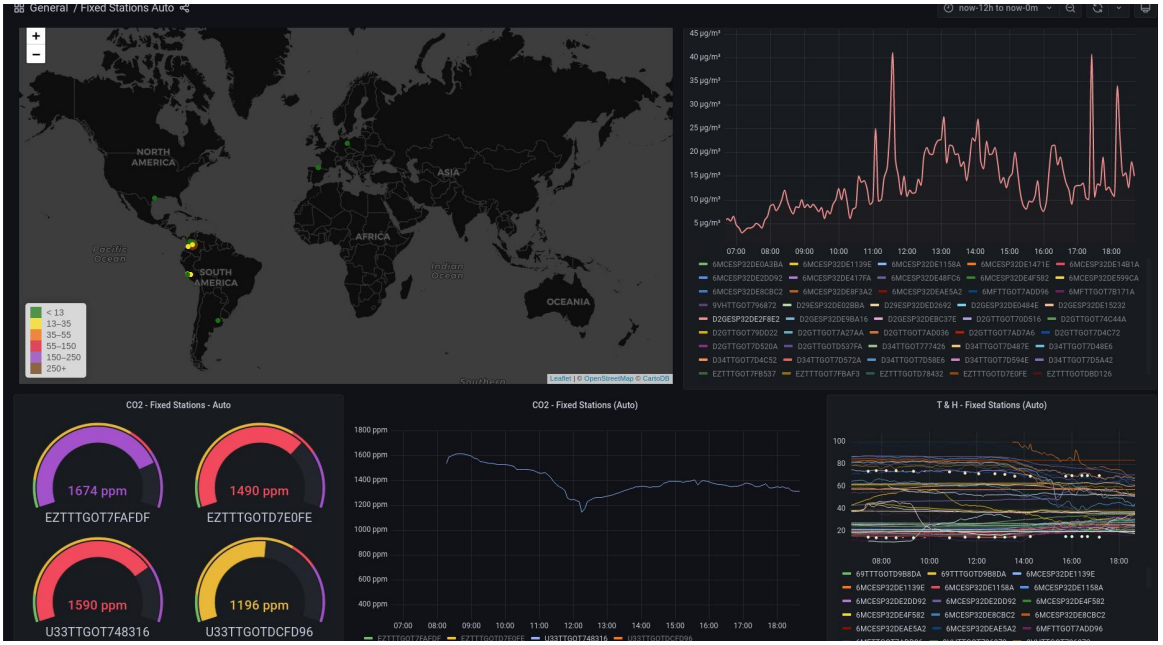
CanAirIO Loader

CanAirIO Bike and CanAirIO CO2 May - June

Two new devices were released in the search to improve the standardization of the CanAirIO devices and also the DIY guides and support of it. These versions were a big challenge because it was the result of the research on the best components to try to preserve easy ways to make these devices. Also we had improvements in usability and portability. The release was done in a our new CanAirIO Documentation Portal and the communities HackaDay, Tindie store, and others communities portals.

CanAirIO World Map and Developers Engagement June-August

We reached a new goal that we were waiting for, an automatic worldmap of our fixed stations. In development but working, the users only will enable it in the CanAirIO App, they will have some visualizations like time series, widgets, and their station in the CanAirIO World Map. Also around it, we changed the database schema and wrote some services and APIs to improve it and also to have the connectors to the services of the COS4Cloud project.



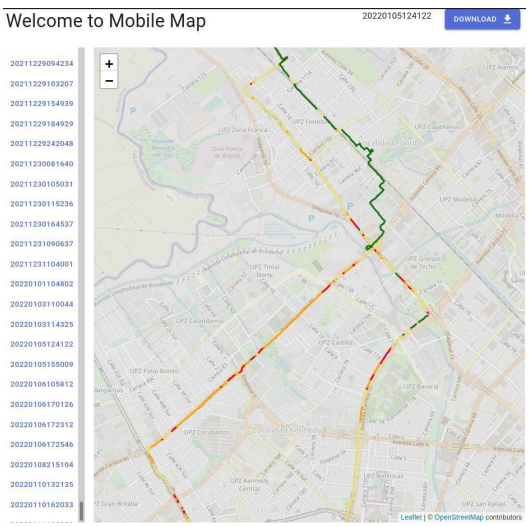
In this period too, we had some code contributions from some developers, thanks to work in the communities around the ESP32 development. The result of this joins was the release of the support of more CO2 sensors and improvements in our sensors library.

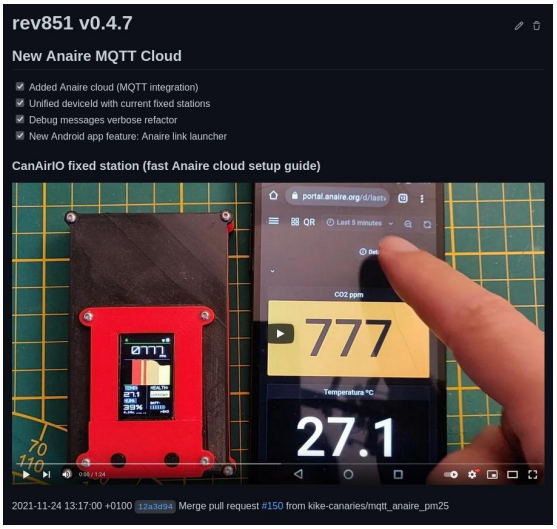
CanAirIO PAX Counter — August - September

This new development seeks to give a context to the user when is sensing CO2 or PM values in conditions indoors for example into public transportation or buildings.

CanAirIO Mobile Map and Anaire integration — September - November

Thanks to the contribution of external developers, in this period we had new sensors supported for developer communities, a new CanAirIO Mobile Map web and the integration of Anaire cloud for CO2 sensors to our firmware and app:

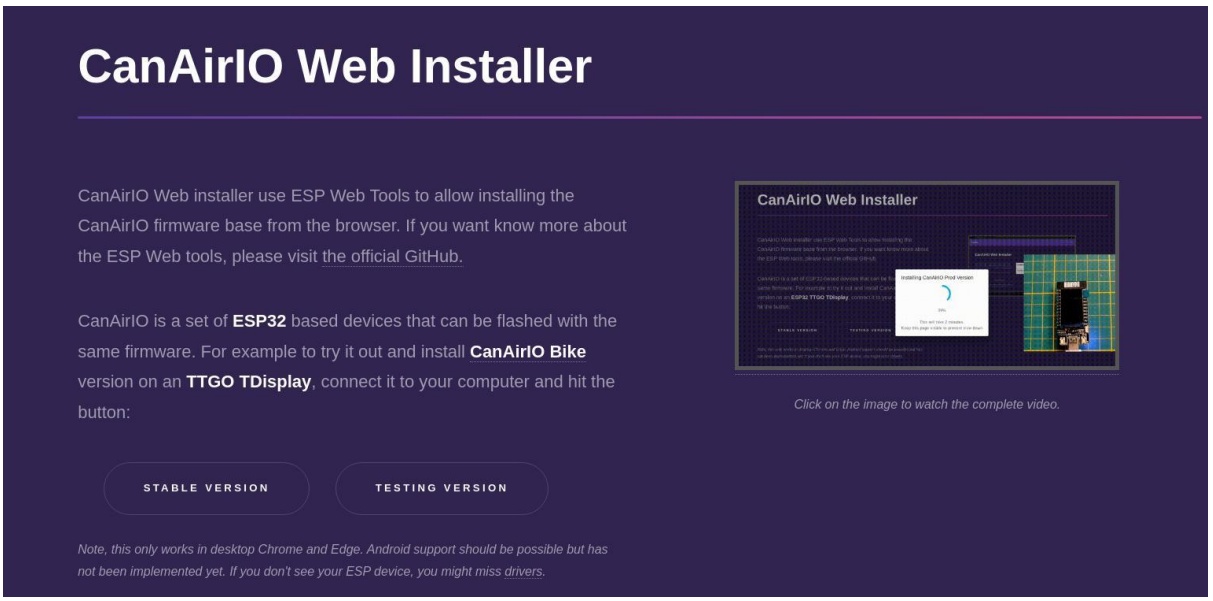




CanAirIO Home Assistant and CanAirIO Installer November - December

This new integration seeks to join with this huge community. Home Assistant is an open source projecto with thousands of developers, hobbyists and people around the iOT devices. CanAirIO is full integrated with this environment in this first version, also we are using a new development of them to try the improve a easy way to install our firmware over CanAirIO devices:

Home Assistant



CanAirIO Web Installer

Technical communities

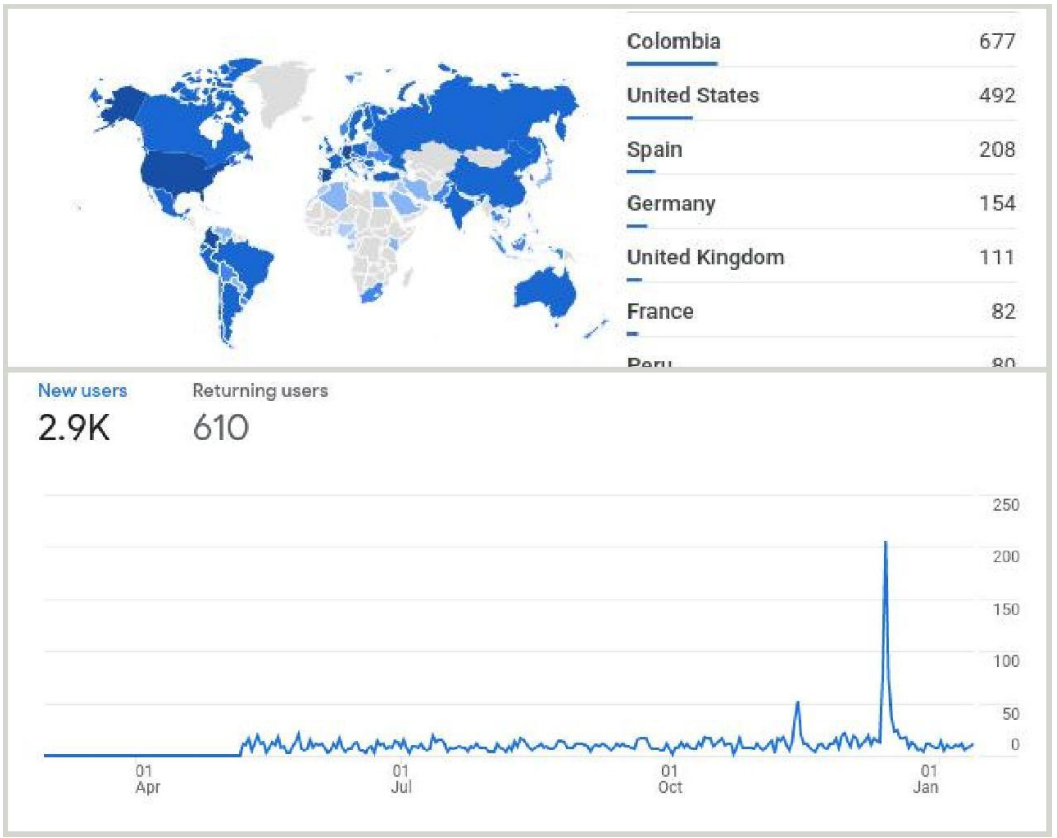
Like we mentioned in the software development subject, in this year we reached some joins to users communities and developers communities like:

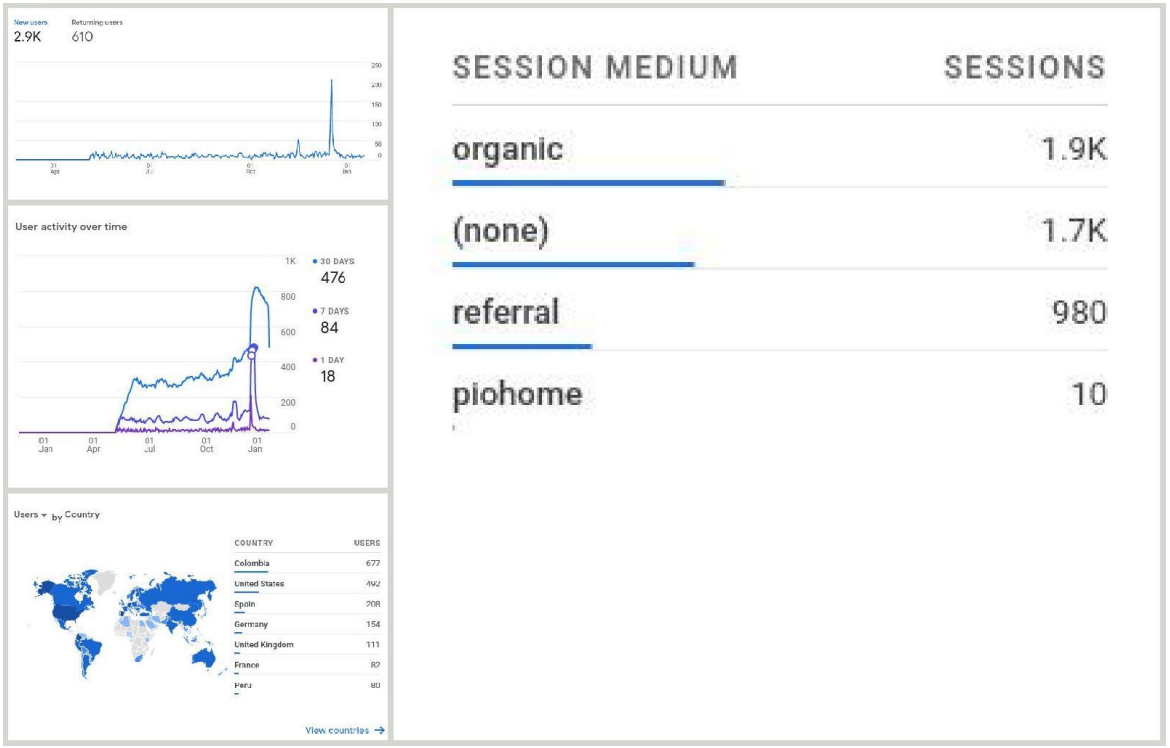
Communitie	Description	Users	Link
CODOS	CO2 sensors	~332	Telegram group
Anaire	CO2 sensors + Cloud	~300	Portal Anaire
Home Assistant	iOT and Home automatization	~100k	Home Assistant IO
ESP32 ES Group	iOT Developers	~270	Telegram group
CanAirIO Tech	Support group - Communitie	~140	Telegram group
Hackaday	Hacker communitie - DIY	>1M	CanAirIO in Hackaday

Statistics and KPIs

Together with the usually software development we have some developments that it try to give us information about the grove of the initiative, not only in the web services or web pages, if not into the firmware and the Android app, statistics around the use and possible issues with the users:

Documentation portal





Search...

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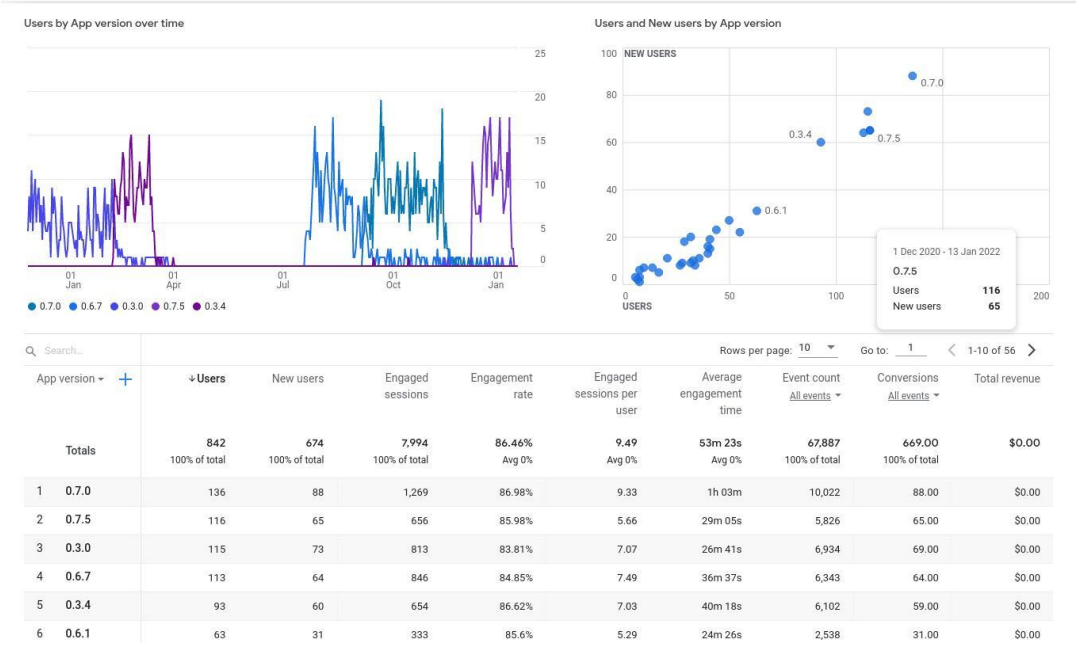
	Country	Users	New users	Engaged sessions	Engagement rate	Engaged sessions per user	Average engagement time	Event count All events	Conversions All events	Total revenue
	Totals	2,899 100% of total	2,883 100% of total	2,119 100% of total	45.99% Avg 0%	0.73 Avg 0%	0m 44s Avg 0%	16,995 100% of total	0.00	$0.00
1	Colombia	677	673	600	47.32%	0.89	0m 57s	4,647	0.00	$0.00
2	United States	492	488	248	40.39%	0.50	0m 26s	2,242	0.00	$0.00
3	Spain	208	207	160	45.85%	0.77	0m 38s	1,271	0.00	$0.00
4	Germany	154	149	110	41.04%	0.71	0m 40s	938	0.00	$0.00
5	United Kingdom	111	107	88	49.44%	0.79	1m 00s	681	0.00	$0.00
6	France	82	80	49	35.25%	0.60	0m 29s	464	0.00	$0.00
7	Peru	80	77	82	37.1%	1.03	0m 48s	738	0.00	$0.00
8	Canada	79	77	54	49.54%	0.68	0m 36s	405	0.00	$0.00
9	Netherlands	79	74	61	52.59%	0.77	0m 29s	424	0.00	$0.00
10	China	76	75	10	13.33%	0.13	0m 02s	249	0.00	$0.00

Android Application and Firmware



App version	Users	New users	Engaged sessions	Engagement rate	Engaged sessions per user	Average engagement time	Event count (All events)	Conversions (All events)	Total revenue
Totals	842 100% of total	674 100% of total	7,994 100% of total	86.46% Avg 0%	9.49 Avg 0%	53m 23s Avg 0%	67,887 100% of total	669.00 100% of total	$0.00
1 0.7.0	136	88	1,269	86.98%	9.33	1h 03m	10,022	88.00	$0.00
2 0.7.5	116	65	656	85.98%	5.66	29m 05s	5,826	65.00	$0.00
3 0.3.0	115	73	813	83.81%	7.07	26m 41s	6,934	69.00	$0.00
4 0.6.7	113	64	846	84.85%	7.49	36m 37s	6,343	64.00	$0.00
5 0.3.4	93	60	654	86.62%	7.03	40m 18s	6,102	59.00	$0.00
6 0.6.1	63	31	333	85.6%	5.29	24m 26s	2,538	31.00	$0.00

Statistics brief

Portal or application	Users	Engagement rate
Documentation portal	2900	45.99%
Android app + Firmware	850	86.68%

Social Media Achievements and Prizes

We had some recognition to the initiative in mainstream places around DIY communities the past year, the more important place in the world of hacker communities, Hackaday, did a review and post our initiative and also an important manufacturer of air quality sensors, **Sensirion**, post our DIY guide of CanAirIO Bike in their developers communities:

Documentation and DIY Guides

In the last year we worked on improving the DIY guides and documentation around a new portal of documentation, using standards around team working with tools like version control (Github), plain text and easy standard format, Markdown, tools to working in group in real time like CODI, and others tools for co-creation around the documentation. The result was the next guides:

Title	Target - Description	Video
CanAirIO Bike	DIY guide users and makers	Guide1, Guide2
CanAirIO CO2	DIY guide for users and makers	Guide1, Guide2
Firmware upload	General documentation	Web installer
Firmware debugging	General documentation	
Mobile App	General documentation	
Home Assistant integration	DIY guide for users and makers	
Anaire integration	DIY guide for users and makers	Demo
Bluetooth GATT protocol	Developers documentation	
PAX Counter	Passenger counter via Wifi	Demo
Mobile API	Developers documentation	
Fixed stations API	Developers documentation	