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**An optical mouse for detecting false euros**

IT engineers from the UdL create a prototype for detecting false 2 euro coins

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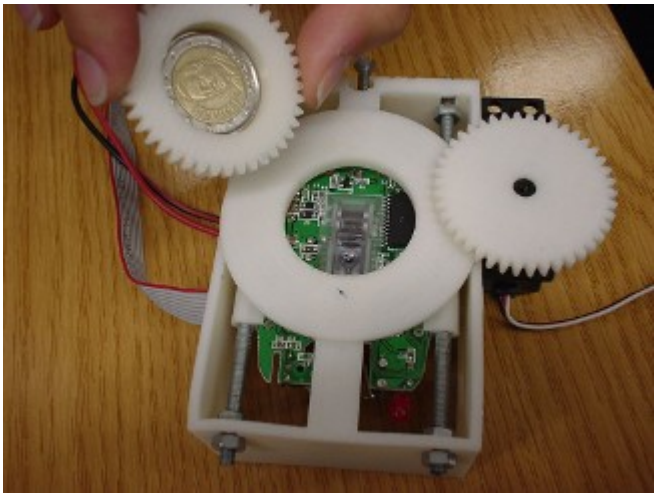
Researchers from the Polytechnic School have recently published a paper in the scientific journal Sensors in which they explain how the sensor on some optical mice, usually used to control the position of the cursor, can be used to detect false two euro coins, the most widely forged in Europe according to data from the European Commission.

The prototype developed has a system for detecting these coins by comparing them with patterns obtained using an optical mouse sensor. However, the optical mouse detector must have a resolution of at least 15x15 pixels in order to pick up the images in real time. It must likewise be based on LED or infrared technology as laser mice give fuzzy images.



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Prototype used in the detection tests

The system is simpler and cheaper than a webcam, which can also be used for this purpose, stated Marcel Tresanchez, Tomàs Pallejà, Mercè Teixidó and Jordi Palacín in their paper. The coins are placed in a positioning device that rotates them. The sensor, located a few millimetres away, records the image of the surface common to all these coins (on which there is a map of Europe) and then compares it with a valid coin using an algorithm also devised by the researchers.

This system could be incorporated to vending machines that work using coins to prevent fraud

This system, devised to supplement other forgery identification techniques, could be incorporated to vending machines that work using coins to prevent fraud. Although the prototype only works for 2 euro coins, the device could be adapted to other coins in the future.