

# Electronic searching aid for parents

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Just a short call and the "Kidfinder" lets you know where your child is right now via SMS. It can be built into a game console and the locating unit even combines GPS position fixing with GSM tracking. In the best-case scenario, it can even locate the person sought within a couple of meters.

Now where's that Toby? The eight-year-old was supposed to be home half an hour ago. Not to worry. His mother goes to her phone, calls her son's "Kidfinder", gives her password and gets an [SMS](#) with Toby's position data. She can see from the coordinates that her youngest child has taken a little detour to the brook and while playing in the water he forgot what time it is. The Kidfinder is different from exclusive [cell phone](#) locating systems because it not only uses the GSM grid (global system for mobile communications) for mobile radio, but also the [global positioning system](#) (GPS) for determining Toby's position.

Carsten Hoherz from the Fraunhofer Institute for Reliability and Microintegration in Berlin, Germany, explains that "This combination of GSM and GPS provides reliable localization regardless of whether the person sought is outside or inside of a building." If the child is on the move outside, it can determine his or her position via GPS to as little as five meters. GPS position fixing with several satellites works with substantially greater precision than localization via GSM because it only gives away what mobile radio cell a user is in at the present moment. On the other hand, mobile radio reception is only possible inside of buildings while GPS signals generally cannot penetrate through walls or the roof. This is the reason why GPS localization precision drops

dramatically in urban jungles because of signal reflecting.

Originally, the scientists at the Fraunhofer Institute for Reliability and Microintegration came up with their pocket-sized GSM/GPS system to localize freight or cars. These units have the same technology for these applications. On the one hand, they are somewhat larger and heavier, which means that they have more space for higher-performance antennas and storage batteries. On the other hand, the developers ran up against certain limits with the Kidfinder because they did not want them to be too heavy for kids so that they would carry them voluntarily. This is why they came up with the idea of combining the locating unit with a portable [game console](#) because, as Hoherz explains, “Children prefer carrying something like that around with them to some extra piece of equipment that isn’t of any use to them.” Kidfinder is not much bigger than an open matchbox and weighs less than 80 grams. It’s a real lightweight and fits perfectly into the spare slot of your common or garden-variety game console. What’s more, its storage battery has a capacity of 400 mAh which is enough for two days of operation. Finally, it can be charged with the console. The localization module offers the option of expanding the scope of the console’s function by providing local information for ground games.

The Kidfinder was created as a joint project of the Fraunhofer Institute for Reliability and Microintegration and the Schmidt Engineering Office in the German city of Potsdam. By the way, the locating unit doesn’t only react to parents’ queries. It also independently monitors a zone it has been trained on - such as the way to school - and transmits a message when the child leaves this zone. Schmidt Engineering Office also has visualization software that transmits the position data of the locating units to cards for PCs or handhelds wherever necessary. While Schmidt Engineering Office is in charge of advancing the Kidfinder for market readiness, the researchers at the Fraunhofer Institute are working at making the unit even smaller by integrating it into an armband or belt for

persons with dementia who easily lose their way and might need help.

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