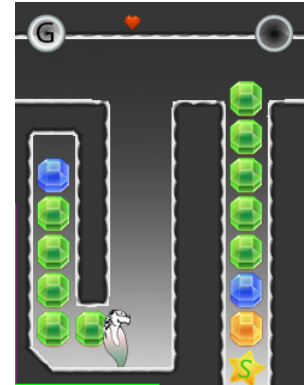


# Accelerometers Redefine the Game Experience

Nearly nobody noticed the Nokia 5500 Sports<sup>1</sup>, most likely the first phone equipped with an accelerometer that was accessible for 3<sup>rd</sup> party developers. gBoarder<sup>2</sup> (application for recording snowboarding statistics like the number of crashes or jumps) and CarMeter<sup>3</sup> (measures g forces when driving a car) were one of the few applications that made use of it – already released in February 2007.

When Nokia finally released the R&D API for the N95, the boom began and many acceleration sensor-based applications appeared. Many of them are useful (pyPozentica<sup>4</sup>), others are just for fun (Light Sabre<sup>5</sup>). And of course, there are some entertaining games as well (Groove Labyrinth<sup>6</sup>, pyWuzzler<sup>7</sup>).



Especially with the iPhone<sup>8</sup> lacking any keyboard, many game concepts simply were not really possible – as an effect, the accelerometer got to be an accepted control method for commercial games. Racing games are a good example, where the tilt of the phone simulates a steering wheel. Much like in ShakerRacer<sup>9</sup>, which uses the same concept for controlling a real car.

However, most of the games just use the acceleration sensor as an input method that fits to the game (up to some degree). Only very few games completely base the whole game concept on the use of the accelerometer. One of those few games has been developed by the Mobile Computing students David Berger<sup>10</sup> and Stefan Poremba<sup>11</sup> from the Hagenberg University o.a.S<sup>12</sup>.

## SlideEscape / SlidersEdge

On the first sight, the game SlideEscape / SlidersEdge<sup>13</sup> could be seen as a normal jump & run. The fact that the left/right-movement of the character can be controlled by tilting the phone and jumping by quickly pulling the phone towards you is nice, but not something new either.

The innovation comes from the fact that turning the phone changes the gravity of the virtual game world. An example: the character is standing in front of an uncrossable abyss. How to get over it? Turn your phone upside down to walk on the ceiling and safely pass the depths!

<sup>1</sup> <http://www.forum.nokia.com/devices/5500>

<sup>2</sup> <http://www.symbianresources.com/projects/gboarder.php>

<sup>3</sup> <http://www.symbianresources.com/projects/carmeter.php>

<sup>4</sup> [http://www.symbian-freak.com/news/007/12/pypoziomica\\_freeware\\_level\\_tool.htm](http://www.symbian-freak.com/news/007/12/pypoziomica_freeware_level_tool.htm)

<sup>5</sup> [http://www.symbian-freak.com/news/008/01/light\\_sabre\\_gets\\_an\\_update.htm](http://www.symbian-freak.com/news/008/01/light_sabre_gets_an_update.htm)

<sup>6</sup> [http://blogs.s60.com/2006/08/groove\\_labyrinth\\_fun\\_with\\_3d\\_s](http://blogs.s60.com/2006/08/groove_labyrinth_fun_with_3d_s)

<sup>7</sup> <http://www.symbianresources.com/projects/pywuzzler.php>

<sup>8</sup> <http://www.apple.com/iphone/>

<sup>9</sup> <http://www.symbianresources.com/projects/shakerracer.php>

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<sup>12</sup> <http://www.fh-ooe.at/mc>

<sup>13</sup> <http://www.symbianresources.com/projects/slidersedge.php>

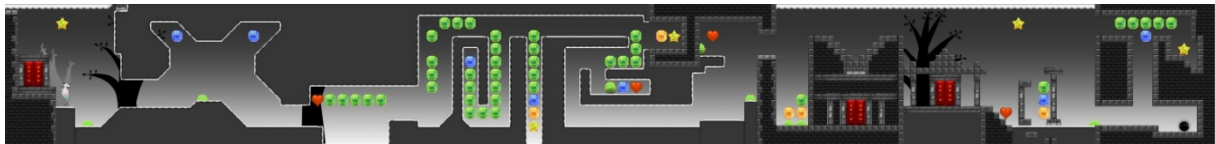
Through this mechanism, the acceleration sensor not only influences the movement, but is directly integrated in the whole game experience as well as the level design. It's not just an add-on that could be easily replaced by a key control mechanism (like in a racing game), but an essential part of the game.

The video on YouTube<sup>14</sup> demonstrates how this works in real life.

The project is available as a free download from David's official homepage<sup>15</sup>, as well as from the project page at [symbianresources.com](http://symbianresources.com)<sup>16</sup>.

Please note that the game is a prototype and therefore not really bug-free. The main game is a Java ME application. As it still isn't possible to access accelerometer data from Java ME on Nokia phones, a native S60 application is provided as well, which runs in the background and provides acceleration data to the game via an internal socket (does not lead to data charges, even though the Java ME game warns you upon start-up).

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<sup>14</sup> <http://www.youtube.com/watch?v=FRjUTPwblMs>

<sup>15</sup> <http://www.slidersedge.com/>

<sup>16</sup> <http://www.symbianresources.com/projects/slidersedge.php>