

# 'Pocket' Virtual Worlds – Get off your chair and explore them!

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When you think of exploring virtual worlds, you tend to think of yourself sitting in front of a monitor and navigating through them with a keyboard, mouse, or joystick. The one thing that these worlds tend to lack is a physical sense of space; you are just sitting in a chair in front of a desk. What you need is a virtual world in your pocket that you can stand up and take with you.

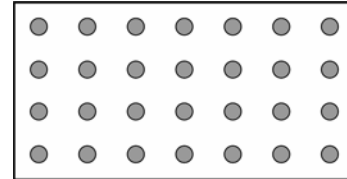
PocketPCs afford the perfect opportunity to allow you to explore a 'pocket' virtual world. The size of the unit makes the experience personal and portable. If you think about a panorama as an immersive point in space – then a virtual world might be an array of navigable panoramas. And while rendering on a handheld might not seem so possible – memory has become so small in size, large in capacity, and inexpensive that pre-rendering hundreds (if not thousands) of views could in fact be practical. These views could be CG or photographic. Of course you still are sitting on your chair with a handheld so we have to take it to the next level.

Our original idea was to take a PocketPC and add a GPS receiver, but instead we decided on something simpler. Imagine a small black box clipped to your belt. This box has in it 2 things – a digital compass and a pedometer. The digital compass tells the PocketPC which way you are facing and the pedometer tells the PocketPC that you have stepped forward. So now you find yourself a nice sunny day and a big open grassy field (or a gray rainy day and a big empty room), pull out your PocketPC, your SD memory card with your 'pocket' virtual world and turn on your black box (connected by serial, USB or Bluetooth). Pick your starting point and start walking around your virtual world.

We also thought, why not let others share in the fun and take it to the next level? Let us suppose that the PocketPC also has integrated wireless and your public space has WiFi. Now as you walk around the world you see that you are not alone and you interact with the other virtual residents.

The instructional implications alone make it a worthwhile tool. How big is Notre Dame, or Windsor Castle, or the Brooklyn Bridge? It lets you put scale to a place, it lets you use your whole body interactively, and it gets you off your chair.

This QuickTake presentation outlines some of the challenges and the current state of the development of the 'Pocket' Virtual Worlds project.



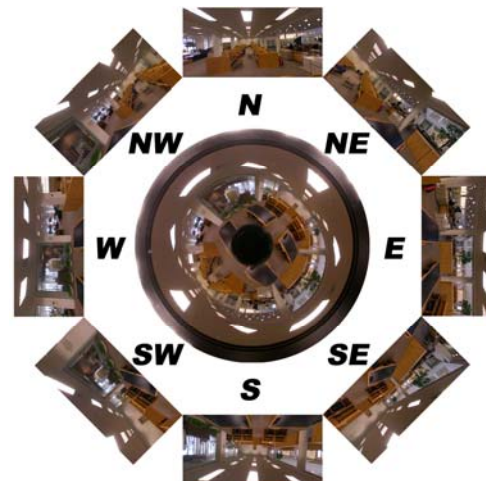
Array of Parabolic Mirror Lens Images  
(Take 2.5 Feet Apart)



Circular Image from Parabolic Mirror Lens



360° Panorama



8 Rectilinear Views