T2_73   NTNU VIRTUAL PHYSICS LABORATORY: JAVA SIMULATIONS IN PHYSICS

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I have created many physics simulations for teaching purpose since 1996. The first simulation created is a thin lens applet. The main targeted users are physics teachers who want to use java simulation to illustrate physics concept in classroom ,or combine simulation with worksheet designed for students. I started to create more complicate simulation, like "physics of rainbow". As a physicist, I found there are so many physics involved with rainbow. So I tried to add as much information as I knew to the simulation. Yes. I felt great when it was created because I also learned from the simulation that rainbow is highly polarized. It is also a popular page. However, it is too complicated and too much information available so that most of the studnets will not be able to really learn from it without help from teacher. It might be a good simulation for talented students, but it is not a good simulation for most of the students who just learned physics for a short time. And I do not think many teachers really use all the information available in the simulation. Teacher want to have simulations with many options so s/he can use the same simulations for different cases. However, student need simulations with the option they needed just for their problem or conquer their concept barrier. For simulation developer: if you want to let people think that you are good in physics or good in simulation skill, go ahead and create more complicate simulations. But if we want to really help teachers or students, please design simulation just for their need. Do not try to give them too much unless the purpose is not help students to understand the physics concept. Several hundreds of physics related simulations are freely available at NTNU Virtual Physics Laboratory web site (http://www.phy.ntnu.edu.tw/ntnujava/) The web site is a forum system so that user can ask questions related to posted simulations. Logined user will find "get file for offline use" button with "send to email account" or "download directly" options. User can translate simulation web page and/or text symbols used in the applet into local language format, so that it will be easier for their students. Enjoy it!