The Science Crisis
It is estimated that by 2010, if current trends continue, more than 90% of all scientists and engineers will be living in Asia. In the tech world, in spite of a growing need for IT people, the enrollment in undergraduate Computer Science programs in North America dropped an astonishing 70% between 2000 and 2005. Enabling students to make their own computational science applications and games, can reverse these trends, especially when balancing educational and motivational concerns.

Build your own content - and share it!
AgentSheets makes authoring interactive simulations and games accessible to everyone with revolutionary end-user programming paradigms. Share your entire game on the Web or exchange individual agents.

Gradually transition from increasingly complex games to computational science applications

Games
Build games to learn about Computer Science concepts, including logic and algorithmic thinking. Start with simple games, such as Frogger, and advance to sophisticated games such as The Sims.

Computational Science
Cover STEM topics by modeling complex phenomena in domains such as ecosystems, social sciences, economics, biology. Explore interdependent systems with what if scenarios. Visualize and analyze data with built-in and third-party tools.

It works
AgentSheets has been formally tested with middle school students. All students were able to make games from scratch in less than three hours. The technology was universally accessible across ethnicity and gender.

... easy to continue
Using a formula language, scientific visualizations, and multimedia, even middle school students can create sophisticated simulations and games that include complex Artificial Intelligence algorithms.
**Why AgentSheets?**

**Interesting Project on Page 350**

IT education in US schools is not working. The numbers are in. The percentage of students interested in IT high school AP courses is at a record low and falling quickly. Students do not see the value of programming and computer science when it takes them an entire semester or longer to write programs to sort numbers. “I can do that with Excel. If this is what computer science really is then I don’t want it. What can programming do for me?”, they ask. “I need to know all this before I can do something interesting? No thanks!” But it does not have to be like this. Our scalable game design curriculum empowers students to make their first game in the first class session but, at the same time, allows them to gradually move on, make more complex games and then transition seamlessly into Java and other object oriented programming.

**The Most Important Resource in Your Classroom**

Teachers ask us what kind of resources we bring into the classroom. We do bring technology but the most important resources already are in your classroom – your students. We do not bring in the AgentSheets technology and the game design curriculum as flashy show to dazzle teachers or students. We think of AgentSheets as an igniting educational mirror that shows students what they are capable of. We help you to develop the most amazing resources that you already have. From the first class session students make their games work, and their self perception changes forever. “Wow, I can do this!”

**Exceed the Standards**

Do not just meet, exceed the standards! Middle school is the crucial age at which students make up their mind on what they can or cannot do. “Math is useless.” “Computer science is hard and boring.” Most schools have removed programming from the curriculum and trivialized remaining IT courses to multi-media Powerpoint™ training workshops. Once students have made up their mind regarding STEM topics in middle school, they are not likely to give a second chance in high school. The combination of game design and AgentSheets not only works to motivate students, but it also teaches them the necessary skills to move on to college to pursue an exciting IT and STEM career. Meet and exceed IT and STEM requirements defined in standards such as the new National Educational Technology Standards (NETS).

**Not Just the Usual Suspects**

Around the world we have seen that it is never hard to get the usual suspects excited about game design. Maybe their parents are in the IT business and there is even some programming talk at home. These highly self-motivated students may already be on a trajectory to college. But what about all the other kids? How do we get more girls interested in IT? Formal studies including inner-city schools have shown that our curriculum and tools are universally accessible across gender and ethnicity. Girls, for instance, like the idea of making games just as much as boys. However, the games they make may look quite different from the ones made by the boys. And that is OK. We found it to be more important to address certain school policies such as the guideline that students should not sign up to elective courses with their friends. Collaborative learning makes computer science more accessible and more fun.

**Get What You Pay For**

Yes, there are free tools. But just how well do they really work and how sustainable are they? Do they include a curriculum that you can use? Can you really make sophisticated games with them? Can the tool be used for more than just games. For instance, can it be used to make powerful scientific simulations including visualizations? Do you want to be just a graduate research experiment? AgentSheets technology is studied and proven. It comes with a comprehensive curriculum that is ready to be put in place and will grow with your needs.

**Measurable Results**

Formal studies, such as an independent research study by the Stanford School of Education, illustrate that novices report high level of desire to continue with AgentSheets. In fact, both boys and girls expressed the same high levels desire to continue using AgentSheets. Beyond that, kids give raving reviews for game design classes that use AgentSheets and are disappointed when class is over. Teachers report that students get so energized and motivated after using AgentSheets that they go to the counseling office to put computers as their first elective choice. Parents are amazed by the level of engagement and what kind of skills their kids are acquiring -- “A year ago, the boy could barely read. And now he's doing OOP [object oriented programming]--I love that!”.

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