

Information technology, open
simulations

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Finland

Geography



- One of the world's northernmost countries
- Population of 5.4 million.
- 8th largest country in Europe by area.
- Sparsely populated Lapland (in north) is a popular tourist attraction within Europe.
- Neighboring countries: Sweden, Norway and Russia.

Finland

Perception

- Internationally ranked high in terms of wealth, political stability and general quality of life.
- Famous for its level of education.
 - permanent success in PISA studies.
- One of the leading countries in telecommunication and the use of internet.

News, 9/2/2010 | Embassy of Finland, Washington

Newsweek magazine: Finland is the best country in the whole world!

American Newsweek magazine ranks Finland as the best country to live in the whole world in its recent survey. The study compares one hundred countries based on their education, health, quality of life, economic competitiveness, and political environment. Finland is ranked as the "Best Overall" country. If you haven't visited Finland yet, this is one good reason to consider it!



Photo: Visit Finland.

American Newsweek magazine published its first ever "Best Countries" special issue on August 16th. The magazine aims to answer a simple, yet difficult question: "if you were born today, which country would provide you the very best opportunity to live a healthy, safe, reasonably prosperous, and upwardly mobile life?" The survey compares one hundred countries and the answer is clear: Finland is the best place to be! Switzerland is ranked second and Sweden third. USA is number eleven.



Finns have reason to celebrate! Photo: Helsingin kaupungin matkailu- ja kongressitoimisto.

Success in several categories

The countries are compared in five categories: education, health, quality of life, economic competitiveness, and political environment. Finland is viewed as the number-one country in terms of its education system. Its quality of life comes fourth, economic competitiveness eighth, political environment fifth and health seventeenth. As it is rather difficult to

compare countries with different sizes and levels of income, the magazine breaks down the list into smaller sub-groups. Here, Finland is ranked as the best small country and the best high-income country.

Finland's praised education system

Especially Finland's education system is praised in the survey. As it is well known, Finland has done remarkably well in OECD's PISA (Program for International Student Assessment) surveys in recent years. This survey compares the education skills of 15-year-olds in various countries. In addition to its PISA success, Newsweek compliments Finland for its "laid-back and inclusive learning environment where shoes are optional, all teachers have master's degrees, and extra help is the norm: every year about one in three students gets individual time with a tutor".



Finland's education system is considered the best.

Read more on Newsweek's website (<http://www.newsweek.com/feature/2010/the-world-s-best-countries.html>)

Text: Kaisa Antikainen, Embassy of Finland.

Kerava

The "little big" city



- Located 27 kilometers north of the nation's capital, Helsinki
- Finland's 5th smallest city by area
- Finland's 32nd biggest city by population
- Finland's 3rd highest population density

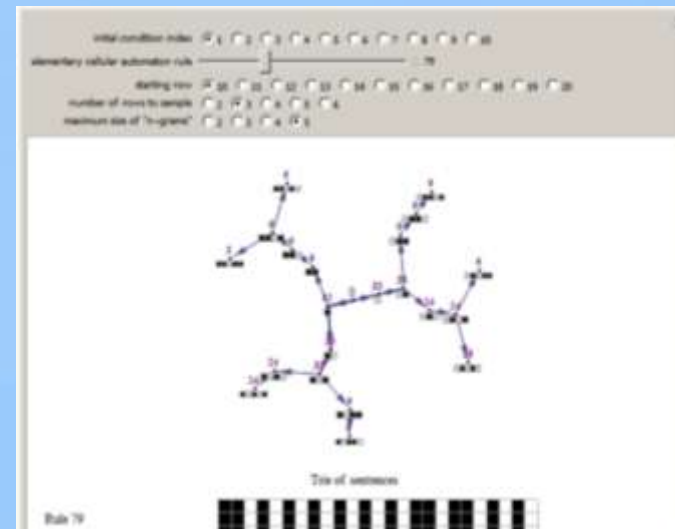


Children's day-care services in Kerava

- *Municipal day-care centres (19 and there is about 944 childrens)*
- Pre-School education (419 childrens)
- *Municipal family day-care, 18 municipal childminder and 26 private childminder and 154 childrens*
- *Private day-care centres (466 childrens)*
- Shift care (Children who need care in the evenings, nights and weekends) 80 childrens
- *Municipal supplement (In Kerava a municipal supplement for child home care is available for parents with children under 18 months 160€) 155 families*
- *Kindergarten activities 109 childrens (Kindergarten activities are directed at 3 to 5 year olds and are liable to charges).*

Simulations in pre-school

- In the spring of 2012 the city of Kerava started testing a new method of pre-school learning: **simulations**.
- Students can access free **demonstrations** on the internet.



What is it about?

- **Wolfram Demonstrations Project** is an *open source resource*. It uses simulations to elaborate on constructions and systems in science, technology, mathematics and arts.
- Simulations are believed to develop the following areas of children's learning:
 - meta-cognitive understanding
 - model building
 - illustrative skills
 - creative thinking
 - conceptions

How is it done?

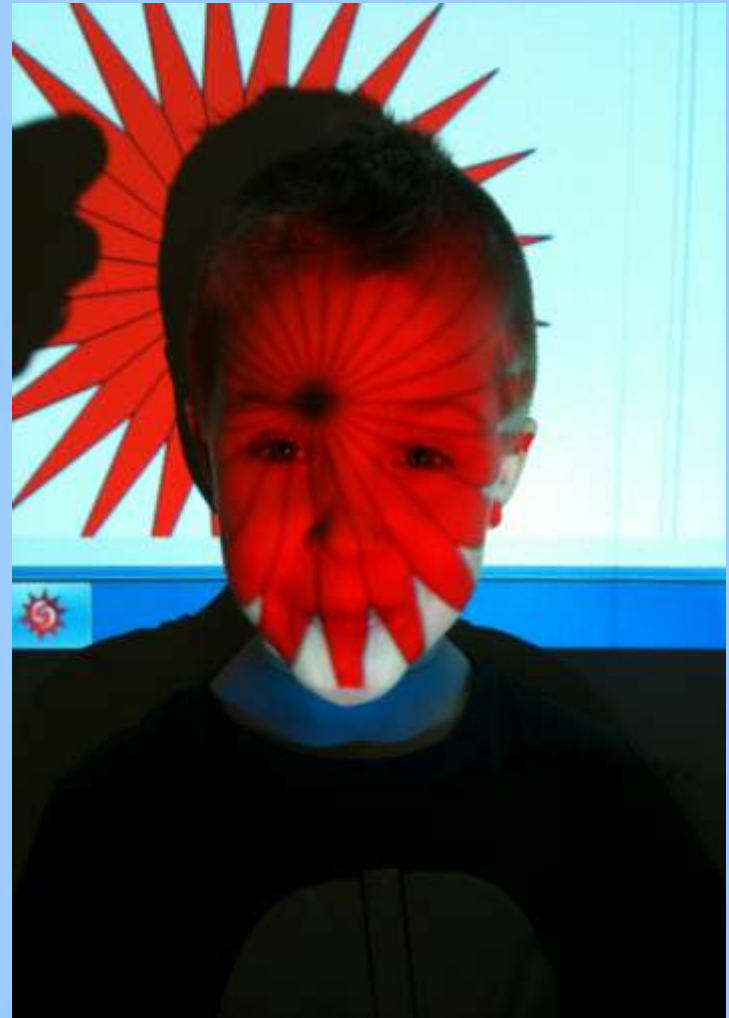
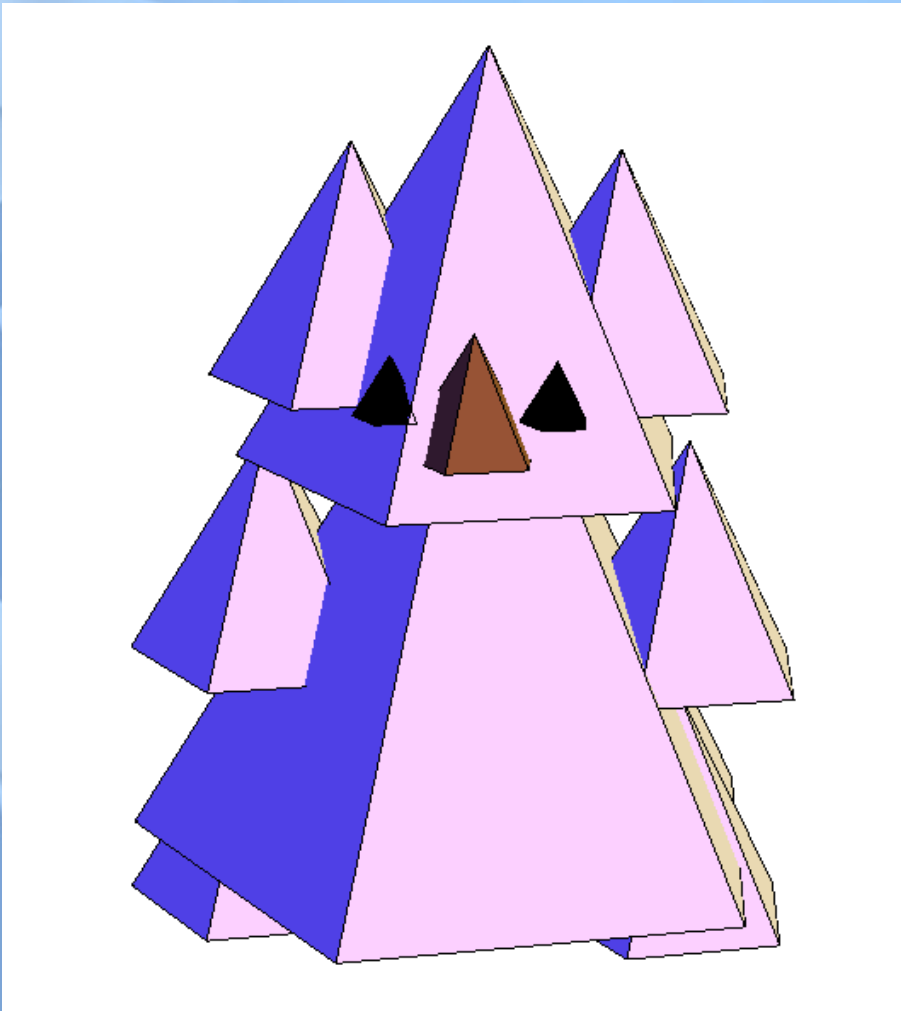
- The project is conducted in three phases during 2012-2014
 - In the pilot phase, in the spring of 2012, demonstrations were tested in the Niinipuu pre-school. Pupils and teachers tested the simulations freely on the internet.
 - In the autumn of 2012, the simulations were first presented to four pilot pre-schools. The pre-schools were provided with laptop computers with the simulations and a player installed.
 - Based on the piloting experiences, the best simulations will be adapted and translated into Finnish. Pre-school teachers will get personal experience and training on simulation use.

How does it work in practice?

- Simulations are easy to use. All you need is a plug-in in the web browser. Simulations can be studied online in the Wolfram web-pages or they can be downloaded on your computer.
- We have developed a “Pedagogy for blondes” model for the simulation learning purpose: the less the teacher seems to understand about the simulation, the more the children have room for helping the teacher and testing the models. Children love to correct the teacher’s stupid ideas!

What have children done so far?

<http://demonstrations.wolfram.com/topic.html?topic=For%20Kids>



Working together

- The project has inspired children to work with computers.
- The technological skills of the teaching staff vary. Media education requires training, tools and a positive attitude.