

Engaging AP Computer Science A Students Using a Class Wiki



Chris Thiel

St Francis High School
La Cañada CA



Poll:

Are you a AP Comp Sci A Teacher?

No (107550)

Yes, first time (107555)

Yes, taught it before(107556)



Overview

1. What is a Wiki?
2. Wikis for Demos & Starter Code
3. Wikis to Submit Assignments
4. Wikis for Collaboration
5. Possible Starting Points



Wiki= Hawaiian for “fast”



Wiki= Hawaiian for “fast”

a website that lets itself be edited



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First was WikiWikiWeb by Ward
Cunningham



Wiki= Hawaiian for “fast”

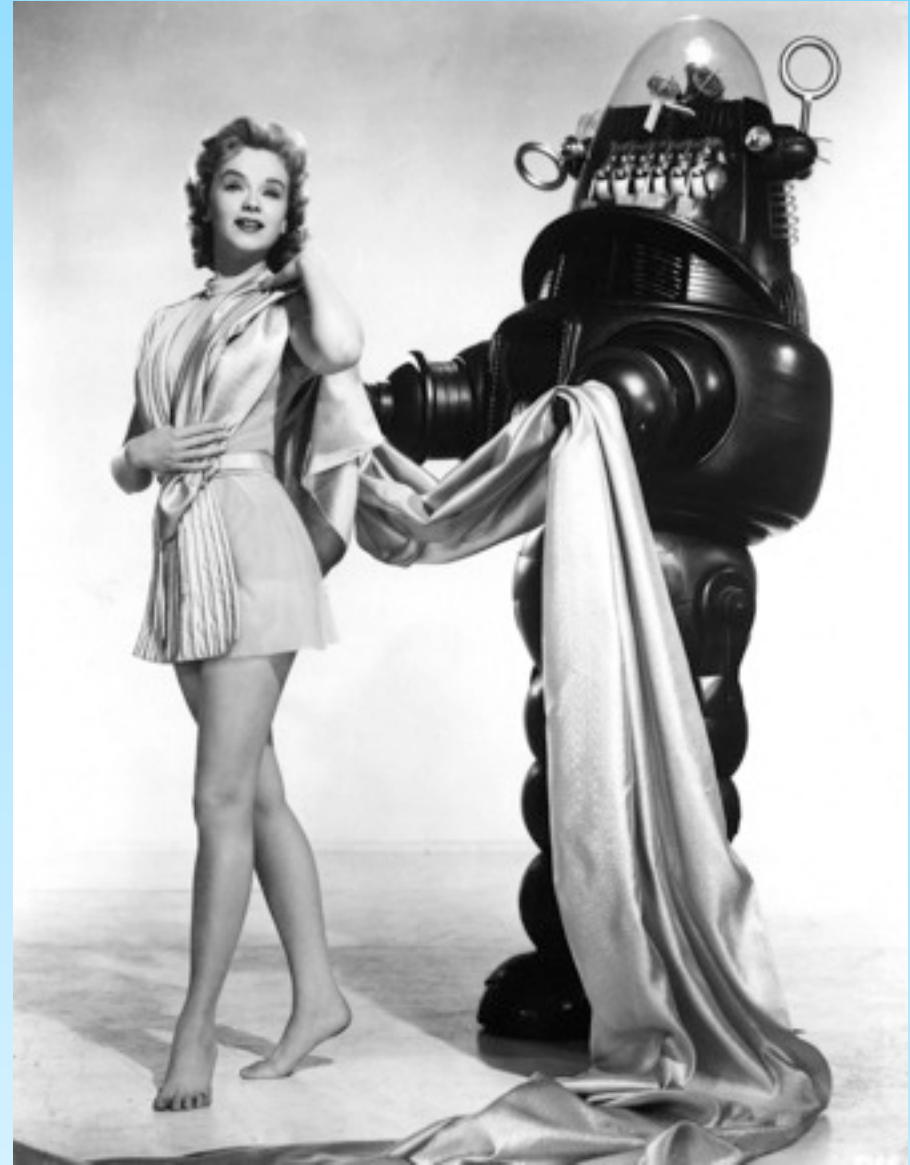
a website that lets itself be edited

First was WikiWikiWeb by Ward
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invites the reader to become part of the
development of the site



Helpful? How?



Helpful? How?

collaborative, unlike
email



Helpful? How?

collaborative, unlike
email

evolves, rather than
diffuse, unlike blogs

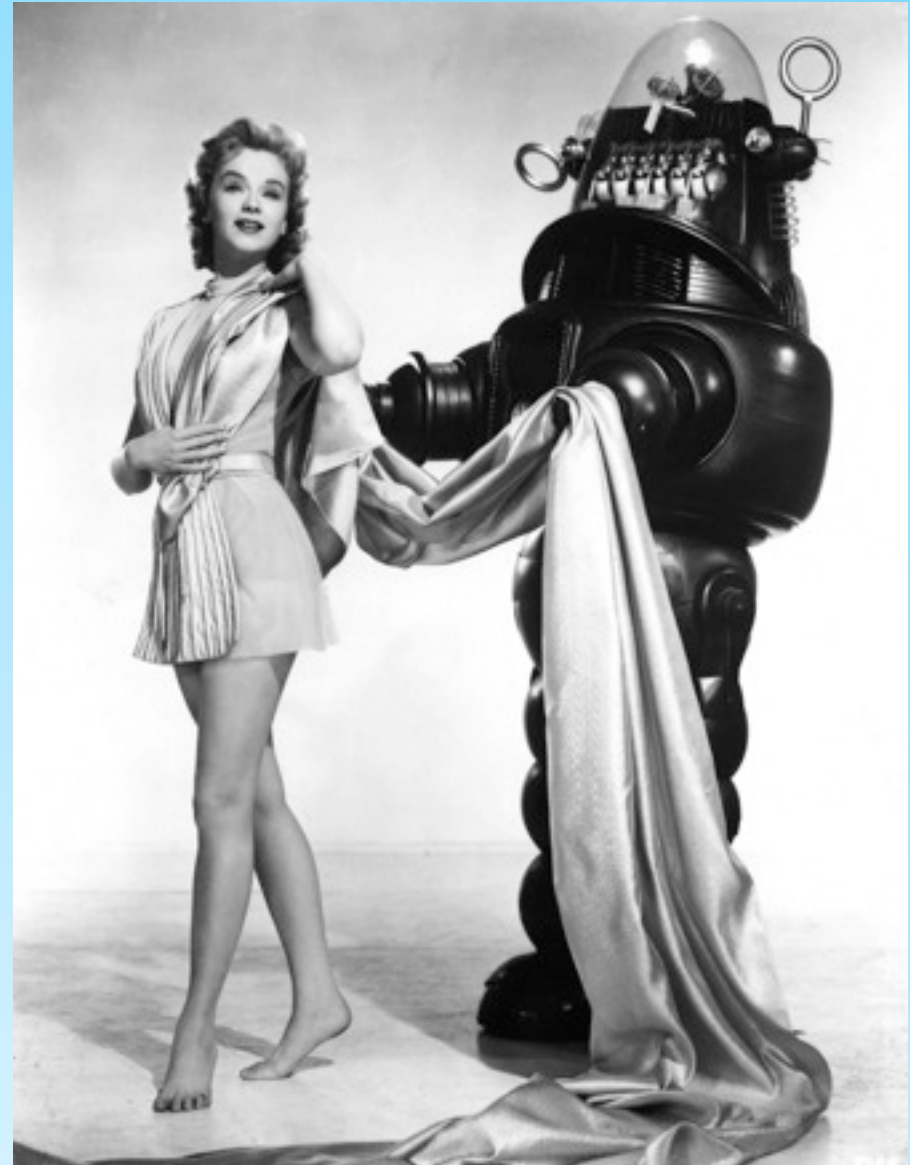


Helpful? How?

collaborative, unlike
email

evolves, rather than
diffuse, unlike blogs

easy to edit and update,
unlike a website



more readable = easy to edit

MediaWiki syntax	Equivalent HTML	Rendered output
"Take some more <code>[[tea]]</code> ," the March Hare said to Alice, very earnestly.	<code><p>"Take some more tea," the March Hare said to Alice, very earnestly.</p></code>	"Take some more tea ," the March Hare said to Alice, very earnestly.
"I've had nothing yet," Alice replied in an offended tone: "so I can't take more."	<code><p>"I've had nothing yet," Alice replied in an offended tone: "so I can't take more."</p></code>	"I've had nothing yet," Alice replied in an offended tone: "so I can't take more."
"You mean you can't take 'less'," said the Hatter: "it's very easy to take 'more' than nothing."	<code><p>"You mean you can't take <i>less</i>," said the Hatter: "it's very easy to take <i>more</i> than nothing."</p></code>	"You mean you can't take <i>less</i> ," said the Hatter: "it's very easy to take <i>more</i> than nothing."



We know its wonderful, but what is it good for?



Wiki's for Demos & Starter Code



Wiki's for Demos & Starter Code





sandbox.javawide.org



Friday, July 22, 2011

But where to start?



Every good cook has to start somewhere.

For her, there's no thrill quite like when she bakes that first Betty Crocker chocolate cake in her Easy-Bake Oven.

More than all the fun she'll have, Easy-Bake is a great way for her to create love in warm little bites.

Easy-Bake has built-in safety features, is U. L. approved and bakes with two ordinary light bulbs. And comes with real Betty Crocker mixes.

Easy-Bake. Because she'll love it.

 **Easy-Bake® Oven**
from 

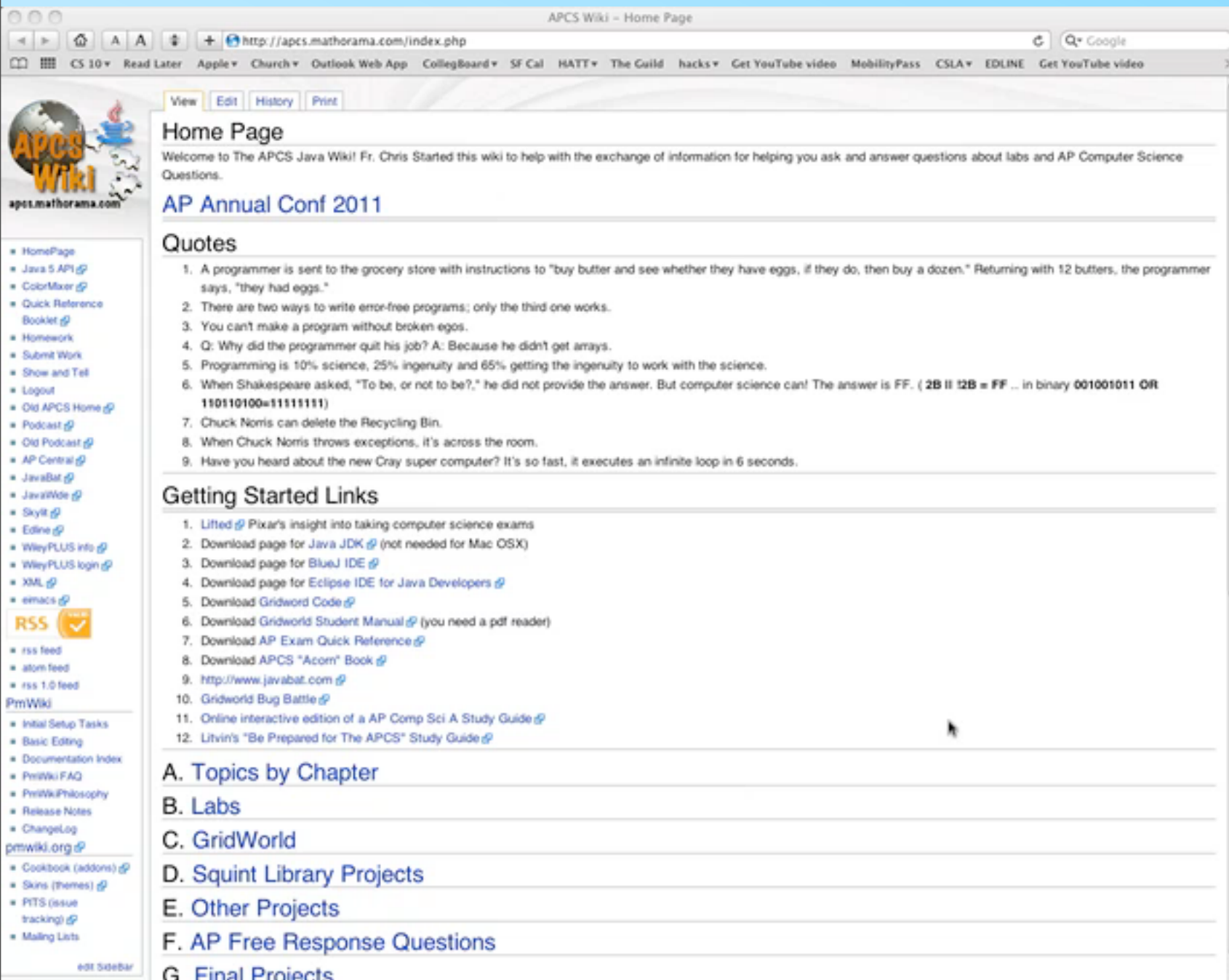
© General Mills Fun Group, Inc.



Demo Code on a Wiki



Demo Code on a Wiki



The screenshot shows the APCS Wiki Home Page in a web browser. The browser's address bar displays `http://apcs.mathorama.com/index.php`. The page features a navigation menu at the top with links like 'CS 10', 'Read Later', 'Apple', 'Church', 'Outlook Web App', 'CollegBoard', 'SF Cal', 'HATT', 'The Guild', 'hacks', 'Get YouTube video', 'MobilityPass', 'CSLA', 'EDLINE', and 'Get YouTube video'. Below the navigation menu, there are tabs for 'View', 'Edit', 'History', and 'Print'. The main content area is titled 'Home Page' and includes a welcome message: 'Welcome to The APCS Java Wiki! Fr. Chris Started this wiki to help with the exchange of information for helping you ask and answer questions about labs and AP Computer Science Questions.' Below this, there is a section for 'AP Annual Conf 2011' and a 'Quotes' section with 12 humorous programming-related quotes. A 'Getting Started Links' section follows, listing 12 links for resources like Java JDK, BlueJ IDE, Eclipse IDE, Gridworld Code, Gridworld Student Manual, AP Exam Quick Reference, APCS 'Acom' Book, javabat.com, Gridworld Bug Battle, an interactive AP Comp Sci A Study Guide, and Litvin's 'Be Prepared for The APCS' Study Guide. At the bottom, there is a list of links categorized by chapter: A. Topics by Chapter, B. Labs, C. GridWorld, D. Squint Library Projects, E. Other Projects, F. AP Free Response Questions, and G. Final Projects. On the left side of the page, there is a sidebar with a list of links including 'Home Page', 'Java 5 API', 'ColorMixer', 'Quick Reference Booklet', 'Homework', 'Submit Work', 'Show and Tell', 'Logout', 'Old APCS Home', 'Podcast', 'Old Podcast', 'AP Central', 'JavaBat', 'JavaWde', 'Skylit', 'Edline', 'WileyPLUS info', 'WileyPLUS login', 'XML', 'emacs', 'RSS', 'atom feed', 'rss 1.0 feed', 'PmWiki', 'Initial Setup Tasks', 'Basic Editing', 'Documentation Index', 'PmWiki FAQ', 'PmWiki Philosophy', 'Release Notes', 'Changelog', 'pmwiki.org', 'Cookbook (addons)', 'Skins (themes)', 'PITS (issue tracking)', and 'Mailing Lists'. There is also an 'RSS' icon and a 'PmWiki' logo. The bottom of the sidebar has an 'edit sidebar' link.

APCS Wiki - Home Page

http://apcs.mathorama.com/index.php

Google

CS 10 Read Later Apple Church Outlook Web App CollegBoard SF Cal HATT The Guild hacks Get YouTube video MobilityPass CSLA EDLINE Get YouTube video

View Edit History Print

Home Page

Welcome to The APCS Java Wiki! Fr. Chris Started this wiki to help with the exchange of information for helping you ask and answer questions about labs and AP Computer Science Questions.

AP Annual Conf 2011

Quotes

1. A programmer is sent to the grocery store with instructions to "buy butter and see whether they have eggs, if they do, then buy a dozen." Returning with 12 butters, the programmer says, "they had eggs."
2. There are two ways to write error-free programs; only the third one works.
3. You can't make a program without broken egos.
4. Q: Why did the programmer quit his job? A: Because he didn't get arrays.
5. Programming is 10% science, 25% ingenuity and 65% getting the ingenuity to work with the science.
6. When Shakespeare asked, "To be, or not to be?," he did not provide the answer. But computer science can! The answer is FF. (2B || 12B = FF ... in binary 001001011 OR 110110100=11111111)
7. Chuck Norris can delete the Recycling Bin.
8. When Chuck Norris throws exceptions, it's across the room.
9. Have you heard about the new Cray super computer? It's so fast, it executes an infinite loop in 6 seconds.

Getting Started Links

1. [Lifted](#) Pixar's insight into taking computer science exams
2. [Download page for Java JDK](#) (not needed for Mac OSX)
3. [Download page for BlueJ IDE](#)
4. [Download page for Eclipse IDE for Java Developers](#)
5. [Download Gridworld Code](#)
6. [Download Gridworld Student Manual](#) (you need a pdf reader)
7. [Download AP Exam Quick Reference](#)
8. [Download APCS "Acom" Book](#)
9. <http://www.javabat.com>
10. [Gridworld Bug Battle](#)
11. [Online interactive edition of a AP Comp Sci A Study Guide](#)
12. [Litvin's "Be Prepared for The APCS" Study Guide](#)

A. Topics by Chapter

B. Labs

C. GridWorld

D. Squint Library Projects

E. Other Projects

F. AP Free Response Questions

G. Final Projects

edit sidebar



Humble beginnings ...greater ends



Change on the Fly



Change on the Fly



The screenshot shows a web browser window with the address bar displaying 'http://www.mathorama.com/apcs/index.php?n=Main.Chapter2'. The page title is 'APCS Wiki - Chapter 2'. The browser's address bar also shows 'Google' and 'Get YouTube video'. The page content includes a sidebar with a list of links: 'HomePage', 'Java 5 API', 'ColorMixer', 'Quick Reference Booklet', 'Homework', 'Submit Work', 'Show and Tell', 'Logout', 'Old APCS Home', 'Podcast', 'Old Podcast', 'AP Central', 'JavaBat', 'JavaWide', 'Skylit', 'Edline', 'WileyPLUS info', 'WileyPLUS login', 'XML', and 'eimacs'. The main content area has a 'View' button and a 'History' button. The title 'Chapter 2' is displayed, followed by a navigation link '<< Chapter 1 | HomeworkTrailIndex | Chapter 3 >>'. The text describes the importance of running DrJava in 'Interactions Mode' and using the 'Code Pad'. It also mentions the 'View' menu and 'Show Code Pad' option. A section titled 'Review Exercises' explains that these are important activities for learning. The code block for 'RectangleViewer.java' is shown, starting with 'import javax.swing.JFrame;' and 'public class RectangleViewer'.

APCS Wiki - Chapter 2

View Edit History Attach Print

Chapter 2

<< Chapter 1 | HomeworkTrailIndex | Chapter 3 >>

While Reading and working out "Self-Check" questions, you may wish to have a computer in front of you. Since we are just getting started, it is best to run DrJava in "Interactions Mode" to type the code snippets, or in BlueJ use the "Code Pad". If you can't see the "Code Pad" (it's off by default), go the the "View" menu and select "Show Code Pad." Use the up arrow to scroll back to a previous line so you don't have to start from scratch every time.

After (or during) your reading of Chapter 2, try these:

Review Exercises

These are important activities to do, but not really something I can grade. This is like the "Training ground" in a video game where you learn the buttons before you go out on a quest. Skip these, and you may not last very long in the game.

RectangleViewer.java

```
import javax.swing.JFrame;

public class RectangleViewer
{
    public static void main(String[] args)
    {
        JFrame frame = new JFrame();

        frame.setSize(300, 400);
        frame.setTitle("Two rectangles");
        frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);

        RectangleComponent component = new RectangleComponent();
        frame.Add(component);
    }
}
```





<http://xkcd.com/894/>



Getting Help and Recognition



Getting Help and Recognition



APCS Wiki - Home Page

http://apcs.mathorama.com/index.php?n=Main.HomePage

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edit sidebar

Search:

- [HomePage](#)
- [Java 5 API](#)
- [ColorMixer](#)
- [Quick Reference Booklet](#)
- [Homework](#)
- [Submit Work](#)
- [Show and Tell](#)
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- [Old APCS Home](#)
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- [Old Podcast](#)
- [AP Central](#)
- [JavaBat](#)
- [JavaWds](#)
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- [Edline](#)
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- [WileyPLUS login](#)
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- [rss 1.0 feed](#)

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- [Initial Setup Tasks](#)
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- [PmWikiPhilosophy](#)
- [Release Notes](#)
- [ChangeLog](#)

[pmwiki.org](#)

- [Cookbook \(addons\)](#)
- [Skins \(themes\)](#)
- [PITS \(issue tracking\)](#)
- [Mailing Lists](#)

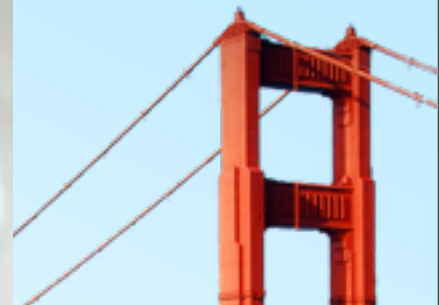
How to Keep Students Attention?



Project Based Learning



Project Based Learning



Projects and Collaboration



Projects and Collaboration



APCS Wiki - Make Custom Pictures For Gridworld Actors

http://apcs.mathorama.com/index.php?n=Main.MakeCustomPicturesForGridworldActors

APCS Wiki - Make Custom Picture... http://www.mathorama.com/mov... http://www.mathorama.com/mov...

View Edit History Attach Print

Make Custom Pictures For Gridworld Actors

<< AntFarm | GridworldTrailIndex | Mushroom >>

If you save a gif file with the same name as your Actor, it will will be shown in your instance of ActorWorld.

For best results:

1. Make it square (like 48 x 48 pixels, 96 x 96, or 480 x 480)
2. Make it shades of grey, black and white (so it can be tinted when you change colors)
3. Put the head at the top (so it moves head first)

You can make the grid larger or smaller with Ctrl-PageUp or Ctrl-PageDown (Cmd-PgUp and Cmd-PgDwn on a Mac) [Video](#)

[Demo](#)

APCS Wiki
apcs.mathorama.com

- [HomePage](#)
- [Java 5 API](#)
- [ColorMixer](#)
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- [JavaWide](#)
- [Skylit](#)
- [Edline](#)
- [WileyPLUS info](#)
- [WileyPLUS login](#)
- [XML](#)
- [elmacs](#)

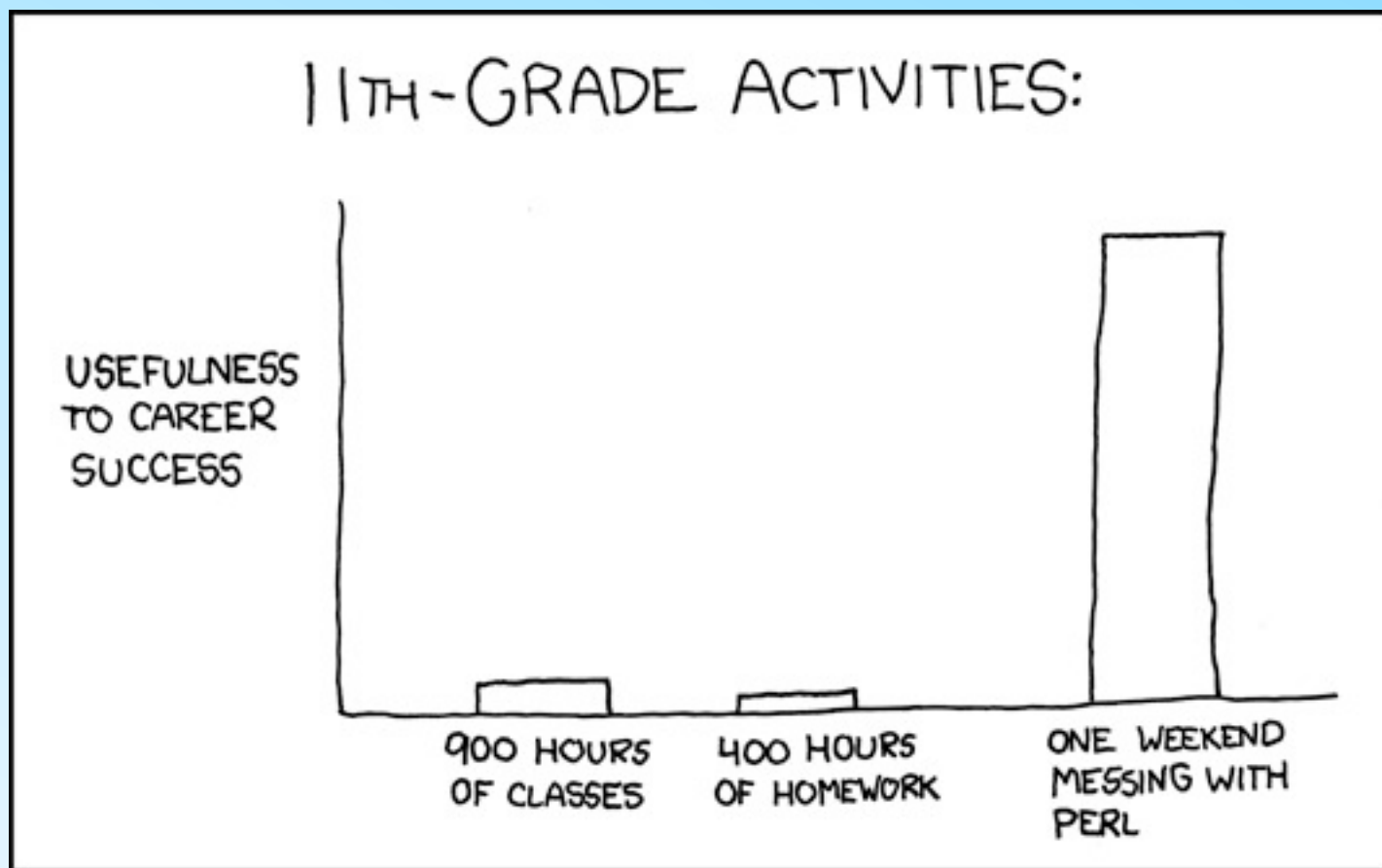
RSS 

- [rss feed](#)
- [atom feed](#)
- [rss 1.0 feed](#)

PmWiki

• [Initial Setup Tasks](#)





xkcd.com/519



So where to start?



Various Kinds of Wikis



Various Kinds of Wikis

Javawide - IDE, FANG engine



Various Kinds of Wikis

Javawide - IDE, FANG engine

PmWiki, MediaWiki, ... - on your site



Various Kinds of Wikis

Javawide - IDE, FANG engine

PmWiki, MediaWiki, ... - on your site

keytoschool.com, ninehub.com, ...
-Moodle with Wiki Module



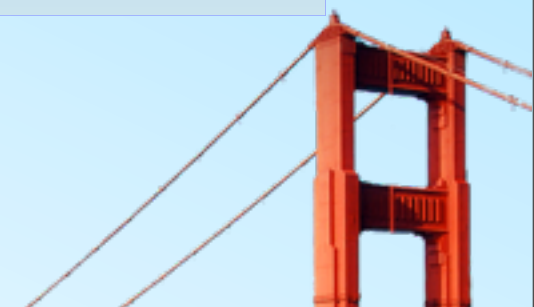
Various Kinds of Wikis

Javawide - IDE, FANG engine

PmWiki, MediaWiki, ... - on your site

keytoschool.com, ninehub.com, ...
-Moodle with Wiki Module

Wikia, SeedWiki, wikidot, ...
-hosted wiki farm



Resources

<http://apcsjava.blogspot.com/> 

My APCS Video Webcast ([click here fo subscribe with iTunes](#) )

www.piazza.com 

"The new way to Q&A" While not quite a wiki, or a blog, or a Class Managment Tool, this hybrid has a great way for having students answer and ask questions where you can track hot topics. Instructors can condone or "bless" students' answers to other students' questions.

Adding a Wiki to a Class Moodle 

Many teachers use the moodle Class Management or learning environment system for their classes. There is a Wiki module for moodle you can add to your course's moodle

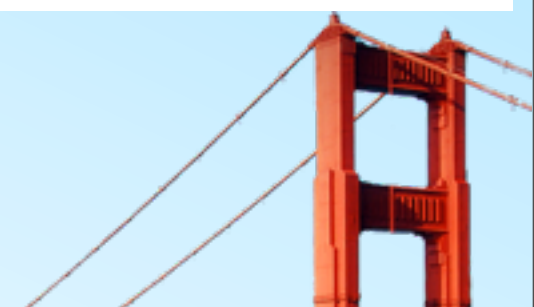
<http://www.pmwiki.org/> 

PmWiki is a popular open source wiki you can install on your own website (This is the one I'm using at <http://apcs.mathorama.com> )

<http://www.mediawiki.org> 

This open source wiki can also be installed on your website. This is the one

<http://www.javawide.org>  and <http://www.wikipedia.org/>  uses



<http://www.javawide.org> 

You don't have to install anything, to have not only working Java IDE, but also a way to have students work on the same file. You can get your own javawiki site for free (for the asking)

<http://codingbat.com/java> 

Formerly known as javabat. While not a wiki, this too wonderful for me to leave out, just in case you don't know about it already. Various programming exercises can be answered online and evaluated with something like a JUnit test for each question.

<http://www.000webhost.com/> 

A place that offers anyone a free website (they make their money by having you need more space, but the first 1500MB is free)

<http://installingmoodle.blogspot.com/> 

A tutorial for installing moodle on a 000webhost.com website, but helpful for tips on installing a wiki like pmwiki or mediawiki or moodle on any website.



http://en.wikipedia.org/wiki/Wikis_and_education 

Wikis in software article

http://en.wikipedia.org/wiki/Comparison_of_wiki_software 

Comparison of wiki software

<http://www.wikia.com/Wikia> 

Offers free wikis on their wiki farm, so you don't have to install anything or have your own website. This can be handy if you want your students to host a wiki for their group project.



Using the Internet to Teach APCS

Links are found at
apcs.mathorama.com

(Click on AP Annual Conf 2011)



Appendix: Installing pmWiki



Appendix: Installing pmWiki

download php scripts



Appendix: Installing pmWiki

download php scripts

upload scripts



Appendix: Installing pmWiki

download php scripts

upload scripts

setup a mysql database



Appendix: Installing pmWiki

download php scripts

upload scripts

setup a mysql database

run install.php



Appendix: Installing pmWiki

download php scripts

upload scripts

setup a mysql database

run install.php

edit /local/config.php

