

JavaWIDE: Innovation in an Online IDE

A Tutorial for South Central CCSC
9:00am-12:00pm, April 23, 2010



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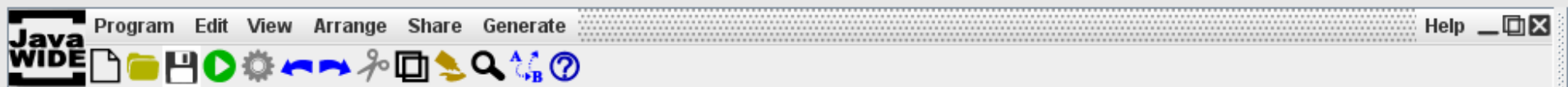
Information Technology
Georgia Gwinnett College

Motivation

- Collaboration
 - Concurrent editing, wiki
- Easy Set up
 - Zero install, web-based interface
- Sharing
 - Auto-post programs, social network enabled
- Pedagogical
 - Easy to use, integrated api/tutorials

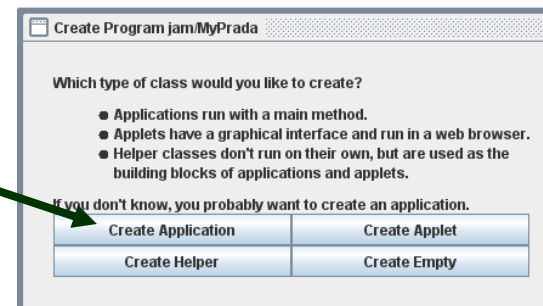
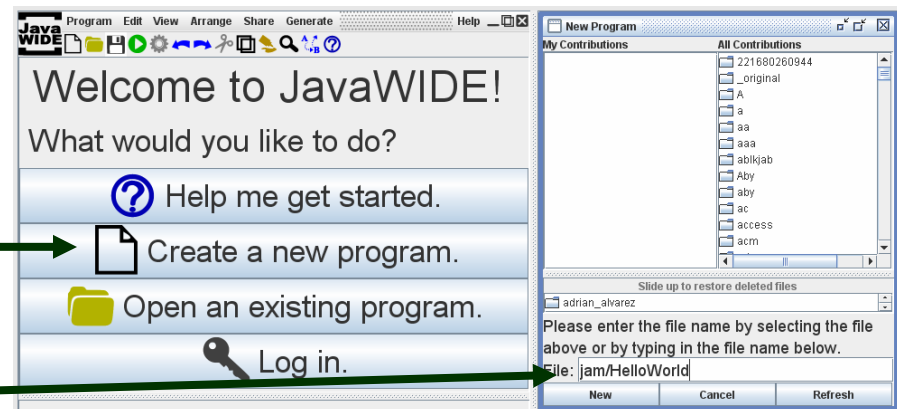
History of JavaWIDE

- First Prototype: December 2007
- First College Class: January 2008
- First Used in India: Summer 2008
- First Online Course: Summer 2009
- First High School Adoption: August 2009
- Concurrent Editing: November 2009



Hello JavaWIDE!

1. In a web browser, visit **sandbox.javawide.org/index.php/AppletIDE**
2. Login – no password needed, just enter your name
3. Click on **Create a New Program**
4. Enter name **HelloWorld**
5. Select **Create Application**
6. Save then Run



Concurrent Editing Teaching Tips

1. Ask students to follow you.
2. Practice using it on the first day of class.
3. Ask/Answer/Ask/Test
 1. Teacher asks question
 2. Student answers
 3. Teacher asks student to edit code
 4. Everyone tests code.

Concurrent Editing Teaching Tips

4. Group Class Program – each student writes a different part, all at the same time.
5. Student asks what-if question, teacher asks student to edit code, try it out.
6. Encourage small group work in class – one source file, two or more editors.

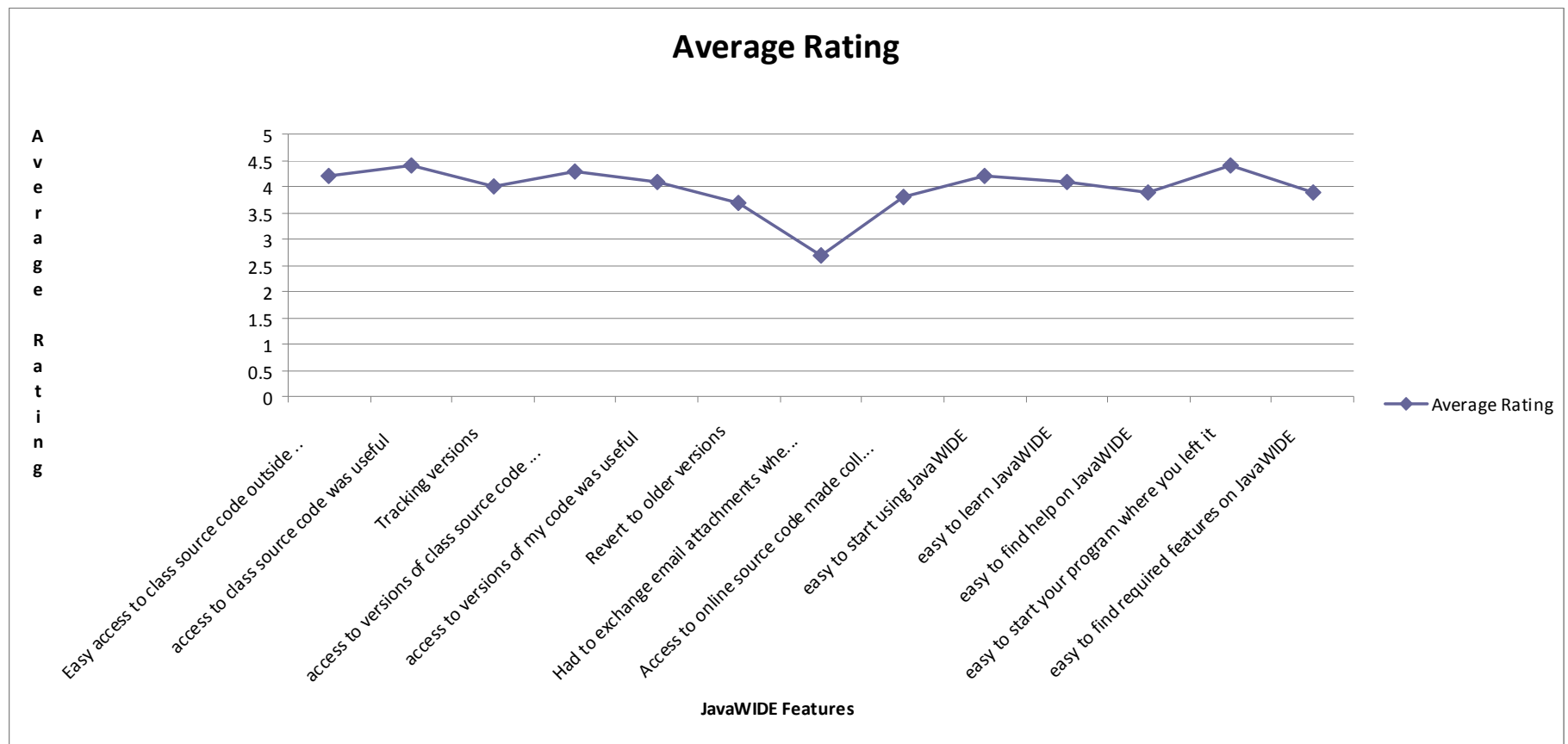
Adoption Experience

- New to Georgia Gwinnett College
- Experienced teaching
Intro to Programming
- Previously used client-based IDE
- Looking for
 - Easy to use
 - East to setup
 - Maximize time for teaching

Fall 2009 Survey Results

- Demographics:
 - 30 students
 - 60% IT majors
 - Positive attitudes towards computers and programming
 - Average 4.3 (1-5 scale)
 - Self reported Java proficiency: 2.2 (1-4 scale)

JavaWIDE Features



Student Comments on JavaWIDE

- User-friendly, easy to get started and get help
- convenient to use (browser-based), and it contains Java API that comes in to be extremely handy.
- It has concurrent editing. It is **THE FUTURE!**

Individual Practice: Angle Part I

1. Open **CCSC/Angle**
2. Save As **name/Angle**
3. Complete **add** method
4. Run program to test method

Programming in Pairs: Angle Part II

1. Sit next to your assigned partner
2. Select the menu option
View->Follow->Your Partner
3. Choose which person's Angle to work on.
Both partners edit the same program.
4. One person should write the method:
public void subtract (Angle angle)
and the other should test the method in main.

Programming in a Group: LineSegment

1. Sit in your group of three
2. Select the menu option
View->Follow->Your Partners
3. Select one group member to open
CCSC/LineSegment
4. Save As **groupname/LineSegment**
5. Follow the instructions at the top of the program.

Remote Programming: Triangle

1. Sit across the room from your originally assigned partner
2. Make sure you have selected the menu option
View->Follow->Your Partner's Name
3. Follow the instructions at the top of the program.

Remote with Voice: Triangle II

1. Sit facing your originally assigned partner
2. Make sure you have selected the menu option **View->Follow->Your Partner's Name**
3. Complete and test the following additional methods without looking at your partner's screen:
 - `public boolean isRight()`
 - `public boolean isOblique()`
4. For bonus points, write:
 - `public boolean isObtuse()`
 - `Public boolean isAcute()`

Remote Tutoring: Angle Revisited Austin, TX \leftrightarrow Lawrenceville, GA

1. Participant volunteers in Austin, TX
2. Student volunteers in Lawrenceville, GA
3. Both log into **sandbox.javawide.org**
4. Both follow each other, start chat session
5. Audio is turned off
6. Student opens and works on **CCSC/Angle**
7. Participant tutors offering help when needed.

Live Student Q & A via Video Link

Participants are invited to ask Georgia Gwinnett College students questions about using JavaWIDE in Introduction to Programming.

Concurrent Editing Review/Discussion

Discussion

- Teaching
- Using
- Tutoring
- Online Courses

Strategies:

1. Students follow teacher
2. Use it day first day
3. Ask/Answer/Ask/Test
4. Group class program
5. What-if, try out
6. Small group work

Graphical User Interfaces

- Application Example
- Applet Example

*All JavaWIDE programs run on the client,
not on the server.*

Examples of Student Games

ITEC2120 Student Games in Progress:

- Tanks
- Air Hockey

Setting up a JavaWIDE Site

1. Request your site on the sign-in sheet
2. Login and change your password
3. Ask students to 'Request Account'
4. Teacher 'Confirms Account' per student
5. Students login and change password
6. Show students how to use it in class (like we did today in the tutorial).

Getting Support for JavaWIDE

1. Read the discussion board:
<http://forum.javawide.org>
2. Sign up for an account and post questions/answers to discussion board.
3. Discussion board is for students & teachers
 1. Ask students to post a sample message in the 'New to Posting' forum at the bottom.
 2. Teachers should read and post to the 'Teaching Tips' forum and others.
4. Email me at **cjenkins@ggc.edu**

Future Directions and Q & A

- Remote Tutoring
- Online Courses
- Android/Facebook
- Jython
- Video Tutorials
- More widespread use



Current JavaWIDE Sites

Sign up for a JavaWIDE Site

Put a check by your name on the sign-on sheet and we'll create a JavaWIDE site for your school.

Time permitting, we will set these up immediately at the end of the tutorial and help you get started.

Special thanks to our student interns Brian Wetzel & Alan Davis, the GGC Faculty Seed Grant, and the ITEC2120 students.