



Engaging a New Generation of Mainframe Masters

The IBM Master the Mainframe Contest

Mike Todd todd@us.ibm.com

Anna Clayton annamc@us.ibm.com

Paul Newton paulnewt@us.ibm.com

ECC Conference

June 11-12, 2012



© 2011 IBM Corporation

System z Academic Initiative Program



Access to mainframes worldwide for teaching (no fee)

- Marist College, NY
- U of Arkansas
- Illinois State U
- Syracuse U
- NC A&T U
- SC IT-ology
- Brazil
- Germany
- France
- China



School Enablement - global

55 courses / modules, z/OS Mastery Exams, Coupons, Professor Seminars, Ambassadors, Funding and support worldwide, Job Board, Faculty Awards



- **SystemzJobs.com – Job Board - global**
to connect students with employers
- **Skills Help Desk**
to assist clients and community
zskills@us.ibm.com



Student Mainframe Contests



Awareness – academic and industry

Roundtables, conferences, and seminars
Expanding worldwide

Over 1,000 member schools worldwide

Armonk, NY, 6 Dec 2011 – IBM (NYSE: IBM) today announced that 1,067 schools worldwide are recognizing the vast number of job opportunities available in enterprise computing and the importance of teaching students key systems technology like the IBM System z mainframe.

NEWS



IBM Reveals 1,000 Mainframe Skills Schools

IBM has revealed more than 1,000 schools globally that are now teaching System z mainframe skills

On December 12, 2011 by Darryl K. Taft, eWEEK USA 2012. Ziff Davis Enterprise Inc. All Rights Reserved  0

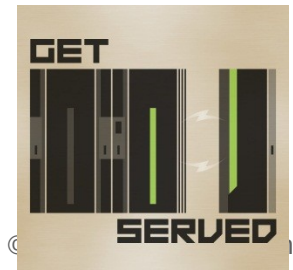
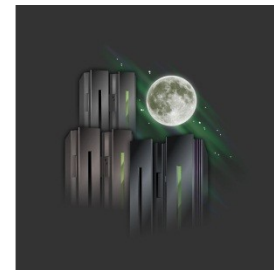
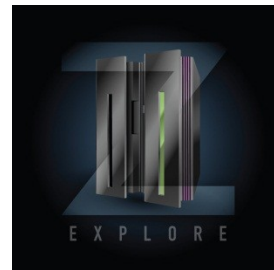
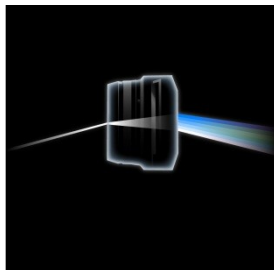
With the chronic shortage of mainframe skills becoming an increasing problem for many companies, IBM has announced that more than 1,000 schools around the world are now teaching mainframe skills.

These schools are assisting students in getting jobs in big systems environments and extending the life of the mainframe.

<http://www.techweekeurope.co.uk/news/ibm-reveals-1000-mainframe-skills-schools-49448>

Master the Mainframe Contest overview

- Hands-on contest for university students
- No experience necessary
- Remote logon from dorms, apartments, labs
- Increasing difficulty, increasing prize levels
 - Part 1: 1-2 hours to complete, win a T-shirt
 - Part 2: 10-20 hours to complete, win \$100
 - Part 3: Weeks to months to complete, win a tablet and a trip to POK



2011 Master the Mainframe Contest results

- **3,969** students entered
 - Up from 750 in 2005
 - Seventh-straight year of growth
 - Over 500 participating schools across North America



- Survey results (370 respondents)
 - ▶ **99.5%** of contestants reported the contest to be educational, enjoyable or both
 - ▶ **74%** of contestants reported that the contest was their first hands-on experience with a mainframe
 - ▶ **70%** of contestants reported that the contest made them more likely to consider taking mainframe courses (**28%** said just as likely)

Q. What was your favorite aspect of the contest?

In the students' words...

- How open it is to actual beginners
- Humor incorporated with the instruction
- The "that's pretty cool" moments
- Learning a new system and getting to interact with an actual mainframe
- The thrill of finishing up one challenge and moving on to another
- Extremely easy instructions to follow, fun and interactive
- The range of menu navigation that was used. I am currently taking a class that deals with mainframe programming and some of the information here was very useful to me

2009 – 2011: Three straight years of 1,000+ high school Mainframe Masters



Lake Brantley AP Computer Science 2011-2012

Lake Brantley AP Computer Science 2011-2012



ibm.com/university/contest

2011 Mainframe Masters

Top five out of **3,936** competitors

1. Yeming Hu – *Dalhousie University*
2. Nathan Voth – *Georgian College*
3. Vance Morris – *West Texas A&M*
4. Reno Alvarado – *Marist College*
5. Tri Nguyen - *University of Texas at Austin*



IBM Mainframe Contest in the press



“The students came away with the view that **mainframes are cool**, not just because they are powerful and versatile but, more importantly, they offer **good job prospects**.”



IBM Launches Effort to Woo Students to the Mainframe

“Before being introduced to the contest, many students are not aware of the mainframe and its role as the Information Technology backbone for many of the world's largest businesses.”

- Mary Williams, principal, Lake Brantley High School



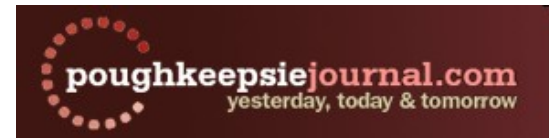
IBM makes the mainframe young again

IBM Master the Mainframe contest beckons upcoming programmers

“The contest is designed to get the younger set away from their iPhones and Droids and get involved with some serious mainframe applications.”



The New York Times



Mainframe contests around the world



33 countries
7 years
45,000+ students



MASTER THE MAINFRAME

IBM yilin Master the Mainframe'ini anyor

Technical overview: Part 1

- IBM provides screen shots and detailed instructions
- Learn basic mainframe concepts
- One to two hours
- Familiarity with ISPF

```
Vista TN3270 Session A
File Edit Font Transfer Macro Options Window Help
File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT      IBM0000.COMPETE.PARTONE (FRIEDA) - 01.00      Columns 00001 00072
Command ==>                                           Scroll ==> PAGE
000150 OPPORTUNITY KNOCKING
000151 FOR THOSE WHO MASTER
000152 MAINFRAMES RUN THE WORLD
000153 OPPORTUNITY KNOCKING
000154 FOR THOSE WHO MASTER
000155 MAINFRAMES RUN THE WORLD
000156 OPPORTUNITY KNOCKING
000157 FOR THOSE WHO MASTER
000158 MAINFRAMES RUN THE WORLD
000159 OPPORTUNITY KNOCKING
000160 FOR THOSE WHO MASTER
000161 MAINFRAMES RUN THE WORLD
000162 OPPORTUNITY KNOCKING
000163 FOR THOSE WHO MASTER
000164 MAYOR MORTIMER MCMAINFRAME, III, ESQUIRE
000165 FRIEDA CODEWELL, WEST BOOYAH A&M UNIVERSITY
***** Bottom of Data *****
F1=Help  F2=Split  F3=Exit  F5=Rfind  F6=Rchange  F7=Up
F8=Down  F9=Swap   F10=Left F11=Right F12=Cancel
Ma 0.0 10/02/11.275 09:52PM 204.90.115.184 21/1
```

Technical overview: Part 2

- Use skills learned in Part 1 to complete more complex tasks
- Use additional resources
- More than ten hours
- Learn more about systems programming and application development on the mainframe
 - JCL and SDSF
 - JCL debugging
 - REXX
 - ISPF macro
 - System commands
 - Customized ISPF panels
 - C programming
 - USS
 - Java programming

Technical overview: Part 3

- No time limit
- Tackle issues that occur in real-world IT shops
- Opportunity to install and use Rational Developer for System z IDE to tackle extremely difficult challenges:
 - JCL fundamentals
 - COBOL programming
 - DB2 SQL introduction
 - API for DB2 SQL within COBOL
 - Access DB2 tables containing mock bank customer data using COBOL
 - Write a simulated ATM program
 - Write a bank services application

Contest as coursework

- 3-credit independent study course
 - West Texas A&M University
- Mandatory class assignment
 - CSU Dominguez Hills, Georgian College, Indian Hills CC, Lake Brantley High School, Long Island U, Marist College, Northern Illinois U, Southern Polytechnic State U, Syracuse, U of South Carolina
- Extra credit
 - Bergen County Academies, Guilford Area High Schools, New Albany High School

We want your ideas!

- Many contest challenges began as suggestions from industry
- We want students to pick up skills that industry finds valuable
- Challenge topics/proposals always welcome



SystemzJobs.com – Hire a mainframe master today!

The IBM System z Job Board at **SystemzJobs.com** is a new resource that connects students learning IBM Enterprise Systems with companies hiring talent.

Benefits of using SystemzJobs.com

- Free, secure, and easy to use
- Fast access to the best jobs in the IT industry
- Global pool of available jobs

Getting started

Follow these steps at SystemzJobs.com to get started:

1. Create a secure account (optional)
2. Search for jobs with your preferences
3. Connect with employers

Sponsored by the
IBM Academic Initiative, System z

Visit: ibm.com/university/systemz

Questions? Contact zSkills@us.ibm.com