SPONSORSHIP/DEPUTATION CERTIFICATE

Mr. /Ms _____
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Jaishri Mahesh Waghmare,
Coordinator

One Day Workshop on "Demystifying GCC Through Gray Box Probing"
Department of Computer Science & Engineering,
Shri Guru Gobind Singhji Institute of Engineering and Technology, Vishnupuri, Nanded: 431606 (MS)

Phones: 02462-269252
094236 93802
FAX: 02462-229236

Email: jaishripatil@gmail.com

One Day Workshop
on

"Demystifying GCC Through Gray Box Probing"

By

Dr. Uday P. Khedker
Professor
Department of Computer Science & Engg.
IIT Bombay, Mumbai

March 6th, 2010

Coordinator
Jaishri Mahesh Waghmare

Organized by
Department of Computer Science and Engineering,
SGGS Institute of Engineering and Technology, Vishnupuri,
Nanded, 431606 (MS)

Abstract:
The GNU Compiler Collection (**GCC**) is a compiler generation framework. It constructs a compiler for a given architecture by reading the machine descriptions for that architecture. It supports several dozen processors and half a dozen source languages. GCC is a very large code base: the program sloccount estimates its size to be over 3.5 million LOC! When a particular compiler is constructed using GCC, approximately 40K additional lines of source code are generated for the compiler.

The success of GCC lies in the fact that its deployment on the default parameters is easy as evidenced by several dozen processors for which GCC ports exits.

One of the advantages of GCC is that a compiler generated from it produces dumps of intermediate level of a program being compiled. Understanding these dumps is:

- Possible without looking at the source code and data structures of GCC.
- Easy because the transformations performed by a phase are usually small.
- Useful because reading the input and output of a phase reveals valuable information about the transformation performed by the phase.

As a consequence, it becomes possible to understand the sequence of transformations which caused the **source program** to be translated into the **target program** when compiled using GCC generated compiler. This helps in understanding the process of lowering of source program into target code.

In this workshop we will see how the configuration and build process of GCC and will try to understand the compilation strategies used by GCC by examining the intermediate code dumps. Theory sessions will be accompanied by laboratory assignments.

Faculty:

Dr. Uday Khedker is professor in Computer Science and Engineering Department in Indian Institute of Technology (IIT), Bombay. He has over 15 years of experience in teaching and over 18 years of experience in research. His areas of research include Programming Languages, Compilers and Program Analysis. His team has started GCC Resource Centre (GRC) at IIT Bombay. Improving machine independent optimizations in GCC, interprocedural data flow analysis, heap reference analysis, improving machine descriptions and instruction selection mechanism in GCC, translation validation of GCC, linear types in GCC etc are the topics under research at GRC. He has conducted many workshops on Compilers for engineering faculties and students.

About SGGS:

Named after the tenth Sikh Guru, Shri Guru Gobind Singhji (SGGS) Institute of Engineering and Technology, Vishnupuri, Nanded was established by Govt. of Maharashtra in the year 1981 as a 100% grant-in-aid institution. The institute has been declared the status of Autonomous Institute since June 2004. Hon. B. N. Kalyani, an eminent industrialist, heading the Kalyani group of companies, is working as Chairman of Governing Board. This institution runs eight Undergraduate courses leading to B. Tech. degree and five postgraduate courses leading to M. Tech. degree. It is also recognized as a research centre of Swami Ramanand Teerth Marathwada University, Nanded leading to award of Ph. D. degree in various branches of Engineering. The six under graduate and two postgraduate programme of the institute has been accredited by the National Board of Accreditation (NBA). The college campus is spread over 46 acres of land at Vishnupuri, adjacent to the Swami Ramanand Teerth Marathwada University campus and is at a distance of about 7 Km from Nanded Railway station. Nanded is a district head quarter and is famous for Sachkhand Huzur Saheb Gurudwara. It is located on the banks of holy river Godavari and is an important railway station on Aurangabad-Secunderabad line. It is connected by direct trains to Mumbai, Nasik, and Aurangabad.. Visit http://www.sggs.ac.in for more information.

Target Participants:

1. Faculty from Engineering colleges
2. B. E./B. Tech. , M. E./ M.Tech students

Participants are required to register in advance using the enclosed format along with registration fees on or before **25th February 2010**. Limited seats are available. Participants will be selected on first come first serve basis.

Registration Fees:

Category	Type	Reg Fees
A	Faculty or student with need of accommodation	Rs. 750 /-
B	Faculty or student without need of accommodation	Rs. 500 /-

Registration fees will be accepted by Demand draft of any nationalized bank payable at Nanded in favor of **"Director, SGGSIE&T, Nanded". Mention the course name behind the Demand Draft**.

Allowances, Lodging and Boarding:

The arrangements for lodging, working lunch, tea during the course will be provided by the Institute. No TA/DA will be paid to any participant.

REGISTRATION FORM
Workshop on
Demystifying GCC Through Gray Box Probing
(March 6th , 2010)

1. Name:_____
2. a. Designation :_____

   b. Institute :_____
3. Mailing Address : _____

   _____

   _____
4. E-mail : _____
5. Phone : _____
6. Educational Qualifications : _____
7. Experience: _____
8. Category : A / B
9. Details of reg. Fees :
   a. DD no. : _____
   b. Drawn on :_____

Signature of the Applicant :

Place :