

# Computer Careers and Certification

## Chapter 2

Source : Shelly, G.B., Cashman, T.,  
and Vermaat, M. 2005. *Discovering  
Computers 2006, Complete*. America:  
Course Technology Thomson  
Learning

# The Computer Industry

## Kebutuhan tenaga profesional bidang komputer

- Saat ini(2007) jumlah tenaga komputer sekitar 10,5 juta dengan perkiraan terus bertambah 2 sampai 3 % per tahun
- Jumlah student dibidang komputer terus berkurang



Systems analyst  
Help desk specialist  
Computer operator  
Software engineer  
Computer technician  
Programmer/Developer  
Computer scientist  
Computer salesperson  
Web page author  
Computer consultant  
Desktop publisher  
Illustrator  
Database administrator  
Network administrator  
Corporate trainer  
Technical writer  
Computer forensics specialist

# The Computer Industry

**Presiden Direktur IBM Indonesia, Suryo Suwignjo memprediksi, pertumbuhan industri TI di Indonesia pada 2008 akan mencapai 12 - 15 persen. "Kebutuhan tenaga TI akan mengikuti rasio tersebut," ujarnya. Suryo melihat kendala yang dihadapi dalam penyediaan SDM tenaga TI di Indonesia antara lain ketidak tepatan kurikulum pendidikan telematika dengan tingkat perkembangan teknologi tersebut yang mengakibatkan terjadinya mismatch dengan lulusan tenaga TI.**

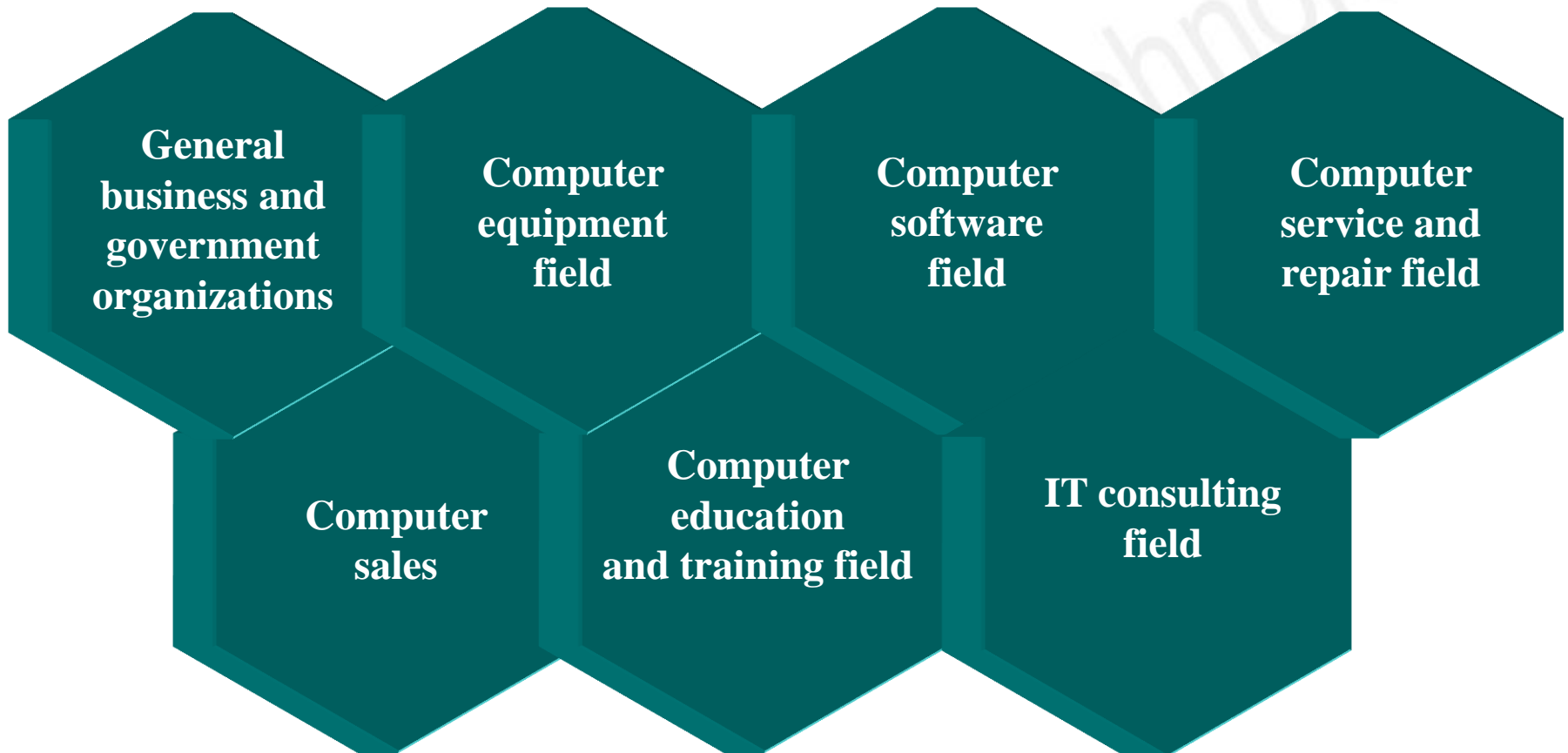
**(source : <http://jakarta.wartaegov.com> ) dikutip 25 Agustus 2008**

**Penelitian seputar pekerjaan yang dilakukan oleh perusahaan karir Hudson mengungkap perusahaan TI Singapura kini sedang mengalami 'paceklik' tenaga kerja handal. Dikutip detikINET dari Playfuls.com, Rabu (11/4/2007), kekurangan tenaga kerja ini berkaitan dengan ketatnya persaingan pencarian bakat dari negara-negara Asia lain.**

**(source :<http://www.detikinet.com>) dikutip Agustus 2008**

# Careers in the Computer Industry

**Macam area usaha dimana kesempatan kerja tenaga IT ditemukan antara lain :**



# Careers in the Computer Industry

## Information technology (IT) department

- Sebuah department dalam perusahaan bisnis atau pemerintahan yang mempekerjakan tenaga-tenaga komputer(IT)
- Bertanggung jawab untuk memastikan semua peralatan komputer dan Network berjalan lancar.



# Working in an IT Department

**Jenis-jenis pekerjaan yang tersedia dalam sebuah IT department?**

<b>Management</b>	Chief Information Officer / VP of IT	E-commerce administrator	Project leader / manager
	Chief Security Officer	Network administrator	
<b>System development and programming</b>	Application programmer	Database analyst	Systems programmer
		Software engineer	Technical writer
	Computer scientist	Systems analyst	Web page author
<b>Technical services</b>	Computer forensics specialist	Desktop publisher	Quality assurance specialist
	Computer technician	Graphic designer / illustrator	Security administrator
	Database administrator	Network security specialist	Web administrator / Webmaster
<b>Operations</b>	Computer operator	Data communications analyst	
<b>Training</b>	Corporate trainer	Help desk specialist	

# Careers in the Computer Industry

## Bidang usaha Computer equipment

- Perusahaan manufaktur dan distributor komputer dan hardware-hardware lain yang berhubungan dengan komputer
- Karir terdiri dari desain, manufaktur, dan production peralatan komputer



# Careers in the Computer Industry

## Bidang Computer software

Companies that develop, manufacture, and support software

Project leader analyzes requirements, designs solutions, and oversees software development process

Programmer writes and tests computer programs

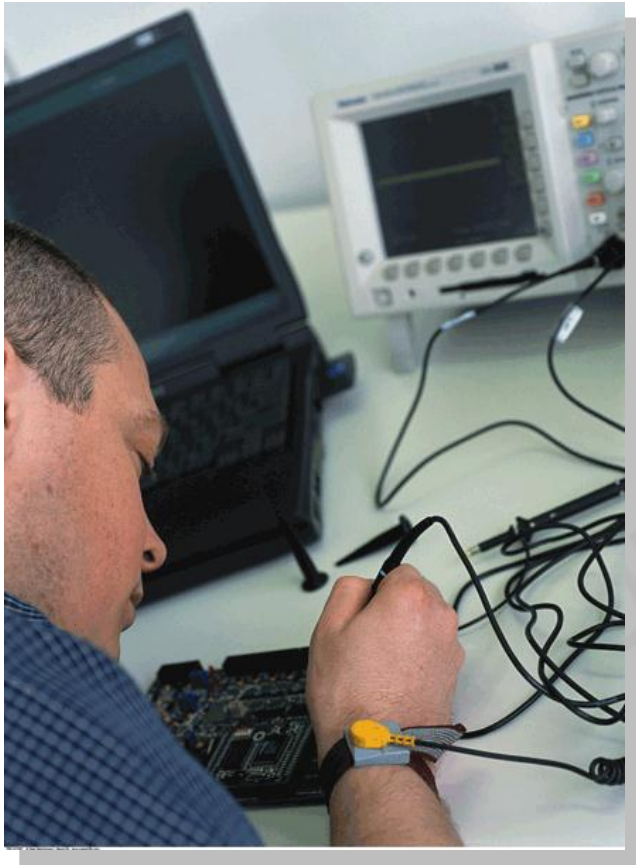
Software engineer designs and develops software

Computer scientist researches, invents, and develops solutions to complex software problems



# Careers in the Computer Industry

## Bidang usaha Computer service and repair



- **Melayani maintenance(pencegahan), Instalasi(komponen H/W atau S/W), dan service perbaikan.**
- **Teknisi Komputer—melakukan instalasi, maintain, dan reparasi hardware**

# Careers in the Computer Industry

**Kesempatan kerja apa di bidang computer sales?**

- **Computer salespeople** perlu mengetahui komputer secara umum dan pengetahuan yang spesifik tentang produk yang mereka jual.



informa

# Careers in the Computer Industry

## Kesempatan kerja apa di bidang edukasi dan training?

- Sekolah, universitas, training center, dan perusahaan membutuhkan tenaga educator dan trainer
  - Corporate trainers mengajari pegawai lain tentang bgm menggunakan software, mendesain dan men-develop sistem, dan program



# Careers in the Computer Industry

Apa itu **IT consultant**?

Individual yang mempunyai keahlian khusus tertentu di bidang komputer

Computer  
selection

System  
design

Communications

Hardware and  
software  
configuration

Network design  
and installation

Web  
development

# Preparing for a Career in the Computer Industry

## Perbedaan 3 disiplin ilmu pada perguruan tinggi secara umum

Computer Information Systems	Computer Science/ Software Engineering	Computer Engineering
Practical and application oriented	Theory oriented	Design oriented
Business and management oriented	Mathematics and science oriented	Mathematics and science oriented
Understand how to design and implement information systems	Understand the fundamental nature of hardware and software	Understand the fundamental nature of hardware
Degrees include A.A., A.A.S., A.S., B.A., B.S., M.S., Ph.D.	Degrees include B.S., M.S., Ph.D.	Degrees include B.S., M.S., Ph.D.

# Preparing for a Career in the Computer Industry

## Computer information systems (CIS)?

- **Bidang yang menekankan pada pengetahuan dan keahlian teknis**
- **Biasa disebut juga management information systems (MIS) atau management information technology**

### Computer Courses:

- Introduction to Computers
- Object-Oriented Programming
- Networks
- Computer Operating Systems
- Systems Analysis and Design
- Database Management Systems
- Web Development
- Two semesters of two or more of the following programming languages:  
C++, Java, Visual Basic .NET 2003, COBOL

### Other Courses:

- Algebra
- Accounting and other business courses
- Statistics

# Preparing for a Career in the Computer Industry

## Computer science (CS)?

- Bidang/program yang menekankan pada sisi teoritis dari programming dan operating systems
- Biasa juga disebut **software engineering**

### Computer Courses:

- Introduction to Computers
- Object-Oriented Programming
- Data Communications
- Systems Analysis and Design
- Software Engineering
- Data and File Structures
- Computer Operating Systems
- Artificial Intelligence
- Two semesters of at least one of the following programming languages: C++, Java, Assembler

### Math Courses:

- Calculus – 2 semesters
- Physics – 2 semesters

# Preparing for a Career in the Computer Industry

## Apa yang disebut dengan user group?

- **Kumpulan orang-orang yang memiliki interest terhadap computer equipment atau software tertentu**

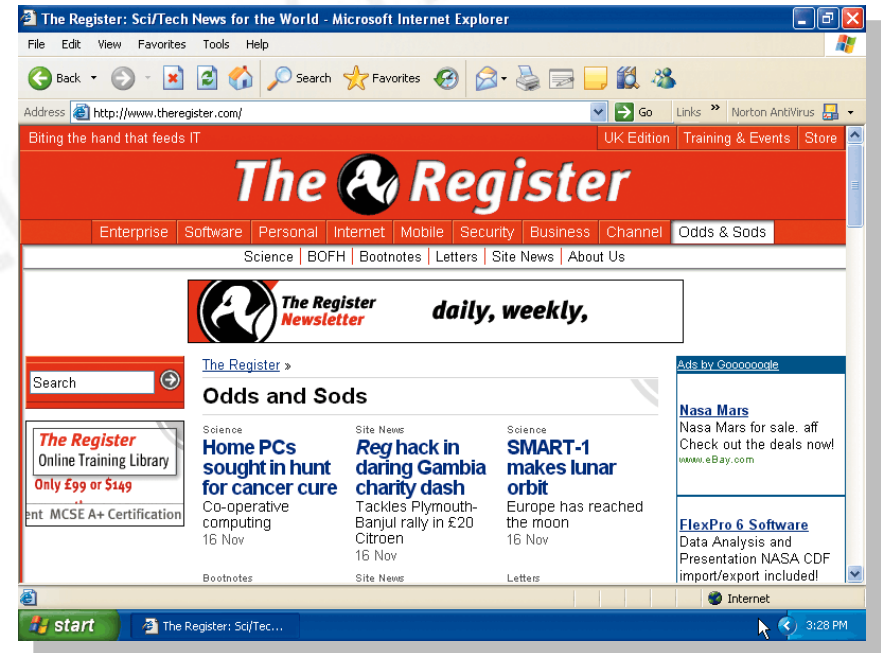
Apple Computer User Groups Association (ACUGA)
Association of Personal Computer User Groups
C/C++ Users Group
International Oracle User Group
Java Users Group
Linux Users Groups WorldWide (LUGWW)
Macromedia User Groups
.NET User Group
UNIX User Group



# Preparing for a Career in the Computer Industry

Bagaimana caranya untuk selalu mengetahui perkembangan dunia industri komputer?

- Computer industry publications
- News, blogs, and technical Web sites



# Certification

## Apa yang disebut **certification**

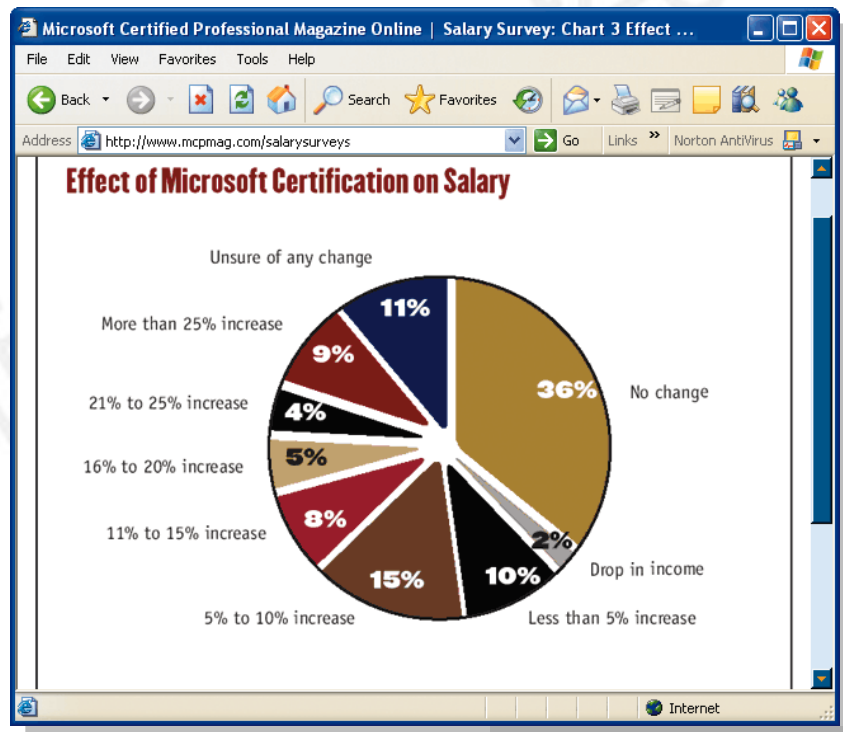
- Sebuah proses untuk memverifikasi pengetahuan teknis pada suatu bidang teknis tertentu
- Kecakapan dibuktikan/diakui dengan adanya sertifikasi



# Certification

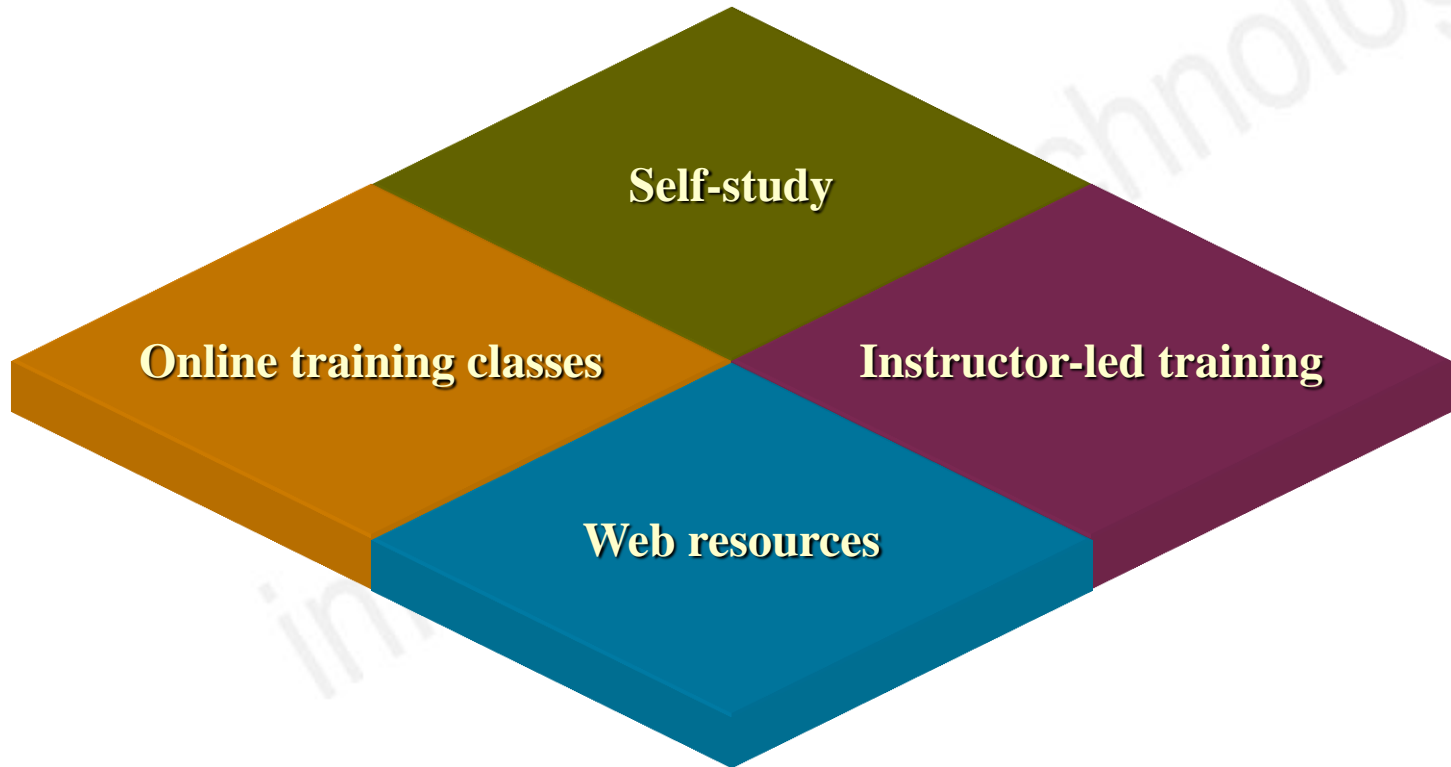
## Apa keuntungan sertifikasi?

- Meningkatkan karir karyawan, pengakuan sebagai industry professional, dan tentunya higher salaries dan bonuses



# Certification

**Yang harus dilakukan untuk mempersiapkan sertifikasi?**



# Certification

## Bagaimana model sertifikasi itu?

- Menggunakan komputer
- Beberapa adalah multiple choice tetapi ada juga yg test skill langsung

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# Internet and the World Wide Web

Next week .....