

# Open Source Software & Open Source Software Engineering

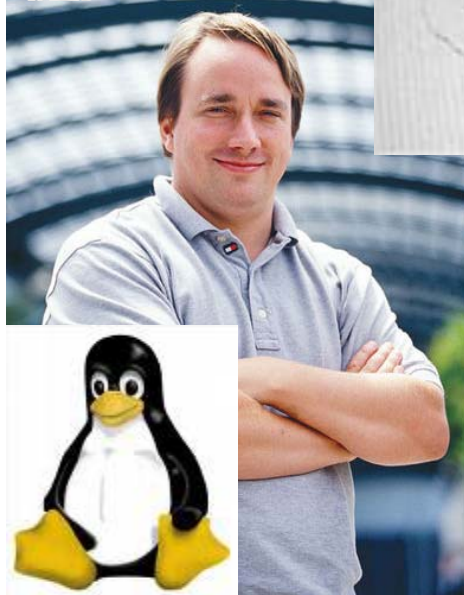
Week 1

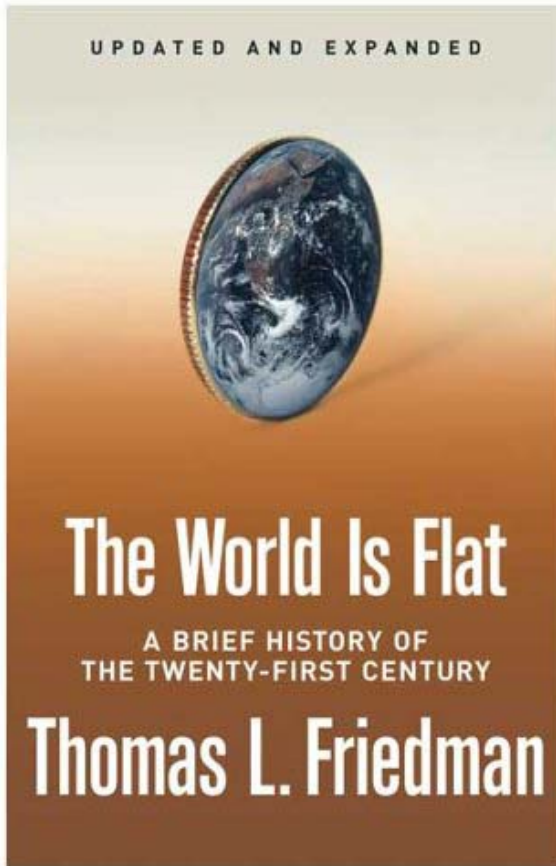


LAMP



WAMP





<b>Flatter #1</b>	<b>11/9/89</b>
<b>Flatter #2</b>	<b>8/9/95</b>
<b>Flatter #3</b>	<b>Workflow software</b>
<b>Flatter #4</b>	<b>Open sourcing</b>
<b>Flatter #5</b>	<b>Outsourcing</b>
<b>Flatter #6</b>	<b>Offshoring</b>
<b>Flatter #7</b>	<b>Supply-chaining</b>
<b>Flatter #8</b>	<b>Insourcing</b>
<b>Flatter #9</b>	<b>Google, Yahoo!, MSN</b>
<b>Flatter #10</b>	<b>Mobile, Personal devices</b>

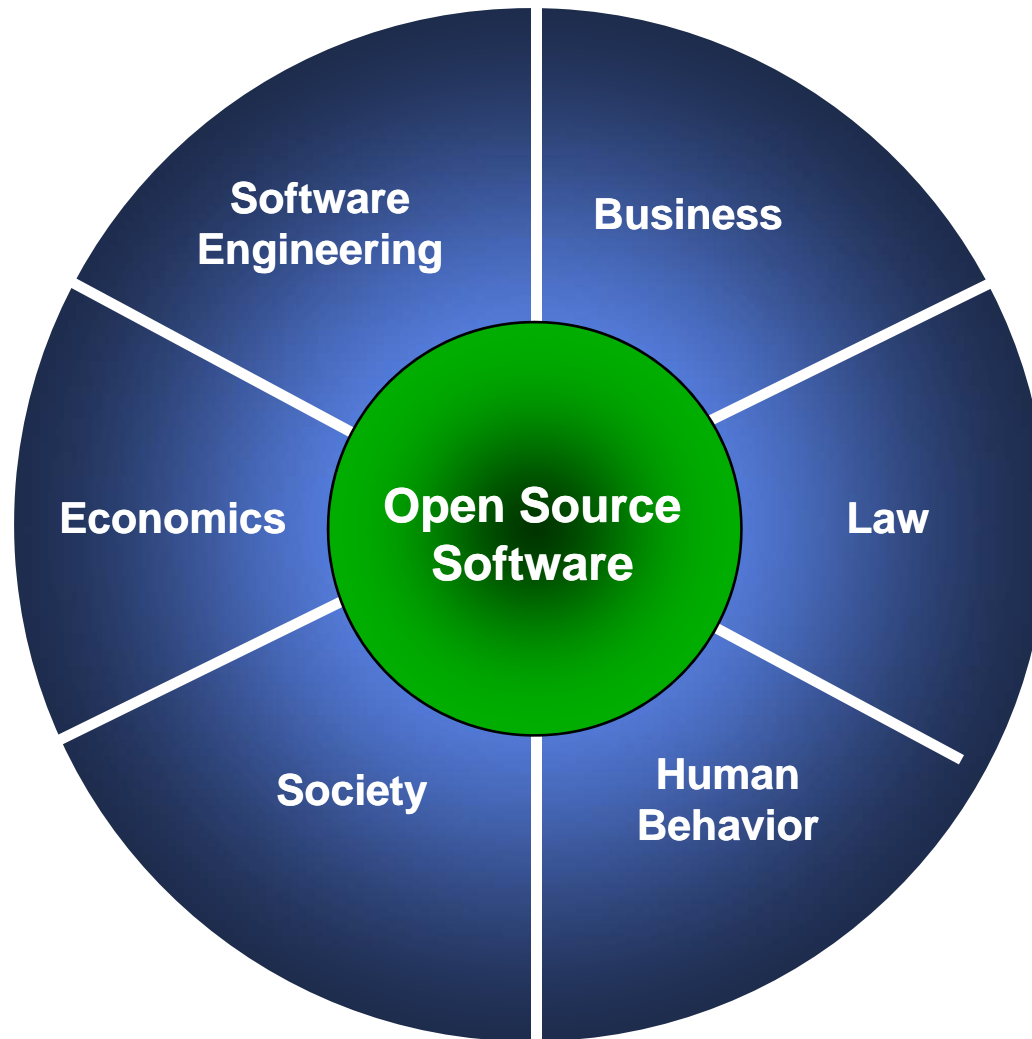
Openness Globalization Collaboration

Internet **OSS**

# Perspectives on OSS

- Software engineering
- Economic and business models
- Law
- Society
- Psychology

# OSS Topics



# OSS Topics from Another View

- Technology/Engineering topics
  - Open source software *development*
  - Open source software *applications development*
- Non-technology/Engineering topics
  - The concept of openness
  - Business models and economy
  - Copyright and license
  - Society

# Software Business Models

- In the beginning, software was bundled with hardware
- Custom software was produced starting 1960's
- Software products was produced starting early 1980's
- Beginning 1990's software become commodity and service

# Software Becomes

- Commodity
  - Browsers, web servers, operating systems, etc.
- Service
  - Not support and maintenance
  - Value-oriented and customer-oriented

# The Concept of Openness

- “The World is Flat!”
  - We live in the twenty-first century
- Paradigm shift in software development
  - “The Mythical Man-Month: Essays on Software Engineering” / Frederick P. Brooks, Jr.
  - “The Cathedral & The Bazaar” / Eric Raymond
- Paradigm shift in the concept of software
  - “The Open Source Paradigm Shift” / Tim O’reilly

# Paradigm Shifts

- Hardware-centric (IBM)
- Software-centric (Microsoft, Oracle)
- Service-centric (IBM, Accenture)
- Value-centric (Google, Facebook)

Google™

YAHOO!





And many, many more...

# Global Movement of OSS

- “As of September 4<sup>th</sup> 2006, at least 99 governments in 44 countries had undertaken administrative or legislative action in support of OSS development”

# **OSS in the United States**

- The US Government is hesitant and tries to be neutral between proprietary software companies and open source communities

# OSS in California

- Many local governments and state agencies adopted OSS and already obtained cost saving

# OSS in California

- Windsor Unified School District
  - SUSE Linux Enterprise Desktop, has reduced its hardware costs by 75 percent and software costs by nearly 95 percent. With fewer servers, the district has also reduced its energy costs by 25 percent. The savings were estimated to be near \$300,000 USD
- The California Department of Transportation (Caltrans)
  - Using a proprietary solution it would have amounted to almost half a million dollars. Instead the department chose to incorporate an open source solution to the project, saving (\$220,000 USD) the department over half of the amount the commercial solution would have cost

# OSS in Europe

- European country governments are very active in adopting open source software
- German analysis
  - “the use of open source software in public administration would save €130 million for the federal government, and €2.6 billion countrywide”

# OSS in CJK

- “In September 2003, the Asian trio of China, Japan, and South Korea (CJK) announced an initiative to promote open source software and platforms that favor non-Microsoft products such as Linux.”

# Facts

- Open movement is a mainstream around the world
- Open source software changes the paradigm of software industry
- We need to take advantages of OSS

# The Effects of “Openness”

- Organizations that directly or indirectly are affected by the concept of openness
  - Wikipedia, MySpace, Facebook, Flickr, YouTube, del.icio.us, 43 Things, Technorati, Second Life, Lego, eBay, Google, Yahoo!, Disney, DreamWorks, Pixar, Amazon, E\*Trade, Reuters, Merrill Lynch, Boeing, Procter & Gamble, BMW, IBM, HP, Sun, Intel, DoD, DoE, NSA, national, state, and municipal governments, etc.

# OSS and FS

- Free software
  - <http://www.fsf.org/>
- Open source software
  - Open Source Initiative,  
<http://www.opensource.org/docs/osd>

# Video Clips

- <http://www.youtube.com/watch?v=E5G7FU5j2Uc>
- <http://www.youtube.com/watch?v=QkA1Jd882T4>
- <http://www.youtube.com/watch?v=43baAbAZhFM&feature=related>
- <http://www.youtube.com/watch?v=nMLTmkGX8So>
- <http://www.youtube.com/watch?v=wvsboPUjrGc>

# Syllabus

- [www.csun.edu/~twang/595OSE/Syllabus](http://www.csun.edu/~twang/595OSE/Syllabus)

# Introduction

- Introduce yourself
  - Name, majors, expertise, experiences, expectations, etc.

# Homework Assignment #1

- Recently, Oracle sued Google, saying Android violates Java copyrights. Describe your opinions about the implication of this case and the consequences of the result of this case.
  - Prepare for presentation
- Read and summarize the article “Open source paradigm shift.” Also, create three “meaningful” questions about this article.
  - Due date: Sept 1
  - <http://www.csun.edu/~twang/595OSE/HomeworkAssignments/HW1.pdf>