CSCI-4966 Open Source Software

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Licensing

- Our Lecture Slides have greatly benefited from the previous classes taught by Dr. William Schroeder and Dr. Luis Ibanez at RPI,

- And by Professor Mukkai Krishnamoorthy who succeeded them in teaching the course

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Reading Material

- Free Software/Open Source: Information Society Opportunities for Europe?

  - https://pdfs.semanticscholar.org/8050/4867c446090c6ad413c4c61f64c388dc32dd.pdf

- Brief history of open source software

  - http://digitalcommons.uconn.edu/cgi/viewcontent.cgi?article=1009&context=libr_pubs

Main Players

- East Coast (MIT) Richard Stallman launched the GNU project – under GNU General Public License (GPL) - Stallman's manifesto:

- Stating that availability of source code and freedom to redistribute and modify software are fundamental rights.

- West Coast (UC Berkeley) was improving the UNIX system BSD Unix – supported by DARPA

More from West Coast

- BSD Unix released under BSD License. Kernel requires AT & T Unix license – hence remained proprietary.

- Another important Open Source Project is TeX (a typesetting system by Donald Knuth - Stanford)

- Communities for all of them exist even today

Communities

- USENET newsgroups and communities formed.

- They were able to patch programs and development was possible,

- X windows (Open Source) funded by consortium of companies.

Unix Kernel

- Bill Jolitz (UCB) was developing kernel for i386 under Net/2 (free of the copyright form AT&T) – 386 BSD https://en.wikipedia.org/wiki/William_Jolitz

- Linus Torvalds (Finland) – unhappy with Prof. Tannenbaum's minix kernel was implementing linux kernel with GNU software.

- 386 BSD evolved into NetBSD, FreeBSD, OpenBSD

Unix Kernel (contd)

- Linux Kernel evolved into many GNU/Linux distributions (Slakware, Debian, Red Hat and many more)

More High Quality Open Source Development

- Apache (Widely used WWW server)

- Perl, (an interpreted language with lots of libraries – bio-informatics)

- R (origin in AT&T Used by Statisticians and Data Analysts)

- Mozilla/Firefox – WWW Browser (origin Netscape)

- GNOME/KDE – Desktop Environment – Used for nonspecialists

More Open Source

- Python, Java, GO – Programming Languages
- Open Data
- Open Research – Making the data and computations Public

Questions and Discussions