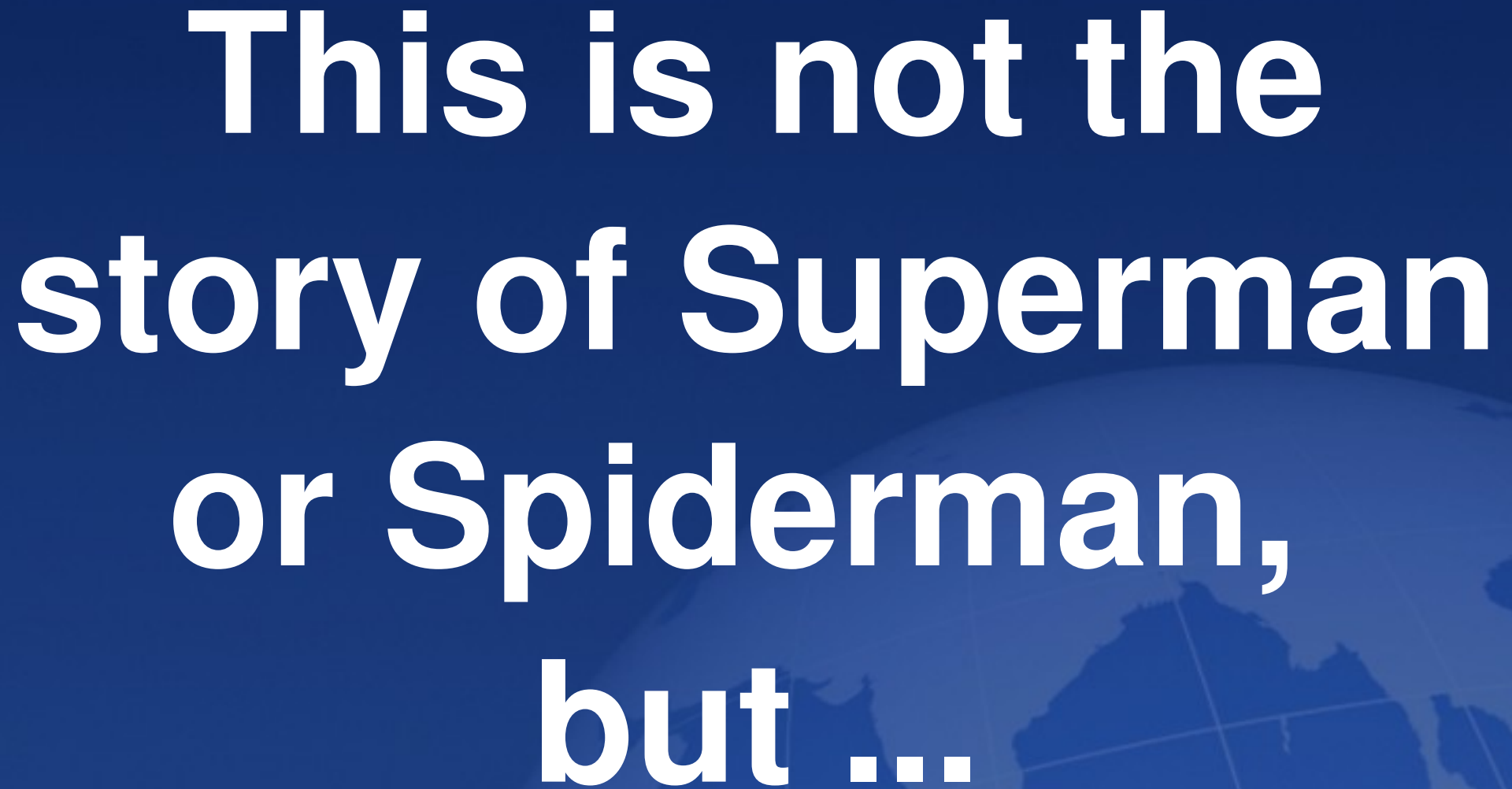


**This is not the  
story of Superman  
or Spiderman,  
but ...**



# Shakthimaan!



# But, why ?

- What is education?

- Industry



Academia

- Networking.
- “Ignorance of Ignorance”.

# Engineering Education in India (a majority)

- Theoretical lectures, whole day.
- Two so-called practicals.
- 6-hours lab per week.
- Written homework. No plagiarism?
- Updation of syllabi: every semester?
- Collaboration: What is that?

# MS Education in the US

- Lectures, few hours per week.
- Heavy practical work, theoretical courses are exceptions.
- All the time spent in labs.
- Plagiarism considered serious.
- Syllabus updation:  
every semester/quarter.
- Collaboration and networking: a lot.

# Infrastructure in India (a majority)

- Limited or none.
- Prohibition and restricted usage.
- Use of floppies, USB disks, CDs usually permitted.
- Managements' role.

# so-called “Engineering Students”

- Enjoy life! This is college.
- Can learn later. But, not quite possible in the Industry with work.
- Only 5-6 students out of 40 or 60 are serious about learning.
- Too much gossip, cultural, and movies.

# Four types

- Shy.
- Ask in private, after a session.
- Send an e-mail, “Hello, Sir!”.
- I would like to shoot a question!



**so-called “Engineering Students”**

96% never ask questions ...

... anywhere.

# so-called “Engineering Students”

- Why should I teach my friend – for him/her to get more marks?
- In the FLOSS world you collaborate.
- Students have to learn:
  - to work independently.
  - to participate in FLOSS mailing lists, IRC, forums et. al.

# Faculty

1. Not paid well – prefer the Industry or don't like to teach.
2. Attrition rate.
3. Graduates become teachers.  
Go to step 1.

A “Vicious cycle”.

# Faculty

- Not everyone can speak good English.
- No voice modulation.
- Lectures not interactive or natural.
- Can express themselves well in their local language, which gives them lot of confidence.

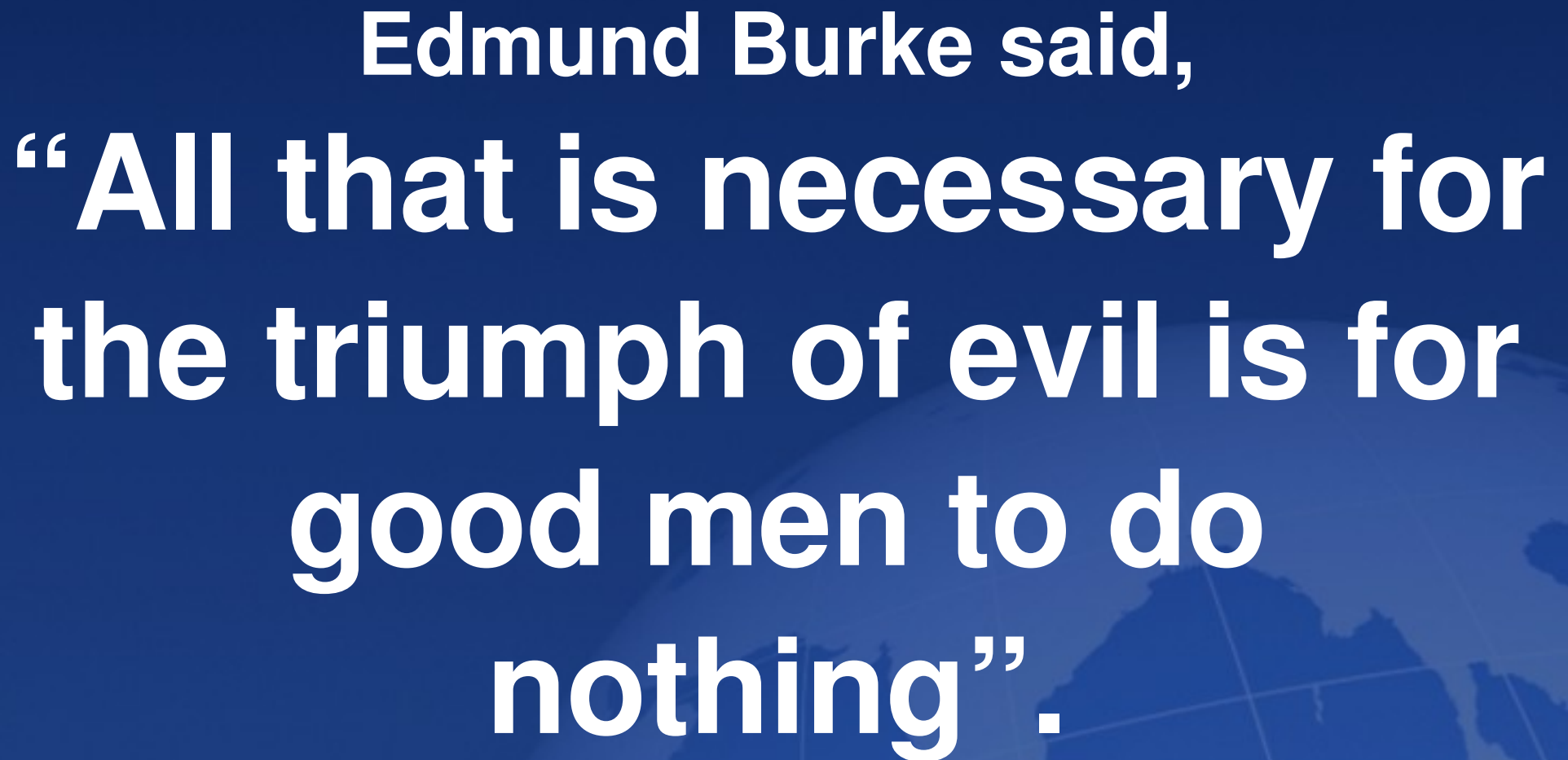
# Faculty

- Spoon-feed the students.
- No self-learning exercises.
- Industry expects you to think.
- Lateral thinking, problem solving.
- Learning is hard, but lasts long.

# Faculty

- Inter- and Intra-department politics.  
Bad.
- Neither do I update my skills nor do I help my students **learn**.
- Most do what they are told to do due to low salary, politics, ego issues.
- No inter-department collaboration.

Edmund Burke said,  
**“All that is necessary for  
the triumph of evil is for  
good men to do  
nothing”.**



# The Challenge

**As FLOSS citizens, it is essential to help our fellow human beings.**



# Ignorance

- Ignorance is evil.
- In a bureaucratic system, you are kept ignorant, so you will shut up.
- You are bound to criticism when you question the system.
- Patience and persevearnace are important to teach people about their ignorance.

# Ignorance

- A majority of the older generation need to be made aware of FLOSS.
- They make some crucial decisions in various institutions and organizations.

# The Challenge

- Engineering Education System needs to be changed.
- Attitude of people needs to change.
- With FLOSS recognition, people will be motivated to do good work.

# Education

- Become autonomous.
- Internal practical coursework (theoretical courses are exceptions).
- No three-hour AND one month written examinations.

What a waste of everybody's time.

# Education

- Credit-based system.
- Give credit for everything –

**practicals, theory,  
extra-curricular.**

# Education

- Work with FLOSS community, worldwide.
- No need to travel abroad.  
Use the Internet.
- Learn about different peoples' mindsets, different approaches to problem solving.
- Be up-to-date.

# Education

- Workshops to focus on the backbone of FLOSS – the community.
- Getting support – forums, IRC, mailing lists.
- More college departments into FLOSS will bring Intra- and Inter-department collaboration.

# Education

- Approaching schools is quite difficult.
- Usually don't have public websites.  
E-mails are never checked.
- Approach as school alumni, is easier.  
Example: *Asan Memorial School, Chennai* .
- Kerala is an exception.



# Advocacy

- Plan A – Conferences.
- Usually held in a city.
- Not effective in a country like India.

## Why?

- Too much congestion already in cities.
- Not many people can afford to come to the cities.

# Advocacy

- Plan B - take FLOSS to places.
- Wide coverage. Aim for 100%.
- People living in cities can afford to travel to towns/rural places, not vice versa.
- Most colleges are in outskirts of towns/cities/rural places.

# Plan B

- Hit the roads for FLOSS advocacy.
- No substitute for hard work.
- Management always worry about money when spending for workshops.
- Since you are working, you can afford to do workshops for free.
- Travel and stay are taken care by the universities/colleges.

# Saturdays

- Saturdays are usually working.
- Ideal for working people to do workshops on Saturdays.
- If Saturdays are not working, students/faculty are reluctant. But, after a workshop, they are impressed, and are ready to come on Saturdays.  
*Example: Kongu Engineering College, Erode.*

# Medium of Instruction

- Converse in local language.
- Localisation is important.

Example: *IndLinux*.

- Cities near state borders have people from different backgrounds. English is preferred.

Example: *Karpagam Arts and Science College, Coimbatore*.

# Networking

- Network with the student community:
  - Mailing lists.
  - E-mails.
  - IRC.
  - Phone.
  - Social network services.
- Documentation gives credibility:
  - Website.
  - Photos.

# Planning

- Organizing workshops:
  - Near city limits: 2-3 weeks.
  - Out-of-station: At least 1 month.
- Approach for workshops:
  - Student->Faculty->Management
  - Faculty->Management

# Media

- Public opinion greatly influenced by media (newspapers, television, radio).
- All are expensive to approach, unless you have good contacts.
- Else, hit the roads!



# Community

- Internet connectivity very poor outside cities.
- Distribution of CDs/DVDs through cds4grabs.  
*[http://chennai1ug.org/wiki/?title=CDs\\_for\\_Grab](http://chennai1ug.org/wiki/?title=CDs_for_Grab)*
- Availability is not a problem.
- Affordable courier charges.

# Community

- GNU/Linux User Groups.
- Free Software User Groups.

*<http://wikiwikiweb.de/LugsList>*

- Few Physical volunteers.
- More virtual volunteers – due to attitude from college days?
- Self-learning and awareness.

# TODO

- Education system needs a fundamental change.
- FLOSS implementation in curriculum \_should\_ be done.
- Students need A-T-T-I-T-U-D-E.

# TODO

- GNU/Linux User Group and FSUG volunteers to take turns in advocacy.
- Choose a topic of interest and advocate/do implementation.
- Choose another topic for the next semester, or explore more topics in your domain of interest.

# TODO

- Advocacy will:
  1. increase user groups.
  2. create more awareness.
- Change is inevitable.
- These problems similar to other developed or developing nations?

In the true words of Dr. Abdul Kalam,

“ The most unfortunate thing is that India still seems to believe in proprietary solutions. Further spread of IT which is influencing the daily life of individuals would have a devastating effect on the lives of society due to any small shift in the business practice involving these proprietary solutions. It is precisely for these reasons open source software need to built which would be cost effective for the entire society.

In India, open source code software will have to come and stay in a big way for the benefit of our billion people.“

# References

- <http://www.shakthimaan.com>
  - /news
  - /downloads
  - /work
  - /recruits
  - /database
  - /gallery



# Episode II

# Shakthimaan

# returns ...