IT Literacy Drive through Spoken Tutorials

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Technology as an Enabler of Education
Higher Education Forum
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Outline

- IT literacy training for employment through Spoken Tutorials
- Low cost netbooks
50% of Indians are below 25 years
Motivation

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- Two thirds below 35 years
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- Pain points

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  - Education quality, finding good teachers, providing jobs

In terms of markets and opportunities, India is like a continent. IT training can improve employment scenario and quality of life.

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▶ Two thirds below 35 years
▶ Pain points
  ▶ Education quality, finding good teachers, providing jobs
▶ In terms of markets and opportunities, India is like a continent
▶ IT training can improve employment scenario and quality of life
Massive IT training through Spoken Tutorials

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IT Literacy Drive through Spoken Tutorials
Should train students without teachers
Should train students without teachers

Make the content suitable for self learning
Content should be suitable for self learning
- Content should be suitable for self learning
- Do a novice check of script before recording
Learning pedagogy should be effective
Learning pedagogy should be effective

- Side by side learning method developed: Possible only with open source software
Learning pedagogy should be effective

Side by side learning method developed:

Possible only with open source software
Lack of computers
- Lack of computers
- Low cost computers (< $100)
Lack of computers
Lack of computers

Conduct organised workshops through colleges
- Lack of computers
- Conduct organised workshops through colleges
- SELF Workshops: Spoken tutorial based Education and Learning through free FOSS study workshops
SELF Workshops: Spoken tutorial based Education and Learning through free FOSS Study Workshops
Self learning, organised workshops

- 2 hour workshops

Can be organised by a volunteer - expert is not required
One volunteer can run different workshops - method is same
Can be offered through educational institutions - individual computers are not required
No policy decision required to use - no financial implication - major issue
Self learning, organised workshops

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Lack of awareness of our free tutorials
Lack of awareness of our free tutorials

Signed MOU with several universities and colleges - 2,000 colleges!
Lack of English fluency
Lack of English fluency

Dub into all 22 languages of India
<table>
<thead>
<tr>
<th>Assamese (dubbing)</th>
<th>Bodo (Synaptic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bengali (Sci)</td>
<td>Bhojpuri (dubbing)</td>
</tr>
<tr>
<td>Indian English (PHP)</td>
<td>Gujarati (Xfig)</td>
</tr>
<tr>
<td>Hindi (Linux)</td>
<td>Kannada (Synaptic)</td>
</tr>
<tr>
<td>Khasi (CS)</td>
<td>Konkani (CS)</td>
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<tr>
<td>Malayalam (Synaptic)</td>
<td>Marathi (Sci)</td>
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<tr>
<td>Mythili (CS)</td>
<td>Nepali (LibreOffice)</td>
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<tr>
<td>Oriya (dubbing)</td>
<td>Punjabi (xfig)</td>
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<tr>
<td>Rajasthani (CS)</td>
<td>Sanskrit (LaTeX)</td>
</tr>
<tr>
<td>Sindhi (CS)</td>
<td>Tamil (Ubuntu)</td>
</tr>
<tr>
<td>Telugu (Sci)</td>
<td>Urdu (Sci)</td>
</tr>
</tbody>
</table>

Case Study: IT Skills

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IT Literacy Drive through Spoken Tutorials
Employment in IT industry needs English
Employment in IT industry needs English

Dub only the audio
- Employment in IT industry needs English
- Dub only the audio
- Dubbing requires only 5% effort
- Employment in IT industry needs English
- Dub only the audio
- Dubbing requires only 5% effort
- Show dubbing in a few languages
Lack of Internet
- Lack of Internet
- Offline download application
- Lack of Internet
- Offline download application
- Reach increased by 15 times!
Web Statistics

- 3.2 million page views in 2014

More than doubling every year

15 minute average visit time

Less than 20% bounce rate
3.2 million page views in 2014
More than doubling every year
- 3.2 million page views in 2014
- More than doubling every year
- 15 minute average visit time
Web Statistics

- 3.2 million page views in 2014
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- 15 minute average visit time
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Feedback of 25,000 Participants
Quality of Instructional Material

Quality of instructional material

<table>
<thead>
<tr>
<th>Quality</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very bad</td>
<td>199</td>
</tr>
<tr>
<td>Bad</td>
<td>446</td>
</tr>
<tr>
<td>Fair</td>
<td>4298</td>
</tr>
<tr>
<td>Good</td>
<td>12771</td>
</tr>
<tr>
<td>Very good</td>
<td>7361</td>
</tr>
</tbody>
</table>
Quality of Infrastructure

Quality of infrastructure at the colleges

- Very bad: 354
- Bad: 888
- Fair: 8029
- Good: 9483
- Very good: 6322
Quality of College Organiser

Quality of SELF workshop conductor in colleges

Very bad: 255
Bad: 506
Fair: 4127
Good: 12466
Very good: 7723
Quality of IIT Bombay Mentor

Quality of IIT Bombay mentor who joined through Skype

- Very bad: 246
- Bad: 554
- Fair: 4545
- Good: 13697
- Very good: 6033

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Overall Quality of SELF Workshop

Overall quality of SELF workshops

- Very bad: 112
- Bad: 197
- Fair: 5788
- Good: 13232
- Very good: 5747
Usefulness of Topic Studied

Extent of applicability of what is learnt in SELF workshops

- Not at all: 810
- A little bit: 2937
- Somewhat: 7566
- Quite a bit: 7894
- A lot: 5869
Would the participants recommend ST methodology to others?

- Not at all: 895
- May be: 1918
- Likely: 7335
- Quite likely: 7198
- Definitely: 7730

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IT Literacy Drive through Spoken Tutorials
Summary: Spoken Tutorial Method

- 10 min long screencast
Summary: Spoken Tutorial Method

- 10 min long screencast
- Created for self learning
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- Created for self learning
- Dubbed into all 22 Indian languages
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- Teaches IT through open source software
- Massive IT training through universities and colleges
SELF Workshops (Partial)

- C, C++, Java
- Python, Perl, Ruby
- PHP/MySQL
- GNU/Linux / Ubuntu
- Bash
- Scilab
- Oscad
- OpenFoam
- \LaTeX
- LibreOffice
  - Writer, Calc, Impress, Math, Draw, Base
- ORCA
- GeoGebra
- FireFox, Thunderbird
- Blender, GIMP, Inkscape

Many more are in progress

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Statistics of SELF Workshops

- Trained 6,000,000 people in 3 years

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Statistics of SELF Workshops

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- 3,50,000 of them in 2014 alone
Statistics of SELF Workshops

- Trained 6,00,000 people in 3 years
- 3,50,000 of them in 2014 alone
- Expect to train 7,00,000 in 2015
Generalisation

- Efficacy of this method established for IT skills
- Applicable to all demonstration based subjects
General Skills Training

- Carpentry
- Plumbing
- Circuit layout
- etc.
Etiquette Skills

- How to stand in a queue
- How to climb the stairs
- How to open a door
- How to enter when a door is opened
- How to use the wash room in an airplane
Jobs

- Teaching what career options are available
- How to locate job openings through Internet
- How to participate in an interview
Bridging Digital Divide

- How to buy train tickets through http://irctc.co.in
- How to locate low cost agricultural loans
- How to do web search to locate the shop that sells TVs at the lowest price - housewives are also entitled to Internet technology!
Health Related Skills

- Boiling water
- What to do when a dog bites
- First aid in case of a heart attack
- First aid for fracture
- How to prevent cancer
- During child birth every woman spends about four months at home - has enough time to learn
Aakash project successful
Low Cost Netbook

- Aakash project successful
- Shortcomings identified

Cost = Rs. 4,990 + tax, customs, etc.

Conducting a pilot study with 1,000 netbooks
Low Cost Netbook

- Aakash project successful
- Shortcomings identified
- Solved in the Netbook

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Conducting a pilot study with 1,000 netbooks

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- Conducting a pilot study with 1,000 netbooks
Conclusion

- Spoken Tutorial is an effective method for skills training
- It has the potential to make us a developed country
- Let all of us use it
Thanks

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