

Understanding EdTech
for
Reinventing education with technology integration
Working together, learning together

Teacher Educators Workshop
Vijaya Teachers College

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Understanding current EdTech as 'platformization of education'

From whatsapp ...

- Mark Zuckerberg's car hit a Hyderabad guy's car . . .
- Hyderabad guy (in anger) : Do you know who I am ?
- **Mark Zuckerberg**: Yes, you are Rajendra Reddy, you have 237 friends out of which 37 are females and your wife doesn't know 12 of them. Last holiday you went to Thailand and there you . . .
- Mumbai guy : **Leave it bro, it was my fault.**

“Digital Economy” → Platform Economy

- Digital Society /Economy characterised by ‘platforms’
 - Google, Facebook, Amazon, Uber/Ola, Swiggy/Zomato
 - More examples?
 - Platforms are new ‘middle men’, they bring producers and consumers together
 - They provide infrastructure for transacting a social or economic process
 - Platforms get huge funding
 - offer free or discounted priced products (predatory pricing),
 - acquire competitors and complementing businesses
 - to become the monopoly in the space

Ola/Uber

- As the new 'middlemen', digital platforms lay down rules of the market, and exploit producer and consumers
- Ola/Uber first phase – discounts to customers and incentives to drivers
- Second phase – exploit both
- **Create digital intelligence (AI) about buyers and sellers to increase exploitation of both**
- Platforms do data harvesting – political, social, economic implications
- **Platformisation of economy is rapidly causing power imbalances**

Platforms and Education (EdTech)

- Provide online learning spaces
- Provide content
- Provide pedagogy (videos, quizzes..)
- Provide assessments
- Start by supporting teachers
- Will take over more and more of teacher's function
- Deskillling and dis-empowering the teachers
- Google, Byjus, Education Initiatives, TikTok....

- Teachers (producers) will make content and BYJUS will sell / license/ give free through its platform to schools and students
- Initially schools/students will get it free. Later once BYJU'S establishes monopoly, it will charge
- Selling student/teacher/school data may make it so profitable as to give its products free of cost (like Google or Facebook do), since its service is fully information based
- Harvesting data will allow it to know child, household info and sell/cross sell
- Hard sell to poor parents – deception/fraud?
- Education will be converted to 'learnification'
- Social goals will be dropped, hollowing out education.

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• How should we respond?

• We first need to understand the phenomena deeply!



- Knowledge meant for sharing, belongs to all
 - Newtons laws of motion, scientific discoveries, inventions (Salk – Polio vaccine)
- Unfortunately, many ICT cannot be shared – they are ‘proprietary’ (Malkeen / Ghulam)
 - you do not ‘own’ the resource even when you pay for it, only have ‘license to use’ eg. MS Windows, Office, Android, Mac OS
- Free and Open Source Software (FOSS) allows sharing
 - **Must use FOSS in education, as education is about sharing**

FOSS – rich ICT world

- For most of the proprietary tools we use, we have equivalent FOSS tools
 - Operating System (GNU/Linux). Libre Office (MS Office)
 - Firefox browser (Chrome, Edge). Duckduckgo search engine (Google, Bing)
 - PDF viewer
- Also, we have hundreds of software apps where proprietary versions are expensive
 - PDF editor – Okular. Create animations – Peek, Tupi
 - Audio editing – Audacity. Video editing – Kdenlive
 - Video making (screen cast) – Kazam
- Hundreds of FOSS educational apps are available for our use
 - Marble, Geogebra, Stellarium, Kalzium,
- Webinar platforms – BigBlueButton or Jitsi (v/s Zoom or Google meet)

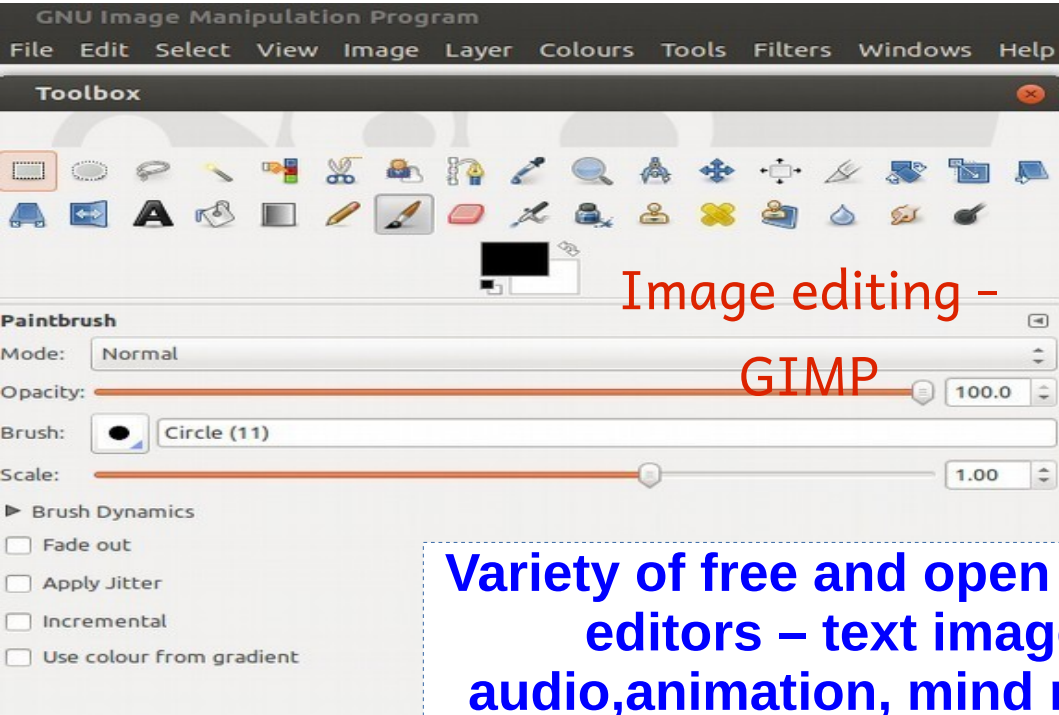
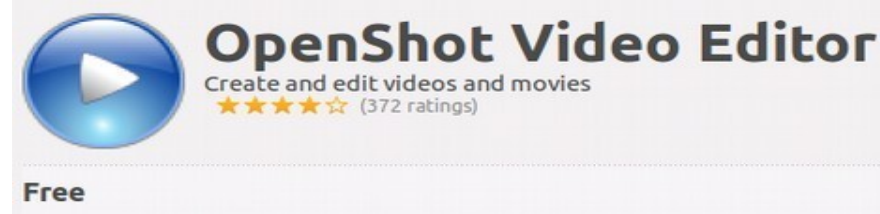


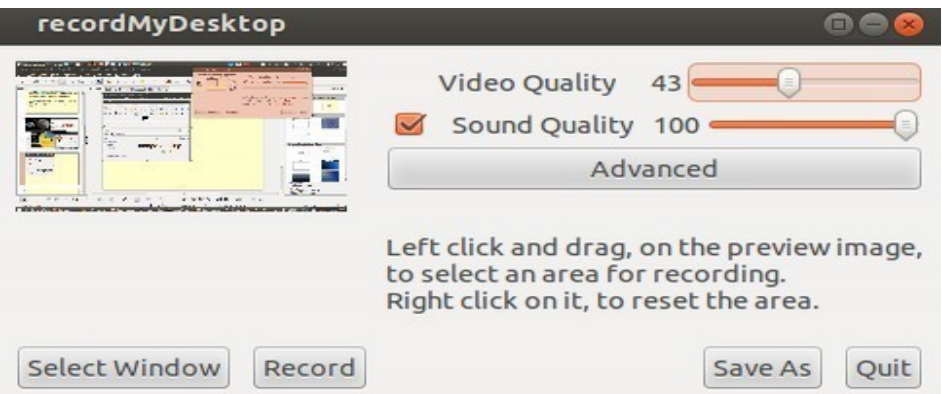
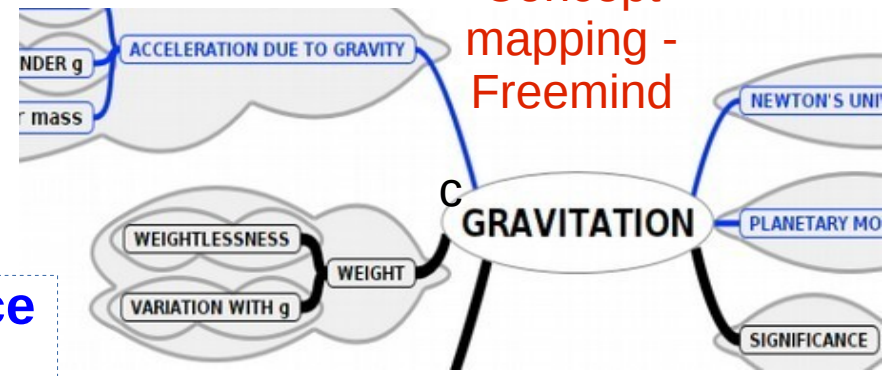
Image editing -

GIMP

Variety of free and open source editors – text image, audio, animation, mind maps, video etc.

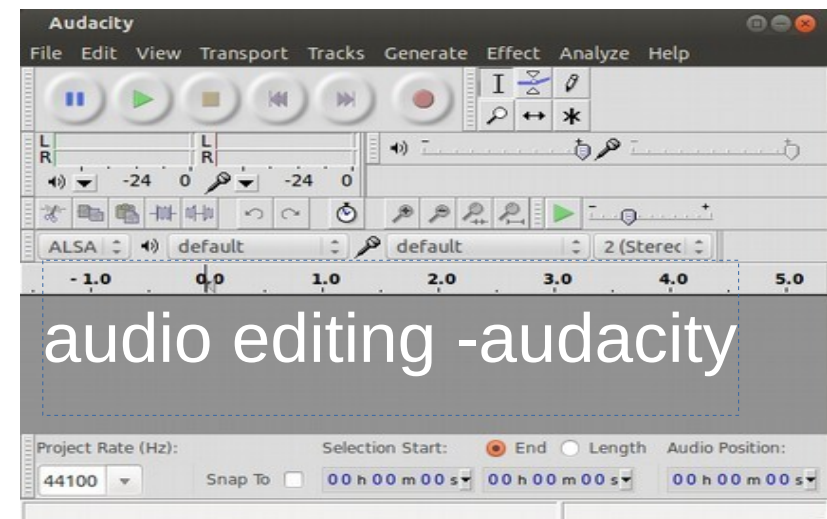


Concept mapping -
Freemind



Left click and drag, on the preview image, to select an area for recording. Right click on it, to reset the area.

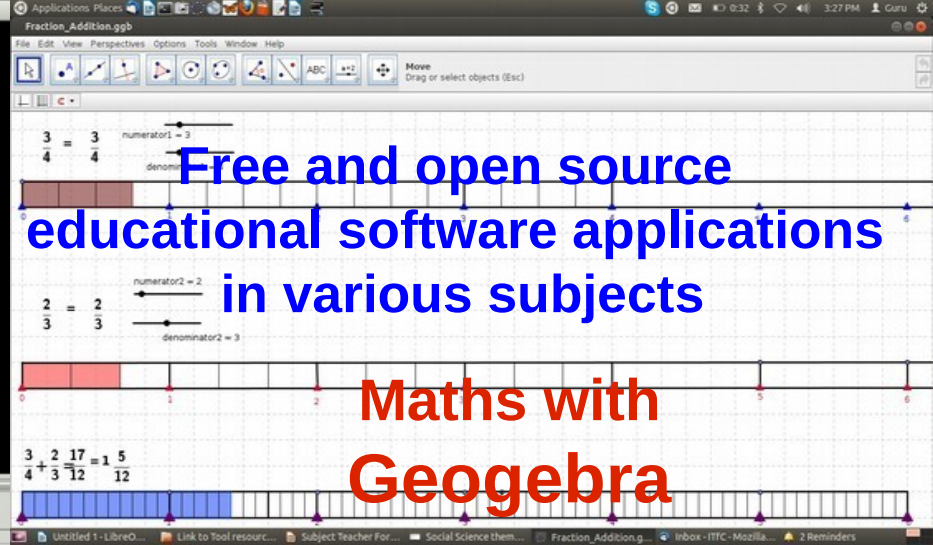
Video recording -
recordMy
Desktop
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audio editing -audacity

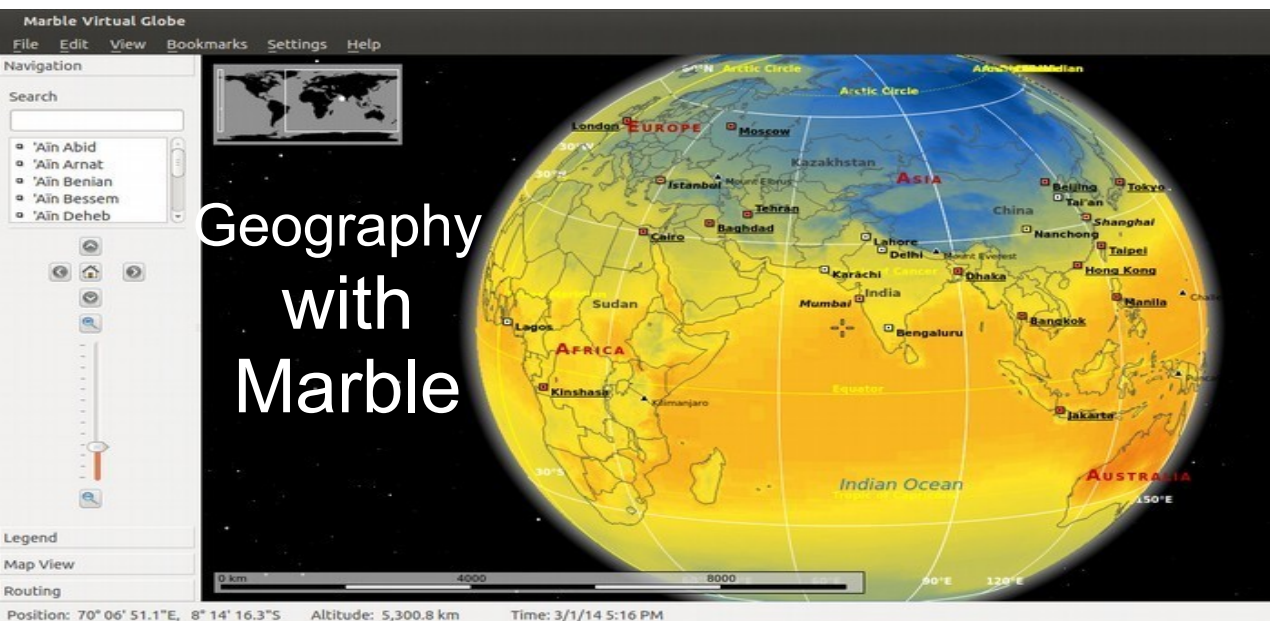


Lunar eclipse with Stellarium

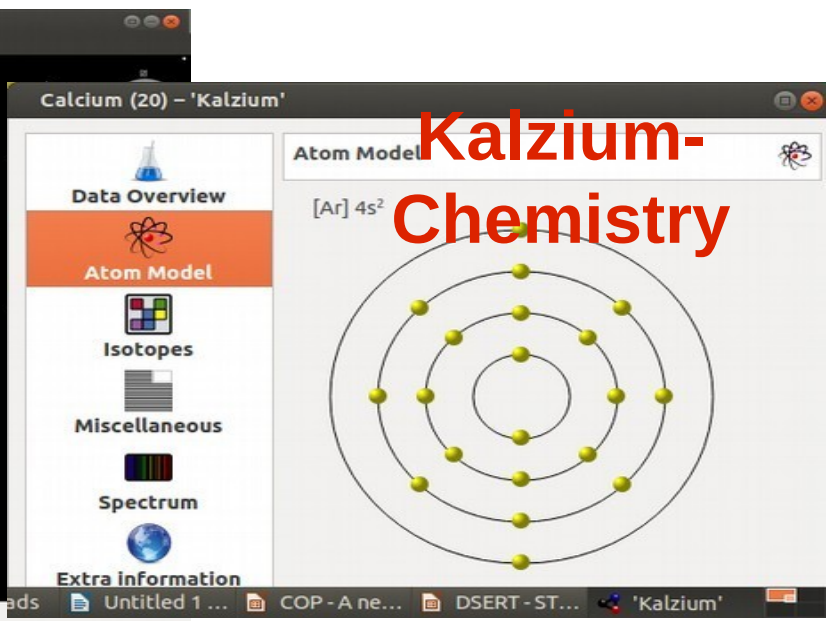


Free and open source educational software applications in various subjects

Maths with Geogebra



Geography with Marble



Kalzium-Chemistry

Reinventing education (moving beyond chalk and talk)

- Use of FOSS applications and OER creates a resource rich teaching-learning environment
 - No restriction to physical resources/ Anywhere anytime learning for teacher
 - FOSS and OER use makes teacher creative, curious and exploratory
 - Encourages teachers to discuss content and pedagogy with colleagues
 - academic exploration journey!
 - A teacher can improve her content and pedagogy and become a resourceful and creative teacher
 - Course design and content development through FOSS and OER

One teachers reflections

After exploring Geogebra, following things which I think could be possible:

- It gives us opportunity to overhaul our existing traditional way of teaching of mathematics and helpful for inclusive mathematics learning.
- Used as effective teaching aid to internalise concepts and save teacher's time in teaching intricate concepts.
- Help to remove prejudice existing with Mathematics as subject.
- Mathematization of thinking of students and help to enhance interest of student.

Geogebra provides student to think beyond what they have been prescribed by textbook or teacher and find new way of thinking mathematics and solving mathematics which further add on to other subject performance and use mathematics in day today life.



Important URLs

All FOSS applications - user manual pages

<https://tinyurl.com/itfc-foss-manual>

includes Geogebra, Phet, Marble, Audacity, Kdenlive and 50 other FOSS tools for teachers - installation instructions and how to use

English_language_learning_resources

<https://karnatakaeducation.org.in/KOER/en/index.php/>

English_language_learning_resources

Create your own resources - <https://h5p.org> <http://Geogebra.org>

<https://phet.colorado.edu>

Publish audio resources - <https://soundcloud.com>



Lets adopt and promote
FOSS and OER

Lets connect and learn in communities of
learning

Questions?

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