

**Information  
Communication  
Technology for the  
Studio at Copenhagen  
Business School**

The Studio at CBS is leading the charge of educating business leaders in a studio classroom

This document describes our recommendations for technologies that can enhance the education options at the Studio

**Created by**  
Andrew Iovanna  
Nicholas Perez  
Rose Petock  
Joseph Spicola

**Acknowledgements**

Balder Onarheim  
Daved Barry  
David Dunne  
Frederik Fog  
Karl-Heinz Pogner  
Lena Mygdam Zwisler  
Moura Quayle  
Robert Austin  
Robert Kinicki  
Shannon Hessel  
Siv Britt Mansa  
Steven Taylor  
Studio Students

**Sponsor**  
Stefan Mesiek



# Overview of the Proposal

This document presents the 21 information communication technologies (ICTs) that we propose to be implemented in the Studio at Copenhagen Business School. This proposal is organized by color-coded chapters. The first chapter is a list of the top five technologies that would benefit the Studio, and the following chapters are 'technological opportunities', or specific areas in the Studio that can be supplemented by technology. Each technological opportunity chapter contains one or two ICT solutions that address it. The figure below describes the content of the chapter pages, and the next page describes the content of the ICT solution pages.

Technological Opportunity name

3D Visualization - Digital

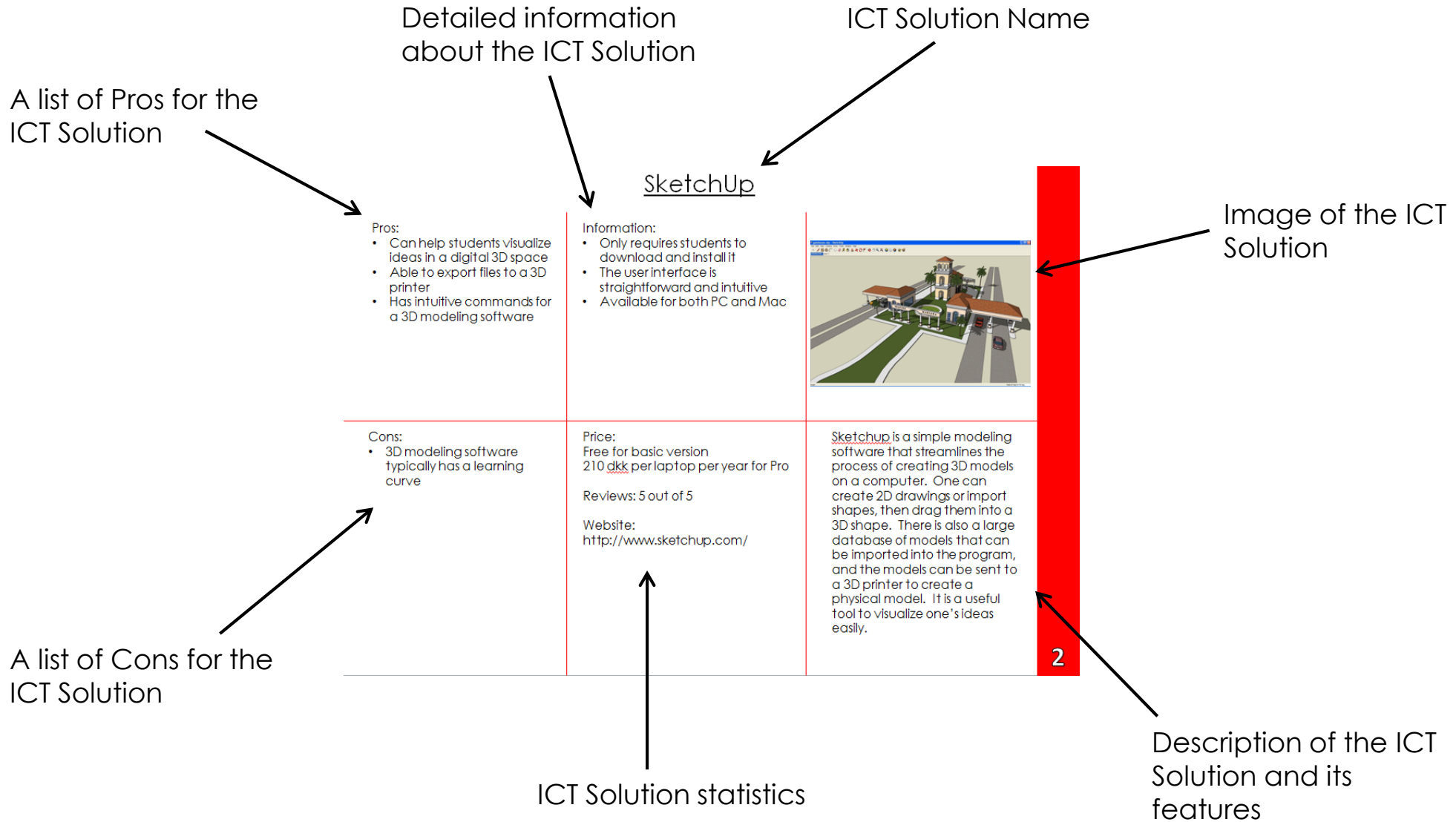
Technological Opportunity description

Digital 3D visualization focuses on software which creates imagery in which textures, lighting, and camera angles can be applied to generate a realistic three dimensional image. These solutions can be used to help students express their creativity in a way that sticky notes and white boards cannot accomplish by using a 3D environment that is easy and more time efficient .

ICT Solution(s) that address the Technological Opportunity

SketchUp

# Overview of the Proposal



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# Top Five Overall

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These five technologies address many of the needs of the Studio at CBS. The technologies are ranked based on a combination of their effectiveness and how many of the previous opportunities (3D Visualization, Accessible Sound System, etc.) it addresses.

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#1: iPad Retina  
#2: Google Drive  
#3: Pirate 3D Buccaneer

#4: eBeam Engage  
#5: CAVE System

---

# iPad Retina

## Pros:

- The familiar interface means most students know how to use this device already
- Many stores are able to fix apple devices and answer questions
- The App Store makes this device incredibly flexible
- Little to no difficulty in implementation

## Information:

- With access to Apple's App Store, the user can download apps that facilitate a variety of activities (drawing, video editing, music creation, etc.)
- Uses iOS software, which is familiar to many students



## Cons:

- Relatively expensive if one was to buy more than one iPad

Price: 2.159 dkk

Reviews: 4.5 out of 5

Website:

<http://store.apple.com/us/buy-ipad/ipad-retina>

Addresses: Communication, Data Collection, Data Sharing, Interactive Interfaces, Media Manipulation, Presentation Display, and Sound Studio Equipment

The iPad Retina is a commonly used tablet computer that can enable many different classroom activities. It can download millions of applications, many of which are free. It can be connected to TVs or projectors, meaning students can work on an iPad, then present their work to the class, and easily give a presentation.

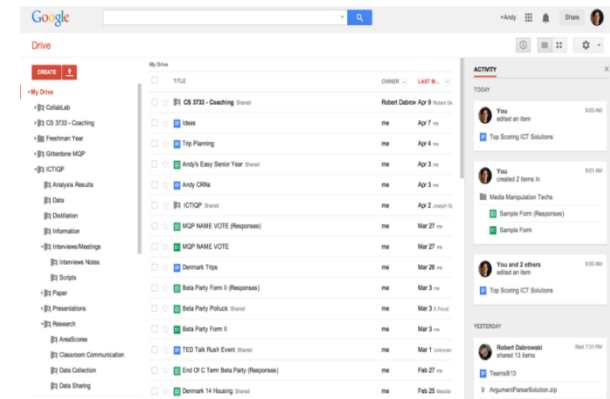
# Google Docs

## Pros:

- More storage than Dropbox
- Offers live collaboration on files

## Information:

- Free storage of up to 15GB of files
- Collaborate live with other users
- Share files and folders
- Upload and download documents



## Cons:

- Can behave weird when some users aren't logged in with a Google Address

Price: Free

Reviews: 4.5 out of 5

Website: [drive.google.com](https://drive.google.com)

Addresses: Data Collection, Data Sharing

The user can create or upload files and folders to his or her Google account. The user is also able to share with other users by clicking "Share" and entering their emails. The documents are then editable in real time.



# Pirate3D Buccaneer

## Pros:

- SmartObjects works on iOS, Android, Mac, PC, and Linux
- Claimed to have very few jams due to a patented nozzle that allows for even head distribution
- The wireless and smartphone app features make this device very flexible

## Information:

- Comes with 3D model software (SmartObjects) to design objects and send wirelessly to the printer via Wi-Fi
- Can also print files from other 3D modeling software
- Overall Size: 25.5cm x 25.5cm x 40cm
- Build Volume: 14.5cm x 12.5cm x 15cm
- Layer resolution: 85 microns
- Available in June 2014



## Cons:

- Any 3D model software will have some learning curve
- For full intended use, it must be connected to Ethernet or Wi-Fi
- No user reviews

Price: 2.681 dkk

Reviews: None (available in June 2014)

Website: <http://pirate3d.com>

Addresses: Digital 3D Visualization,  
Physical 3D Visualization

This 3D printer allows the user to design a model in its multiplatform (PC and Mac, iOS and Android) app called SmartObjects, then send the model wirelessly to the printer over Wi-Fi. The stainless steel design and small size makes it fitting aesthetically for the Studio

# eBeam Engage

## Pros:

- All of the features make this device very flexible
- Not intrusive to whiteboards
- Can enhance presentations
- Easy to implement (it is magnetic, or it can be mounted by a bracket)
- Has an active tech support

## Information:

- Has a large quantity of features and applications at the user's disposal
- When paired with a projector, the white board becomes an interactive screen
- By itself, it can capture activities performed on the whiteboard



## Cons:

- Requires knowledge on how to use it (but it comes with a guidebook)

Price: 5.390 dkk

Reviews: 4.5 out of 5

Website:

<http://www.e-beam.com/education/ebeam-engage/overview.html>

Addresses: Accessible Sound System, Interactive Interfaces, Presentation Display, Recording/Class Capture

The eBeam Engage is a magnetic receiver that one can place on the side of a whiteboard, then plug into a computer. Pairing the eBeam Engage with a projector allows the whiteboard to become an interactive presentation tool. It also includes a remote control with a full keyboard, touch pad, and page scrolling buttons, for manual, physical control. Other features include a speaker to play audio from a computer or music playing devices, a microphone to record presentations, and a scroll knob to navigate presentations.

# CAVE System

## Pros:

- Users are commonly blown away by this technology
- Brings virtual reality to a new level

## Information:

- The manufacturer can design a unique setup to suit the needs of the individual customer
- It is used for a variety of purposes (data analysis, gaming, presenting)



## Cons:

- Prohibitively expensive
- Long implementation process
- Requires extremely high-end computer hardware
- It can be invasive when it is not in use
- Requires calibration and training to use

Price: nearly 5.395.000 dkk for a low end version, but varies dramatically depending upon the setup

Reviews: 5 out of 5

Website:

<http://www.mechdyne.com/cave.aspx>

Addresses: Digital 3D Visualization, Interactive Interfaces, Presentation Display

This system aims to immerse the user within a virtual space. It puts the user in the center of a number of walls with projected displays, and calibrates to the user's head so he or she appears to be in the middle of a virtual environment. The CAVE system tracks the user's motion, allowing him or her to interact with the space.

# 3D Visualization - Digital

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Digital 3D visualization focuses on software which creates imagery in which textures, lighting, and camera angles can be applied to generate a realistic three-dimensional image. It allows students to easily conceptualize complex 3D designs.

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## SketchUp

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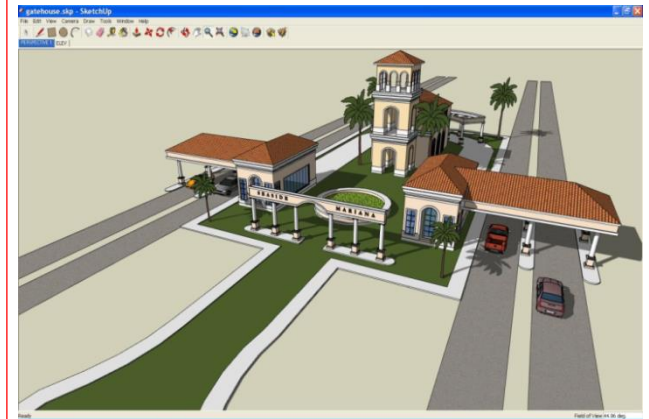
# SketchUp

## Pros:

- Can help students visualize ideas in a digital 3D space
- Able to export files to a 3D printer
- Has intuitive commands for a 3D modeling software

## Information:

- Only requires students to download and install it
- The user interface is straightforward and intuitive
- Available for both PC and Mac



## Cons:

- 3D modeling software typically has a learning curve

## Price:

Free for basic version  
210 dkk per laptop per year for Pro

Reviews: 5 out of 5

## Website:

<http://www.sketchup.com/>

SketchUp is a simple modeling software that streamlines the process of creating 3D models on a computer. One can create 2D drawings or import shapes, then drag them into a 3D shape. There is also a large database of models that can be imported into the program, and the models can be sent to a 3D printer to create a physical model. It is a useful tool to visualize one's ideas easily.

# 3D Visualization - Physical

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Similar to digital 3D visualization, physical 3D visualization can be used to help in visual learning. It allows for the creation of models and objects that are frequently used in a studio environment. Physical 3D visualization can create a variety of challenging objects in which students would be unable to create with their hands.

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Pirate 3D Buccaneer

Cubify Cube 3

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# Pirate3D Buccaneer

## Pros:

- SmartObjects works on iOS, Android, Mac, PC, and Linux
- Claimed to have very few jams due to a patented nozzle that allows for even head distribution
- The wireless and smartphone app features make this device very flexible

## Information:

- Comes with 3D model software (SmartObjects) to design objects and send wirelessly to the printer via Wi-Fi
- Can also print files from other 3D modeling software
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- Layer resolution: 85 microns
- Available in June 2014



## Cons:

- Any 3D model software will have some learning curve
- For full intended use, it must be connected to Ethernet or Wi-Fi
- No user reviews

Price: 2.681 dkk

Reviews: None (available in June 2014)

Website: <http://pirate3d.com>

This 3D printer allows the user to design a model in its multiplatform (PC and Mac, iOS and Android) app called SmartObjects, then send the model wirelessly to the printer over Wi-Fi. The stainless steel design and small size makes it a fitting aesthetic for the Studio

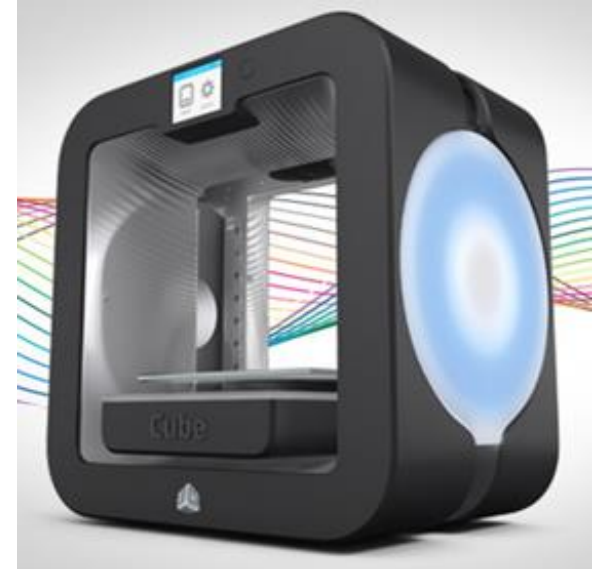
# Cubify Cube 3

## Pros:

- The user can print models without having to connect his or her computer
- Manufacturers claim that it is easier to change the plastic filament than it is to change ink cartridges in a standard printer

## Information:

- Claims to print twice as fast as competitors
- Build Volume: 15cm all dimensions
- Overall Size: 34cm x 34cm x 28cm
- Available in 2<sup>nd</sup> quarter of 2014
- Uses recyclable ABS and compostable PLA plastic



## Cons:

- Currently no user reviews
- Relatively high price
- Models from the company's database also have to be purchased

Price: 5.395 dkk

Reviews: None (not available yet)

Website:

<http://cubify.com/en/Cube>

This 3D printer allows the user to design a model in its multiplatform (iOS, Android, and Windows) app, then send the model wirelessly to the printer over Wi-Fi. The touch screen allows users to search the company's large database of objects and find a model to print, without the use of external hardware (such as a computer). It is desk-sized, so it can fit in an office or a classroom easily.



# Accessible Sound System

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In a studio environment, it is important for instructors to communicate with students in different rooms or groups. In an interactive learning situation, various activities are going on at all times, and communication with students can be difficult. Through the use of an accessible sound system, instructors can easily communicate to students within the Studio. Students working on projects may also take advantage of a sound system by using it for presentations or music that enhance their project.

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FlexCat

eBeam Engage

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# FlexCat

## Pros:

- Integrated microphone
- It allows users to play audio through an audio jack

## Information:

- Battery life: 10+ Hours
- Wireless Range: 200ft
- Dimensions: 8.5" x 5" x 3.5"
- Comes with group speakers, remote, charging station, and classroom speaker
- Can connect multimedia audio



## Cons:

- Currently has no user reviews

## Price:

10780 dkk (Two Speakers)  
12884 dkk (Three Speakers)  
14988 dkk (Four Speakers)  
17092 dkk (Five Speakers)  
19196 dkk (Six Speakers)

Reviews: None

Website: <http://www.lightspeed-tek.com/products/flexcat/>

A 4-6 piece audio system that provides two-way communication for small group instruction. Teachers are able to listen in and communicate with each group through a central monitoring speaker. Teachers have a remote where they can select to talk to individual groups or the whole class. Also includes a charging base and a classroom speaker to enable whole group instruction.

# eBeam Engage

## Pros:

- Easy access to a speaker
- Also has multiple other features that increases its educational value

## Information:

- Has an audio in / out port
- Users can plug in their computers or mp3 players to play music or audio with the JBL speaker on the device



## Cons:

- Not very flexible as a sound system (it is meant to be a feature of the device, not the main intent)

Price: 5.390 dkk

Reviews: 4.5 out of 5

Website:

<http://www.e-beam.com/education/ebeam-engage/overview.html>

The eBeam Engage is a magnetic receiver that one can place on the side of a whiteboard, then plug into a computer. Pairing the eBeam Engage with a projector allows the whiteboard to become an interactive presentation tool. It also includes a remote control with a full keyboard, touch pad, and page scrolling buttons, for manual, physical control. Other features include a speaker to play audio from a computer or music playing devices, a microphone to record presentations, and a scroll knob to navigate presentations.

# Communication

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Communication between students and Professors prevent thoughts and ideas from being misunderstood. Students may not understand lecture material, what is expected from assignments, or when assignments are due. Good communication with students inside and outside of the classroom are both factors that can benefit a student's education.

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FlexCat

NearPod

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# FlexCat

## Pros:

- Integrated microphone
- Facilitates group activities, which are a common aspect of studio learning

## Information:

- Battery life: 10+ Hours
- Wireless Range: 200ft
- Dimensions: 8.5" x 5" x 3.5"
- Comes with group speakers, remote, charging station, and classroom speaker
- Can connect multimedia audio



## Cons:

- Currently no user reviews

## Price:

- 10.780 dkk (Two Speakers)
- 12.884 dkk (Three Speakers)
- 14.988 dkk (Four Speakers)
- 17.092 dkk (Five Speakers)
- 19.196 dkk (Six Speakers)

Reviews: None

Website: <http://www.lightspeed-tek.com/products/flexcat/>

A 4-6 piece audio system that provides two-way communication for small group instruction. Teachers are able to listen in and communicate with each group through a central monitoring speaker. Teachers have a remote that allows them to select to talk to individual groups or the whole class. Includes a charging base and a classroom speaker to enable whole group instruction.

# NearPod

## Pros:

- All device types (mobile, tablet, laptop)
- All Operating Systems (OS X, iOS, Windows, Android)
- Free
- Can share lessons with other teachers

## Information:

- Available for all device types (smartphones, computers, tablets)
- Available for all major operating systems
- Students can respond to questions from their device
- Measure and track student performance

STUDENTS RECEIVE MULTIMEDIA CONTENT IN REAL TIME AND PARTICIPATE ACTIVELY IN CLASS.



## Cons:

- Less in-person communication
- Likely not useful for some Studio classes
- Some shared lessons cost money

Price: Free

Reviews: 3.5 out of 5

Website: [www.nearpod.com](http://www.nearpod.com)

This application facilitates the sharing of presentations, webpages, and graphics. A professor can open the app on their device (tablet, phone, laptop), and touch the "start class" button. Students open the app on their devices and input a class ID PIN, then the professor can share relevant information with his or her students by sending it directly to their smartphones or tablets.

**THIS TECHNOLOGY DID NOT PASS THE FACULTY VALIDATION SURVEY:  
CBS already has software (CBS Learn) that has this functionality.**

# Data Collection

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When working on projects, students may be required to gather statistical information. To do this, polling technology must be used. Software can be used to make this process easier and to help organize and graph results.

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SurveyMonkey

Google Forms

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# SurveyMonkey

## Pros:

- Free up to 100 surveys sent
- Most popular polling service
- Use on browser or through mobile app

## Information:

- Popular polling / surveying tool
- Free for most common use
- Use through browser
- Can be used through mobile app
- Simple to use
- Support for many languages (including Danish)
- Social media and email integration

### Harvard Graduate School of Education Pre K-12 Parent Survey Template

In this section, we'd like to learn more about your perceptions of your child and your child's interactions with his/her school.

#### 29. How well do the teaching styles of your child's teachers match your child's learning style?

- Not well at all
- Mildly well
- Fairly well
- Quite well
- Extremely well

#### 30. How often does your child struggle to get organized for school?

- Almost never
- Once in a while
- Sometimes
- Frequently
- Almost all the time

#### 31. At your child's school, how well does the overall approach to discipline work for your child?

- Not well at all
- Mildly well
- Fairly well
- Quite well
- Extremely well

## Cons:

- Costs to send more than 100 surveys
- Free for only the first ten surveys created

Price: Free

Reviews: 4 out of 5

Website: [www.surveymonkey.com](http://www.surveymonkey.com)

SurveyMonkey is a free, easy to use survey tool. The user is able to make surveys, each with various types of questions. Then, one can automatically send the survey to up to 100 people for free.



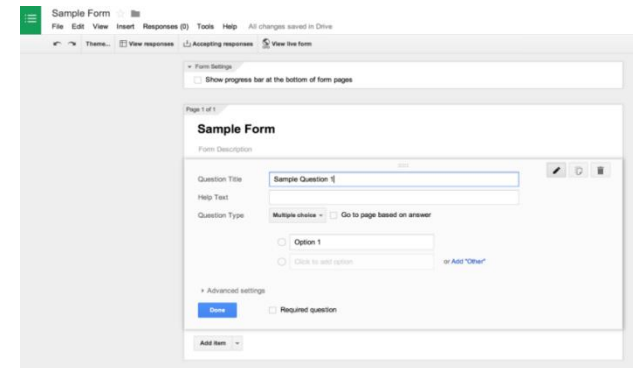
# Google Forms

## Pros:

- Simple use
- Free
- Covers all basic polling and data summary

## Information:

- Free for most common use
- Easy to use
- Basic polling software



## Cons:

- Concerns exist about data from Google being gathered by American National Security Agency
- Less visually appealing than other options
- Not as advanced as other options

Price: Free

Reviews: 4 out of 5

Website: [drive.google.com](https://drive.google.com)

Google Forms are free, easy to use survey tools. Create a survey by specifying the type and content for each question. The user can easily send the survey to an email list. While it has fewer features than other survey options, this makes it simpler and possibly satisfies all of the user's needs.

# Data Sharing

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Studio learning often focuses on students working collaboratively on a project. In order for students to successfully work together, they may have to share their work and progress with other members in their group. Various software allows this to be easily done, so students can let others see their materials. It also enables students to work on the same document simultaneously.

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Dropbox

Google Docs

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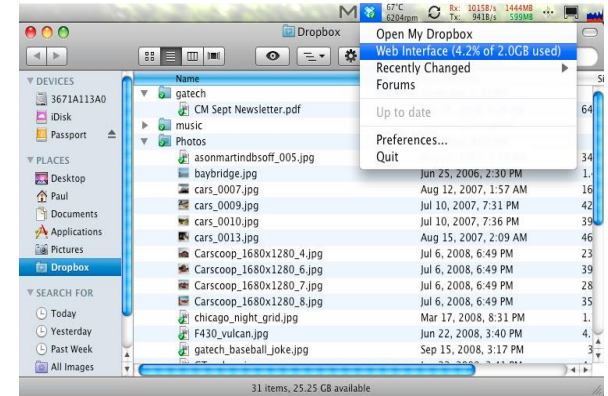
# Dropbox

## Pros:

- Free up to 2 GB of files
- Simple to use
- File sharing between collaborators
- Files backed up on the cloud
- Desktop application automatically syncs

## Information:

- 2GB of free file storage
- Files backed up on cloud
- Files can be shared between users
- Desktop app acts like any other folder and does all of the work



## Cons:

- No live editing (offered by Google Docs)
- Less file storage than Google Docs

Price: Free

Reviews: 4.3 out of 5

Website: [www.dropbox.com](http://www.dropbox.com)

The user only needs to create an account and download the desktop application. Files are then able to be saved on a server - one can log into [dropbox.com](http://dropbox.com) and access these files from any computer. These folders can be used to share documents with students - right click on a folder or document, click "Share", and enter another user's Dropbox username or email.

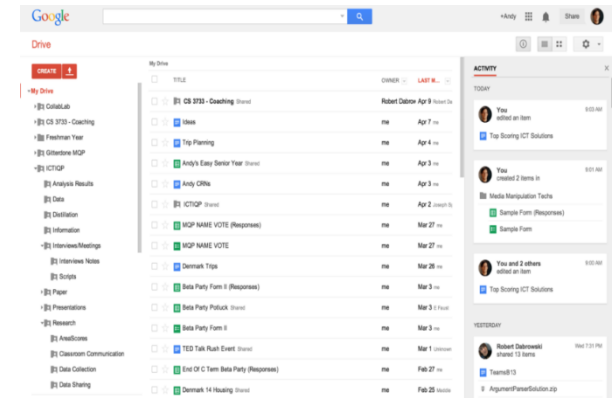
# Google Drive

## Pros:

- More storage than Dropbox
- Offers live collaboration on files

## Information:

- Free storage of up to 15GB of files
- Collaborate live with other users
- Share files and folders
- Upload and download documents



## Cons:

- Can behave weird when some users aren't logged in with a Google Address

Price: Free

Reviews: 4.5 out of 5

Website: [drive.google.com](https://drive.google.com)

The user can create or upload files and folders to his or her Google account. The user is also able to share with other users by clicking "Share" and entering their emails. The documents are then editable in real time.

# Interactive Interfaces

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The Studio provides a very interactive learning environment. Many classes focus on groups in which students work together on a project. An interactive interface creates a touch-screen technology that provides students a way to physically change and edit data.

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eBeam Engage

eBeam Edge

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# eBeam Engage

## Pros:

- All of the features make this device very flexible
- Not intrusive to whiteboards
- Can enhance presentations
- Easy to implement (it is magnetic, or it can be mounted by a bracket)
- Has an active tech support

## Information:

- Has a large quantity of features and applications at the user's disposal
- When paired with a projector, the white board becomes an interactive screen
- By itself, it can capture activities performed on the whiteboard



## Cons:

- Requires knowledge on how to use it (but it comes with a guidebook)

Price: 5.390 dkk

Reviews: 4.5 out of 5

Website:

<http://www.e-beam.com/education/ebeam-engage/overview.html>

The eBeam Engage is a magnetic receiver that one can place on the side of a whiteboard, then plug into a computer. Pairing the eBeam Engage with a projector allows the whiteboard to become an interactive presentation tool. It also includes a remote control with a full keyboard, touch pad, and page scrolling buttons, for manual, physical control. Other features include a speaker to play audio from a computer or music playing devices, a microphone to record presentations, and a scroll knob to navigate presentations.

# eBeam Edge

## Pros:

- Does not interfere with white board work
- Can enhance presentations
- Easy to implement (it is magnetic, or it can be mounted by a bracket)
- Has an active tech support

## Information:

- The white board becomes an interactive screen when content is projected on top of it.
- By itself, it can capture activities performed on the whiteboard



## Cons:

- There is a learning curve for the software

Price: 3.884 dkk

Reviews: 4 out of 5

Website:

<http://www.e-beam.com/education/ebeam-edge/overview.html>

The eBeam Edge is a magnetic receiver (pictured on the left) that one can place on the side of a whiteboard, then plug into a computer so that the actions performed on the whiteboard (drawing with markers, tapping the board with their included stylus) are translated to the computer. When paired with a projector, the whiteboard can become an interactive presentation tool.

# Media Manipulation

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Media Manipulation focuses on software that creates imagery, where textures, lighting, and effects can be applied to edit and enhance an image. These solutions can be used to help students express their creativity in a way that markers and white boards cannot accomplish by using software that is simple and time efficient. Students can use it to enhance their presentations and proposals by creating a more professional feel.

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## Gimp

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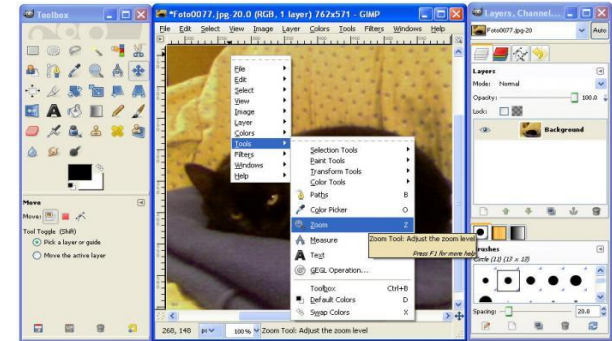
# Gimp

## Pros:

- Very popular open-source projects
- Good documentation and lots of online tutorials on basic functions
- Free
- All Operating Systems, even Linux

## Information:

- Edit photos with the same power as Photoshop
- Free
- Available on Windows, OS X, and Linux
- Difficult to use for those new to photo editing



## Cons:

- Difficult to use (but all photo editors are)

Price: Free

Reviews: 4 out of 5

Website: <http://www.gimp.org>

A free photo editing software that replicates the functionality of Photoshop. Features include tools for layering, shading, and coloring.

# Presentation Display

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Presentations are used to engage and help students visualize information. Students can show pictures, videos, charts, and slideshows to a whole classroom through the use of a presentation display. They can also be used by students to display media for a project or presentation they are involved in.

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BenQ MW23

Epson EX6220

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# BenQ MW523

## Pros:

- 1 year warranty
- Has video inputs
- RS232 Port and USB Port

## Information:

- Brightness: 3000 Lumens
- Weight: 2.3kg
- Size: 11cm x 30cm x 22cm
- Image Size: 80cm-772cm
- Digital input: HDMI
- Focus and Zoom Manually
- 1280x800 resolution



## Cons:

- No reviews

Price: 2.681 dkk

Reviews: None

Website:

<http://www.projectorcentral.com/BenQ-MW523.htm>

A classroom projector with a 1280x800 resolution which can be moved anywhere in a classroom to display an image onto any surface.

# Epson EX6220

## Pros:

- 1 Year Warranty
- Has Video Inputs
- RS232 and USB Port
- Comes with a carrying case

## Information:

- Brightness: 3000 Lumens
- Weight: 2.4kg
- Size: 8cm x 29cm x 23cm
- Image Size: 83cm-816cm
- Digital input: HDMI
- Focus and Zoom Manually
- 1280x800 resolution



## Cons:

- No Reviews

Price: 3.232 dkk

Reviews: None

Website:

<http://www.projectorcentral.com/Epson-EX6220.htm>

A classroom projector with a 1280x800 resolution which can be moved anywhere in a classroom to display an image onto any surface.

# Recording/Class Capture

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In many lecture halls, Professors are starting to record classes, enabling students to re-watch a class. Class recording technologies are also being used so students can watch a lecture before class, and then implement what they learned in the lecture during class time. In a studio learning environment, students may use this technology to record their presentations and projects, and to look back at the recordings for reflections.

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Echo360

GoPro Hero3

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# Echo360

## Pros:

- Can be installed with different bandwidths, number of classes, etc.
- Can be installed to be compatible with numerous devices in multiple classrooms
- Used consistently by various universities

## Information:

- Embedded into most CMS/LMS systems including Blackboard, Moodle, ANGEL, iTunes U and custom portals enabling you to deliver your instructional content to students the same way you always have
- Integrate into existing room control
- Allows you to record in-class content for on-demand viewing and host live webcasts for distance students
- Leverage the technology already in place throughout your institution
- Professors have the freedom to create and edit customize instructional content



## Cons:

- No reviews
- Requires installation

Price: 17.777 Danish Krone

Reviews: None

Website: <http://echo360.com>

Echo360 is a lecture capture system which enables faculty to record audio, visuals, and video for students to access online in a digital format. Once installed, faculty need to select "start recording", configure their microphone, and set a title for their recording. Captures are started, stopped, and paused by pressing "start capture", "pause capture", and "stop capture". To publish, all faculty need to do is press the "publish recording" button.

# GoPro Hero 3

## Pros:

- High-quality recording meant for motion
- Waterproof, highly durable
- Mounts allow for versatility in placement
- Built-in Wi-Fi for remote controlling

## Information:

- 720p - 1080p resolution, 30 fps, Ultra wide – Medium Field of View
- Camera: 74g
- Rechargeable battery
- Two mounts are provided, others available for purchase
- GoPro app allows Wi-Fi use



## Cons:

- Plenty of room for user error
- Mounts can be distracting or obtrusive

Price: 1.899 dkk

Reviews: 4 out of 5

Website: [www.gopro.com](http://www.gopro.com)

GoPro is a durable, waterproof, mobile, high-definition camera. It comes with a mount that allows it to be attached to various surfaces, including your head, a wall, or a bike. It has built-in Wi-Fi, allowing for remote recording and control.

# Simultaneous Classroom Telepresence

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Many professors in the Studio expressed interest in the ability to have classrooms communicate with professors in different countries, or for students to work with other students in a different country. By having the technological means for a simultaneous classroom telepresence, Professors and students would have the means to communicate and work with anyone.

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Samsung TV Cam VG-STC3000

Samsung TV Cam VG-STC2000

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# Samsung TV Cam VG-STC3000

## Pros:

- Lens Cover to protect privacy
- Two built in microphones
- Comes with USB cable

## Information:

- Skype-to-Skype HD Video Calls
- 2x digital zoom
- Interface: USB 2.0
- LED TV: 2013 F4500, F5300, F5400, F5500, F5700, F6200 ~ F6900, F7100, F7200 2012 EH4500, EH5300, EH5450, ES5500, ES5700 ~ ES6900 (Except ES6003), ES7100 2011 D6500 and above (32" and above)
- PDP TV: 2013 F5500 2012 E550, E6500, E7000 2011 D8000
- 640x480 resolution



## Cons:

- Currently unavailable

Price: 529 dkk

Reviews: 4.5 out of 5

Website:

<http://www.samsung.com/ca/consumer/tv-video/tv/tv-accessories/VG-STC3000/ZA?subsubtype=others>

Connects to any TV or display using a USB port.

# Samsung TV Cam VG-2000

## Pros:

- Lens Cover to protect privacy
- Two built in microphones
- Comes with USB cable

## Information:

- Skype-to-Skype HD Video Calls
- Plug and Play for easy set-up
- 3x digital zoom
- Interface: USB 2.0
- Compatible with: 2012 EH4500, EH5300, EH5450, ES5500, ES5700, ES6100, ES6300, ES6400, ES6500, ES6700, ES6800, ES6900, ES7100, ES7200(only for CIS) 2011 D6500, D7000, D8000, D9500, 2012 E550, E6900, E7000 2011 D8000
- 640x480 resolution



## Cons:

Price: 1.025 dkk

Reviews: 4.5 out of 5

Website:

<http://shop.skype.com/webcams/tvwebcams/samsung-vg-stc2000/>

Connects to any TV or display using a USB port.

# Sound Studio Equipment

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Sound Studio Equipment allows students to express their creativity through sound by playing tracks, performing, and recording. This is another medium that students can work with to help in projects and presentations, as well as provide additional hands-on learning.

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Launchkey

Launchkey Mini

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# Launchkey

## Pros:

- Flexible device (the user can use it to play tracks, play the keys, or do both at the same time)
- Creative tool; adding creative devices can benefit the studio environment

## Information:

- Has a full-sized keyboard
- Comes with the Novation iPad app and computer program
- Software contains 1GB of loops (the tracks that the device can activate)
- Works with both Mac and PC
- Doesn't require batteries (it is powered by the device it is connected to)



## Cons:

- If students do not know how to play the instrument, they will not use it
- The user has to learn the software to use the Launchpad feature

Price: 1.074 dkk

Reviews: 4 out of 5

Website:

<http://us.novationmusic.com/midi-controllers/launchkey>

The Launchkey is a synthesizer-style keyboard with a launchpad (the yellow and green buttons) and sliders that allows the user to activate and deactivate tracks while playing. It automatically detects and maps to most software when connected to a computer, or one could connect it to an iPad or computer and use the Novation Launchkey app. It is a very useful tool for creating or recording music with studio-like features.

**THIS TECHNOLOGY DID NOT PASS THE PROFESSOR VALIDATION SURVEY:  
Half of the surveyed professors did not believe that they would want to use this device.**

# Launchkey Mini

## Pros:

- Small size makes it portable
- Flexible device (the user can use it to play tracks, play the keys, or do both at the same time)
- Creative tool; adding creative devices can benefit the studio environment

## Information:

- It is “lap-sized” (27 keys)
- Comes with the Novation iPad app and computer program
- Software contains 1GB of loops (the tracks that the device can activate)
- Works with both Mac and PC
- Doesn't require batteries (it is powered by the device it is connected to)



## Cons:

- If students do not know how to play the instrument, they will not use it
- The user has to learn the software to use the Launchpad feature

Price: 507 dkk

Reviews: 4.5 out of 5

Website:

<http://us.novationmusic.com/midi-controllers/launchkey-mini>

The Launchkey Mini is a synthesizer-style keyboard with a launchpad that allows the user to activate and deactivate tracks while playing. It automatically detects and maps to most software when connected to a computer, or one could connect it to an iPad or computer and use the Novation Launchkey app. It is an extremely useful tool for creating and recording music with studio-like features, and it is portable for easy transport across a room, building, or a city. As the “mini” version, it has reduced functionality, but requires less customization and knowledge.