build your own timepiece

Team members: Stephanie Boutin, Miranda McGill, Leila Toplic

The premise of the workshop is to explore new ways of learning about big ideas. Our aim is to encourage students to think about time and create time-themed projects using MIT Media Lab "Cricket" technology and standard multimedia software (Adobe Photoshop). This workshop is being implemented for Boston area students (grades 6-9) at the MIT Media Lab.

Student participants will be encouraged to explore aspects of their identity, within the theme of "time". They will learn about new technology, and discover ways to combine this technology with art. They will leave the workshop with "time pieces" that can be placed on display and carry on discussions about technology and time.

The workshop will be based on a constructivist "learning by doing" approach, with brief introductions to the materials and ongoing support during the workshop. It will comprise three workstations: - Arts and crafts - Cricket workstation with MIT Cricket Logo software and Lego technic - Multimedia workstation with Adobe Photoshop, scanner, digital camera, and color printers.

Original workshop proposals: Miranda's | Leila's

Timepiece survey (deactivated) | Results (.pdf file)

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miranda's proposal

My idea comes from working as an apprentice Horologer (Clock maker) with my grandfather, during university vacations. I didn't get to actually build my own clock per se, but I did take many of them apart to clean, which (naturally) meant I had to learn how to put them back together. I worked with many different types of clock, from grandfather to skeleton to school to carriage, all of which presented different ways of finding out what time it was.

The "big idea" behind the clock workshop would be to help people explore the notion of time (and, on reflection, mechanics) -- however, as it was mentioned in class, it could also be viewed as a kinetic sculpture workshop with the emphasis on creating a timepiece.

Depending on the approach taken -- whether the aim is to build some sort of 'hourglass' or to build an analogue device -- I would like the aesthetics of the activity to play a central role. Sure, the clock should work, but it should also be visually interesting... Maybe it makes a noise, or moves (or whatever) at a given interval -- not necessarily every 15 minutes. For example, ship's clocks chime evey 20 minutes to signal the start/end of a watch -- as I'm from a seafaring family (and a seafaring part of England), I would personally like to attempt to build my own ship's clock.

If you'd like to know more, this page has some interesting links (although not all of them work, grrr)

Anyway, that's my idea -- questions, queries, comments, suggestions would all be gratefully received!!!

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leila's proposal

This project should encourage people to think about time - to think about their past in order to understand the present and then try to imagine what their future might be like. In another words, it should encourage people (children) to explore some aspects of their identity with the help of multimedia tools. I am also curious about finding out what objects people associate with their past experiences and therefore to represent [passage of] time.

1) Tools: Adobe Photoshop, digital camera, plotter printer People from different age groups and backgrounds (possibly different cultures) will recreate their memories through narration and art. Participants will be asked to remember 5 (arbitrary) events from their past (e.g. . We could use digital camera to take pictures of the participants or some objects relevant to their past experiences and they will be imported into Adobe Photoshop (a short tutorial will be offered to all). While I intend to provide a “library” of objects that people might associate with their past experiences, I want the participants to create their own objects in Adobe Photoshop. They will use the images to create their "time memory" collages - representations of the 5 events from their past. They can arrange them in whatever order or form they think it's appropriate - linear, web-like, tree-like, etc. The collages will be printed on a plotter printer - poster size. The participants will then need to write short "reflections" - explanations for each event from their past and how the events might be linked, how they are related to their present and/or how they might influence their future. At the end of the workshop the participants will be able to take something (i.e. poster) home that would remind them to keep thinking about time.

2) Tools: Director, Adobe Photoshop, Adobe Premiere, Sound Edit 16, digital video camera Another possibility is to import the Photoshop images into Director and create linear representations of their experiences. Participants could do their reflections in audio or video and then insert them into their Director projects as voice-over, separate film clips , or any other way they can think of. We'll provide a "library" of images and music files which the participants can manipulate/change in any way they want. At the end of the workshop they'll save their projects on zip disks so they can continue to further develop them if they have the necessary software. It might evolve into a personal multimedia journal for represnting past, documenting present and imagining future of an experience. Otherwise, we could burn CDs that they could play anywhere.

Participants will "learn" how to: use narration and art to express their thoughts and feelings; use multimedia tools to organize and design visual/physical representations of their mental experiences; evaluate the interrelatedness of their experiences in terms of their content and location in time (e.g. past and present).

Extra Time (from www.longnow.com) Brian Eno: "'Now' is never just a moment. The Long Now is the recognition that the precise moment you're in grows out of the past and is a seed for the future. The longer your sense of Now, the more past and future it includes. It's ironic that, at a time when humankind is at a peak of its technical powers, able to create huge global changes that will echo down the centuries, most of our social systems seem geared to increasingly short nows."

Daniel Hillis: "Why have we become so short sighted? We have no less goodwill than our ancestors. Our problem is that, literally, we cannot imagine the future. The pace of technological change is so great that we cannot know what type of world we are leaving for our children. If we plant acorns, we cannot reasonably expect that our children will sit under the oaks trees. Or that they will even want to. The world is changing too fast for that. People move. Needs change."

MAS.712 | "Build your own timepiece"

Please take a few minutes to fill this in...
we'd really like to know what you think!

Cheers, Leila, Miranda and Stephanie

1. What does time mean to you?	
2. What's the first thing that comes into your mind when you think about time?	
3. Why do you keep time?	
4. When do you think about time?	
5. What past experience(s) have affected the course of your life?	
6. How do you feel you have control over time?	
7. If time had a shape, what would it be?	

Submit Reset

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details: work stations & materials

On Walls and Tables

- Big poster paper
- Workshop flier (.pdf)
- Adobe handout (.pdf)
- Cricket poster/handout (.pdf)
- Logo blocks poster/handout (.pdf)
- Time theme poster (.pdf)

Cricket Station

- Crickets
- Motors
- Light detectors
- Switches
- Connecting wires
- Legos (regular and technic)
- 3 computers with Cricket Logo

Arts and Crafts Station

- Feathers
- Modeling clay
- Colored paper
- Glue
- Glitter
- Straws
- Paint
- Markers
- Brushes
- Old newspapers
- Wires
- Tissue paper
- Balloons

Graphic Design Station

- 2 computers with Adobe Photoshop
- Scanner
- Digital Camera
- Color Printer

Make Your Very Own Time Piece!!

Workshop developed in conjunction with the MIT media lab
Presented by: Stephanie Boutin, Miranda McGill, and Leila Toplic

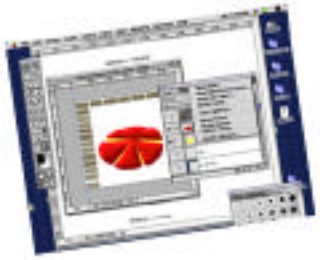
We hope students will join us in a workshop to create their own representation of time using technology and art.

WHY TIME?
In our ever-speeding society, let's stop and think about how we experience time minute by minute, or year by year. This is the opportunity to reflect upon past experiences and explore how they shape our identity, notions of time, and future.

ART AND TECHNOLOGY
Students will create kinetic sculptures or posters by integrating modern technology tools with traditional arts and crafts (**lego®**, paint, modeling clay, balloons, wire etc.)

A **cricket** is a tiny programmable computer that can directly control motors and receive information from sensors. Students can write and download simple programs to the cricket from a desktop computer. The cricket can be imbedded into everyday objects, for instance lego and other arts and crafts creations.

Adobe Photoshop® is a computer software widely used to design and create Web and print-based media. Students can scan images, take digital photos, or download pictures from the Web. They can then manipulate these images in Adobe Photoshop® to express their specific ideas; then print them, and integrate them into their cricket and/or arts and crafts creations.

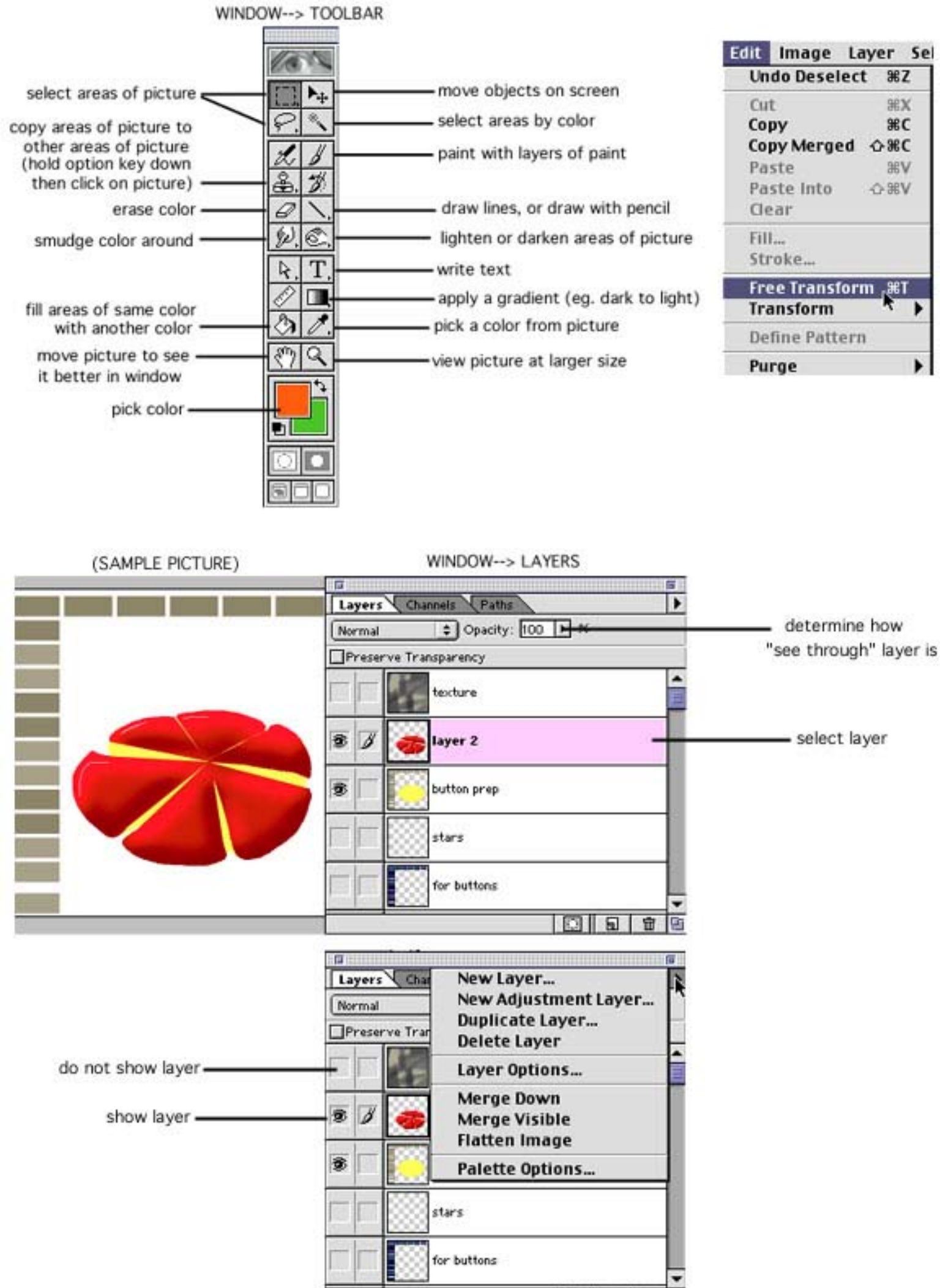


BEYOND THIS WORKSHOP
Students will learn to think of technology and art as tools to achieve a goal.

Example 1: Crickets are connected to touch sensors and a camera in a bird feeder "Creation" to document animals that feed there.

Example 2: Students create perpetually moving marble machines and learn about the laws of mechanics.

This integrated technology and art approach encourages students to explore their own process of inquiry and research, offering endless applications.


WINDOW--> TOOLBAR
select areas of picture
copy areas of picture to other areas of picture (hold option key down then click on picture)
erase color
smudge color around
fill areas of same color with another color
move picture to see it better in window
pick color
move objects on screen
select areas by color
paint with layers of paint
draw lines, or draw with pencil
lighten or darken areas of picture
write text
apply a gradient (eg. dark to light)
pick a color from picture
view picture at larger size
Edit Image Layer Sel
Undo Deselect ⌘Z
Cut ⌘X
Copy ⌘C
Copy Merged ⇧⌘C
Paste ⌘V
Paste Into ⇧⌘V
Clear
Fill...
Stroke...
Free Transform ⌘T
Transform
Define Pattern
Purge
(SAMPLE PICTURE)
WINDOW--> LAYERS
Layers Channels Paths
Normal Opacity: 100 %
Preserve Transparency
texture
layer 2
button prep
stars
for buttons
determine how "see through" layer is
select layer
New Layer...
New Adjustment Layer...
Duplicate Layer...
Delete Layer
Layer Options...
Merge Down
Merge Visible
Flatten Image
Palette Options...
do not show layer
show layer

Representations of time

	How do you measure time?	How do you perceive time?	How do you experience time?
objects	a calendar	a fast car	a polaroid
events	the Olympics	a race	blowing out birthday candles

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timetable: the lesson plan

- 5 minutes:
  - Introducing ourselves.
  - Why the theme of "time" is important to us.
- 5 minutes:
  - Handout blank sheets of paper and pencils.
  - Ask participants to draw the shape of time.
- 10 minutes:
  - Discussion about drawings.
  - Encourage participants to write down ideas for their creations.
- 5 minute explanation of crickets and Adobe:
  - Show examples.
  - Explain what each can do.
  - Distribute handouts.
- 5 minutes brainstorming as a group:
  - Show the theme-framing poster.
  - Ask participants to write down ideas so others can get inspiration from them or from the poster.
- 30 minute Internet search:
  - For those who need research their theme or materials.
- 55 minutes:
  - Create projects.
- 10 minutes:
  - Regroup for discussion to share creations with others in workshop.
  - Talk about what was learned.
- 2 minutes:
  - Ask participants to write a sentence or paragraph about their piece and its representation.

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What the participants learned:

- Most participants were able to articulate their thoughts about time and what it meant to them. The discussion at the end of the workshop revealed the thoughtful process that went into their creations. Some saw time as a linear process, others as a cyclical process. Some had abstract representations like cylinders and lines, others tied their representations into the physical world, with heart beats, planets and rollercoasters. Some viewed their lifetime as a fleeting moment within a greater timeframe, others viewed it as all-encompassing.
- Because of these various views and discussions throughout the workshop, participants widened their views about time.
- Many participants were able to think about time at a personal level, bringing their lifetime experiences into their creations.
- Participants learned to view technology as a tool that can be used in conjunction with other media. While the materials proved to be a limiting factor, overall their ideas lead their creations more than the materials did. The introductory drawing activity gave them a way to focus their idea and run with it.
- We hope the workshop provided a framework for creating representations that can be applied to various greater "ideas".

What we learned about creating a fun and educational workshop; and advice for others who would like to run the workshop:

- We learned to provide guides and support for the participants. Rather than dictate which direction they should take, we suggested directions, and supported their choice of materials and methods. Some chose group work; some chose to create posters; some chose abstract representations. We emphasized the fact that there was no incorrect answer.
- From our UN experience, we learned to not empower one tool over another, so as to not influence the participants or stiffle the creative process. Surprises and insights were richer when there was a variety of end products.
- We learned that a keyword list of the most important ideas was more valuable than a very detailed lesson plan.
- Workshop leaders need to be master of the technology, and should be able to direct the participants toward an answer.
- Structure and time management was of the essence. Being very clear about what the required items and open-ended items were. For instance, good time management made for the more enriching experience, where participants could learn and follow a process and have time to share their thoughts.
- People are people, no matter what their backgrounds are. We thought children from the UN school

would have very different representations, but found they were as diverse as our other participants.

- Organizing a workshop with three people takes a special kind of preparation, for instance with the assignment of responsibilities. It's a process that forces you to explore new ways of doing things.
- Organization of the practical side of the workshop was essential: locale, equipment, materials, finding an audience, school queries and information materials, parent permission slips, school video permission, etc.