

PDCP: Using Participatory Media to Develop an Immersive Learning Platform

Literacy is not only about reading, its also about writing. MacArthur is now rightfully applying this same logic to media literacy, all “readers” of media should also have the necessary skills to create media. As soon as a child is old enough to understand the basics of a given medium, they should be encouraged to create and explore their own interests using that medium. Often overlooked in this discussion of digital literacy is the central importance of computers and in particular the nature of software as authored. Software is a medium for communication just like any natural language. Unfortunately it is the norm to teach people how to use software while it is very rare to teach everyone how to write their own software.

All too often the shape of the reader’s experience of digital media are unknowingly given away to those in the role of “technician”. It is the technicians that decide what software is installed on machines. The choices of software are not based on learning potential, community relevance or expressive value, but only on stability and conformance with industry standards. Every computer can be a server, the average laptop has far more power than all the computers used to allow humans to land on the moon. That same expressive power of technology is in every computer on every desk, yet we still think of digital media software as something that someone else writes, sets up, and we just use. Software is not thought of as a text that can be edited, rewritten and repurposed to an individuals needs.

How digital media is architected has a dramatic effect on the people using it. McLuhan’s famous statement, “the medium is the message”, is an essential statement on this effect. Yet “digital media literacy” has come to mean using media software, and does not include creating, or even modifying it. This state of affairs is not only due to a lack of teaching methods but also due to a lack of programming languages designed for the end consumer. The vast majority of programming languages have been designed by engineers, for engineers.

Intuitive Programming

Pure Data (PD) has emerged from media arts as a more intuitive programming language. PD is an open-source graphical data-flow programming environment. PD is ideal for visual thinkers because the programming language itself is a diagram, rather than a field of text. Programming with PD is more like drawing than writing, with very little syntax to obscure the essence of the meaning of the program. While it was originally created as a platform for computer music, it has been extended in all sorts of new and surprising ways. Pure-Data is now a tool that allows sound, images, video, graphics, text, networks and even physical interfaces as equally accessible. Pure-Data allows the user to create anything from artworks, to exploring mathematics, to implementing new ways computers can be used for social networking. As Pure-Data continues to grow, as a community effort, it allows more and more freedom than the authors intended it to. The materials created as part of this project will all be dependent on Pure-Data, but the methods, community and social network infrastructure will be applied to future software projects that facilitate the nurturing of the user-as-programmer who is able to see through the choices of a particular software vendor and create and explore in a fully open and community based context, independent of any dominate market, or particular software.

In a parallel way, there are communities springing up all over the world around teaching and learning PD, some that are connected to the original core group on the Pure-Data mailing list, and many that are completely distinct, like the active groups in Bulgaria, Brazil, and Japan. Each of these groups has their own methods of teaching and learning from each other, and each is producing

media for that purpose.

Concise, working examples are of the most useful things to learn from, and take much time and care to create. Such examples are often the product of a moment of inspiration, triggered by a real world experience or a student's question. Since PD is the common language between all of these disparate communities, these valuable examples could be gathered and shared between them, with all involved benefiting from the exchange. Just like the development of PD, as software, happens as a community effort. This happens through the development of teaching materials (examples, tutorials, curricula, teacher's guides) and reference materials (manuals, the pdpedia online encyclopedia, tutorial videos, web forums) and changes to PD itself to make it even more friendly and accessible to new learners. The Pure-Data documentation project has made many developments on this front. We have just launched Pdpedia, a multi-lingual wiki modeled after wikipedia and designed a method to tie it into the Pure-Data software. The work already done as part of the Pure-Data Documentation Project serves as the scaffold for the project described in this application.

Bringing It All Together

The core idea of this project is to bring together and unify those teaching and learning materials already created in different media by diverse communities. In order to accomplish this, a diverse set of open-source communication media will be used, including blogs, web forums, mailing lists, online video and chat. In particular, we will focus on how to integrate these media into the learning experience. For example, reference materials that allow learners to connect to a chatroom while programmatically providing the context to the chatroom. These methods will serve as the infrastructure for a collaboration between the project development team (named in this application) the associate organizations (listed in the project URLs section), through events such as the Pure-Data conferences, regular meetings and workshops in various locations.

Appendix: Examples

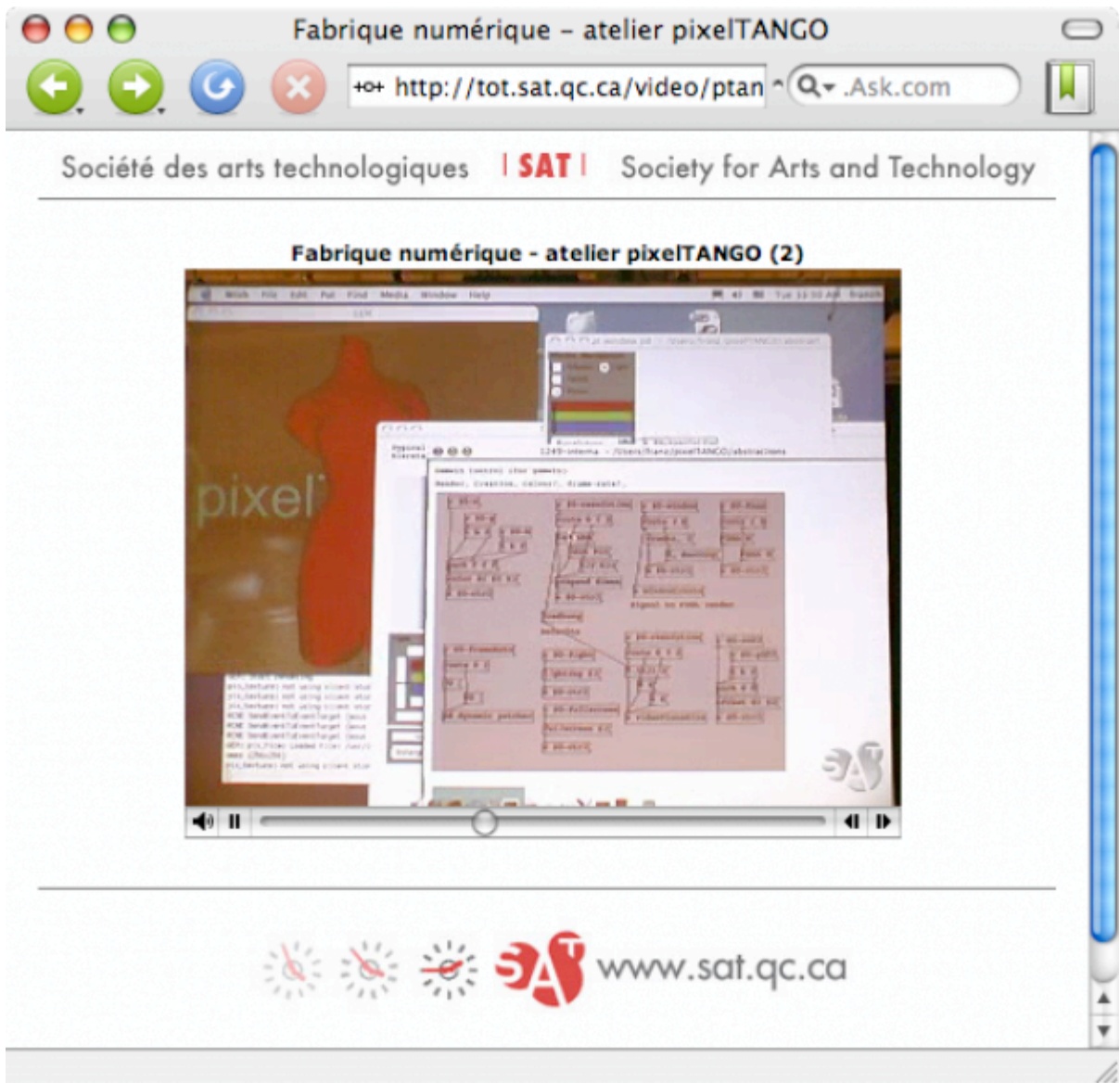
- Learning materials
 - pdpedia
 - html manuals
 - mailing lists
 - community website
 - web forums
 - instructional videos on YouTube
- Conferences
 - local interest groups
 - PdCon, international convention
 - PdCon Italy
- Interactive media
 - audio/video conferences
 - IRC meetings
 - interactive online tutoring (IRC)
 - interactive help patches
 - netpd with built-in chatroom
- Courses

- workshops, hacklabs
- workshops via video chat
- university courses

Pdpedia



A video workshop



a YouTube help patch

YouTube - Doc for seq

http://www.youtube.com/watch?v=IHBMEggzPDA

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Doc for seq

seq - a simple MIDI file player and recorder

cyclone's [seq] input accepts midi files and realtime midi messages through [midin]. All tracks of a multi-track midi file are merged into one. [notein] doesn't work. Left inlet outputs midi data to [midiout]. [noteout] doesn't work. Right inlet outputs a bang message at the sequence's end, useful for loops. [seq] has his own midi list editor.

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Pure Data help patch for cyclone's seq object, a simple midi file player and recorder. ([less](#))

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Tags: [PureData](#) [midi](#) [help](#) [seq](#) ([more](#))

URL <http://www.youtube.com/watch?v=IHBMEggzPDA>

Embed `<object width="425" height="350"><param name="movie" value="http://www.youtube.com/watch?v=IHBMEggzPDA"></object>`

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