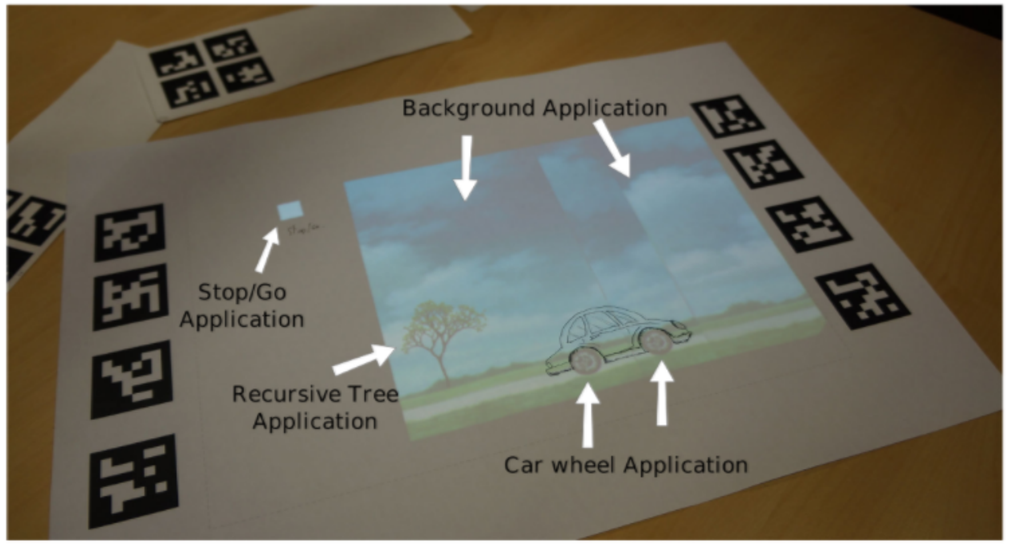
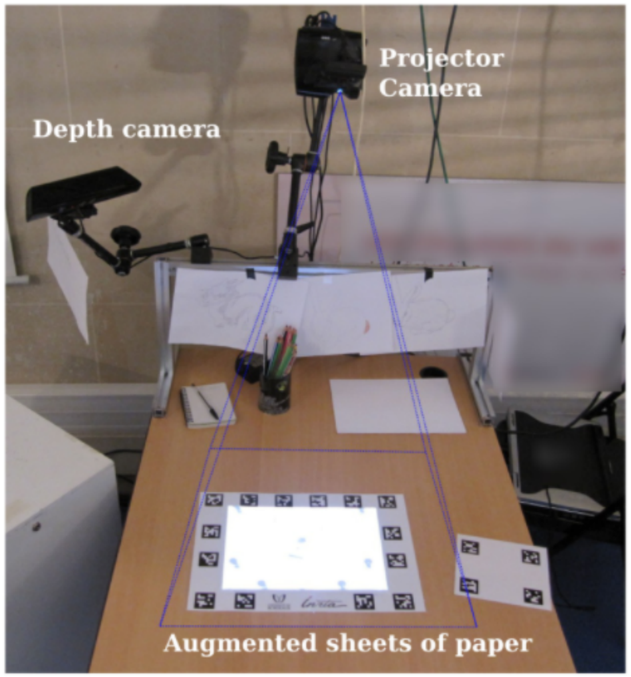
PapARt

Paper Augmented Reality Toolkit





Processing

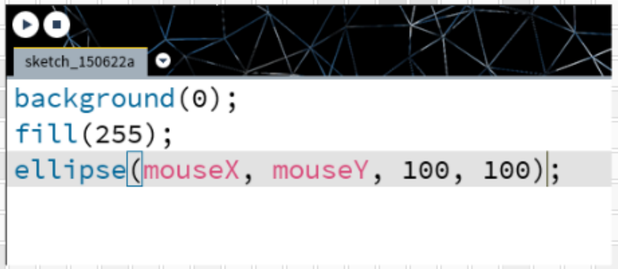
“From the beginning, Processing was **designed** as a **first programming language**. Students new to programming find it incredibly satisfying to make something appear on their screen within moments of using the software.

Processing is used in **classrooms worldwide**, often in art schools and visual arts programs in universities, but it's also found frequently in high schools, computer science programs, and humanities curricula. ”

- Site Web processing.

Processing

Démonstration :



“From the beginning, Processing was **designed** as a **first programming language**. Students new to programming find it incredibly satisfying to make something appear on their screen within moments of using the software.

Processing is used in **classrooms worldwide**, often in art schools and visual arts programs in universities, but it's also found frequently in high schools, computer science programs, and humanities curricula. ”

- Site Web processing.

rocessing

ned
nts new
to make
ments

le,
s

,

ocessing.

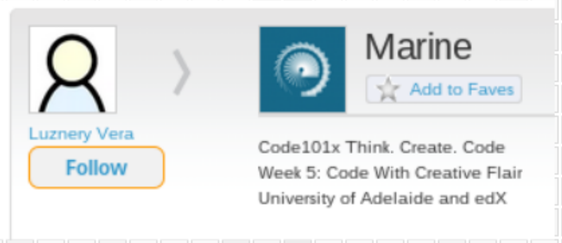
Démonstration :

sketch_150622a

```
background(0);
fill(255);
ellipse(mouseX, mouseY, 100, 100);
```

sketch_150622a

```
size(600, 400);
background(#176989);
translate(290, 200);
noStroke();
fill(255, 150);
for (int i=0;i<23; i++) {
  rect(0, 10, 80, 23-i);
  rect(0, 100, 70, 23-i);
  rotate(-PI/13);
}
```



sketch_150622a

```
size(600, 400);
background(#176989);
translate(290, 200);
noStroke();
fill(255, 150);
for (int i=0;i<23; i++) {
  rect(0, 10, 80, 23-i);
  rect(0, 100, 70, 23-i);
  rotate(-PI/13);
}
```

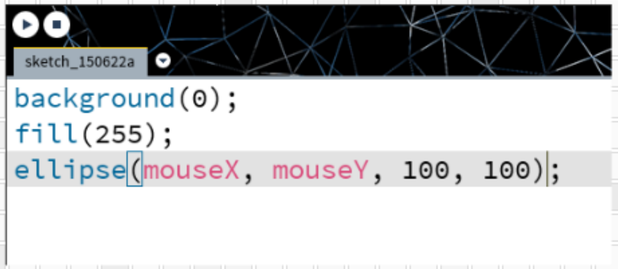
Processing

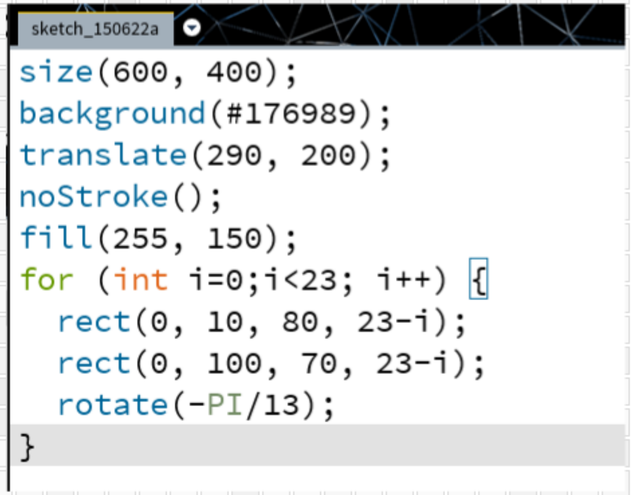
"From the beginning, Processing was **designed** as a **first programming language**. Students new to programming find it incredibly satisfying to make something appear on their screen within moments of using the software.

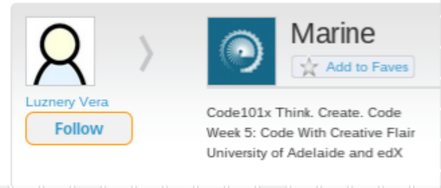
Processing is used in **classrooms worldwide**, often in art schools and visual arts programs in universities, but it's also found frequently in high schools, computer science programs, and humanities curricula. "

- Site Web processing.

Démonstration :



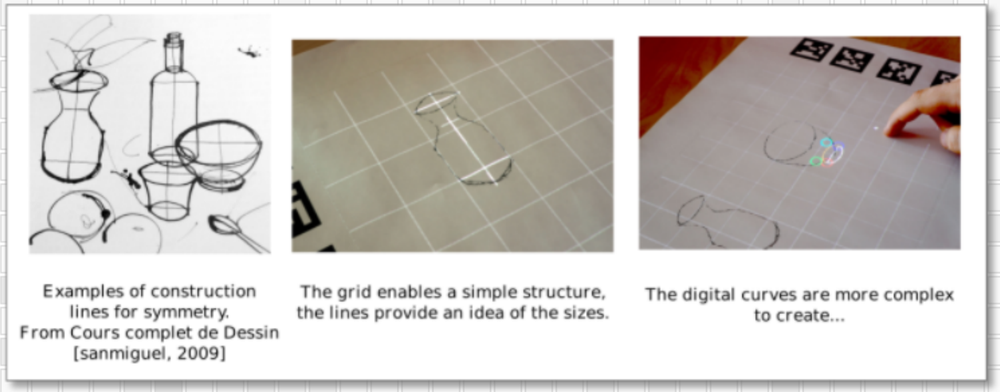




PapARt

PapARt est une **bibliothèque Processing**.
À l'origine, c'était un projet de recherche sur des interfaces en réalité augmentée pour le dessin.
Le développement est **soutenu par Inria** depuis 2014.

PapArt destiné à être utilisé dans Processing suivant le language de Processing.
Le but est que les programmes crées soient **affiché** dans **le monde «physique»** et non pas sur un écran.



Examples of construction lines for symmetry. From Cours complet de Dessin [sanmiguel, 2009]

The grid enables a simple structure, the lines provide an idea of the sizes.

The digital curves are more complex to create...

Démonstration :

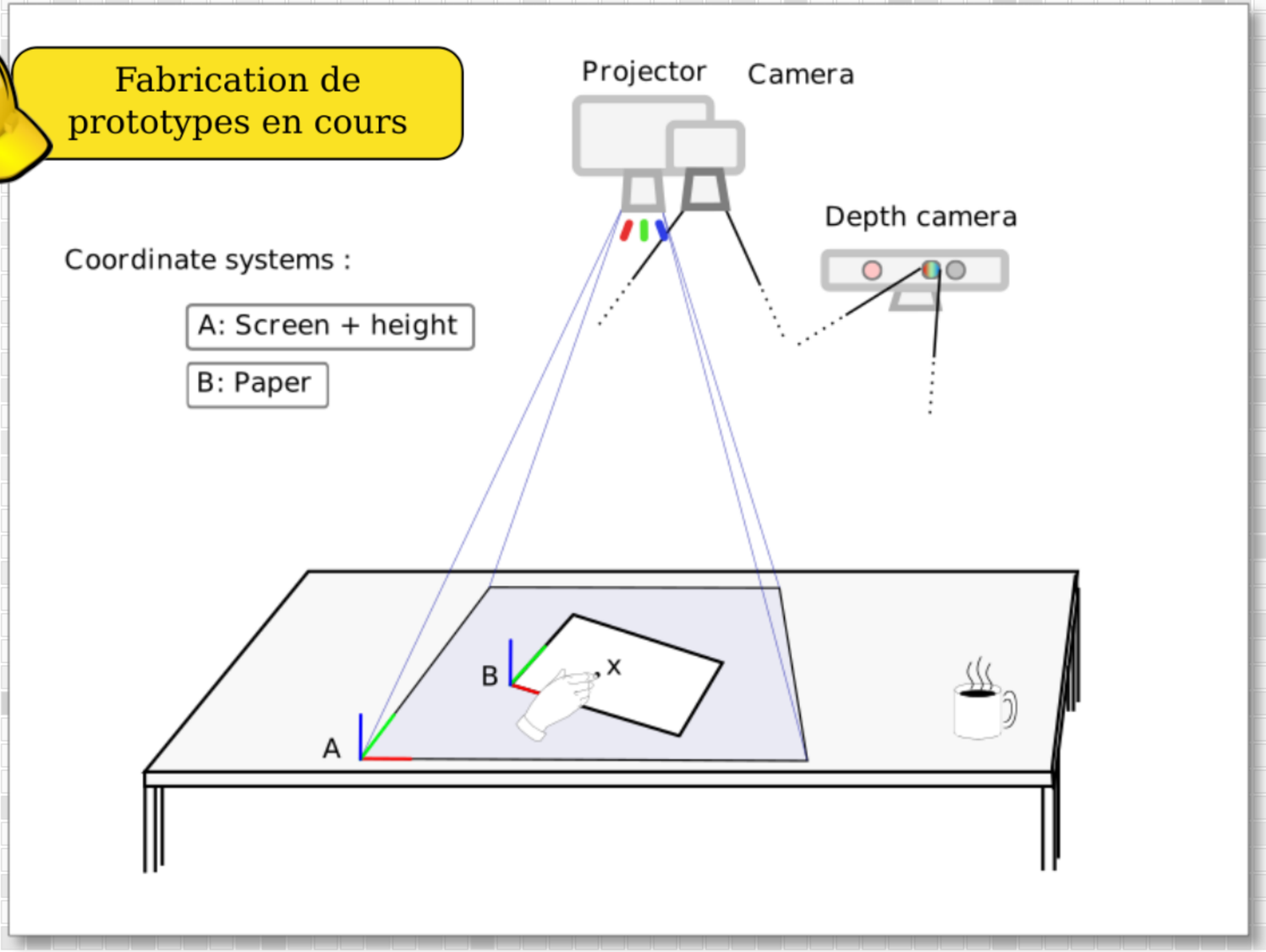
PapARt : fonctionnement

Matériel

Logiciel

Matériel

Fabrication de prototypes en cours



Logiciel

PaperApp2D | Processing 2.2.1

File Edit Sketch Tools Help

Java

PaperApp2D MyApp2D

```
// PapARt library
import fr.inria.papart.procam.*;
import org.bytedeco.javacpp.*;
import org.bytedeco.javacpp.opencv_core;
import org.reflections.*;
import TUIO.*;
import toxi.geom.*;

import processing.video.*;

boolean useProjector = false;
Papart papart;

public void setup() {
    if(useProjector)
        papart = Papart.projection(this);
    else
        papart = Papart.seeThrough(this);

    papart.loadSketches();
    papart.startTracking();
}

void draw() {
}
```

Done Saving.

25

PaperApp2D | Processing 2.2.1

File Edit Sketch Tools Help

Java

PaperApp2D MyApp2D

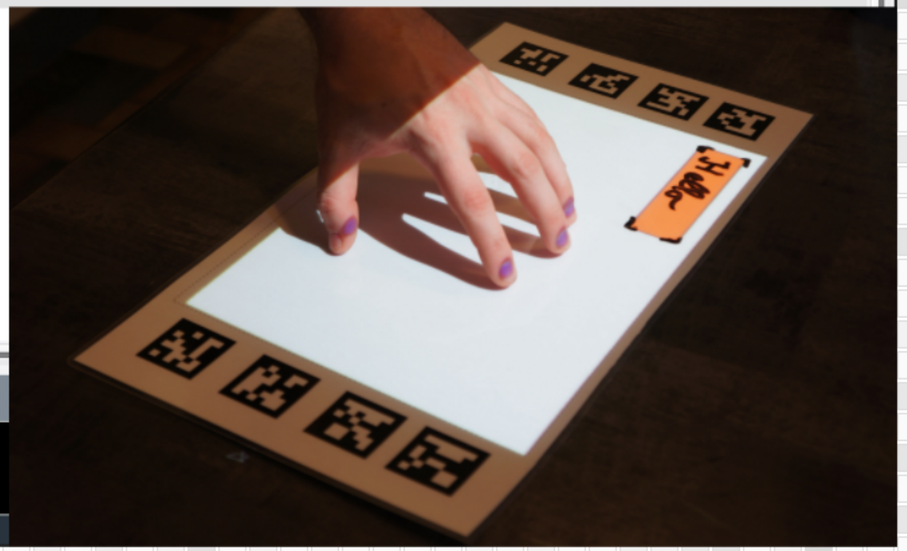
```
public class MyApp extends PaperScreen {

  void setup() {
    setDrawingSize(297, 210);
    loadMarkerBoard(sketchPath + "/data/A3-small1.cfg", 297, 210);
  }

  void draw() {
    beginDraw2D();
    background(100, 0, 0);
    fill(200, 100, 20);
    rect(10, 10, 100, 30);
    endDraw();
  }
}
```

Done Saving.

15



PapARt : fonctionnement

Matériel

Logiciel

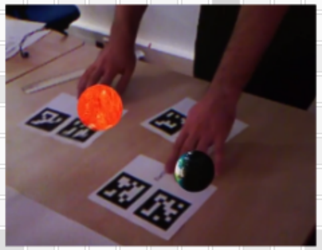
PapARt

Une API unique pour...

Surfaces tactiles

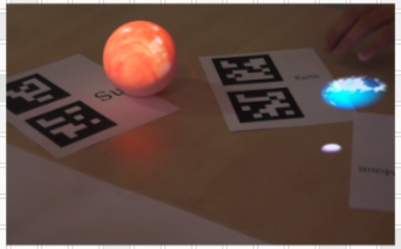
Détections des doigts et objets.

Réalité augmentée



Large support de caméras sous Windows, Linux et OSX

Projection mapping



Boucle tracking / projection très précise.

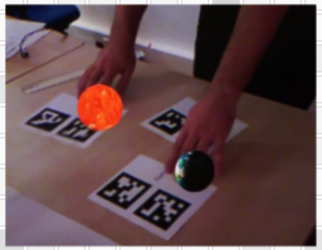
PapARt

Une API unique pour...

Surfaces tactiles

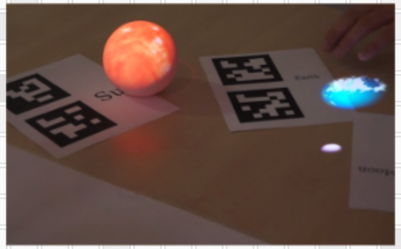
Détections des doigts et objets.

Réalité augmentée



Large support de caméras sous Windows, Linux et OSX

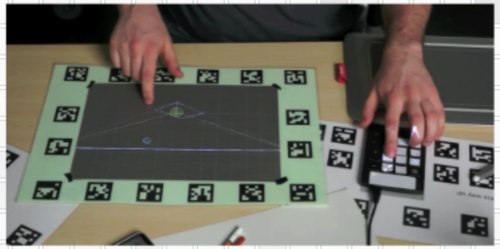
Projection mapping



Boucle tracking / projection très précise.

des applications en réalité mixte.

Manipulation 3D



Lignes de construction pour le dessin

Interfaces tangibles

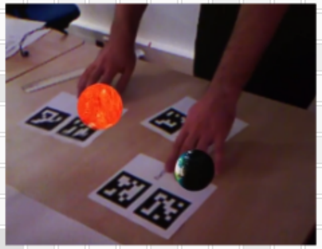
PapARt

Une API unique pour...

Surfaces tactiles

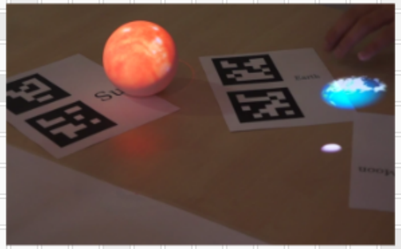
Détections des doigts et objets.

Réalité augmentée



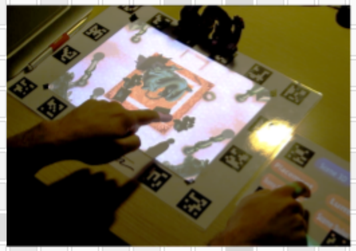
Large support de caméras sous Windows, Linux et OSX

Projection mapping

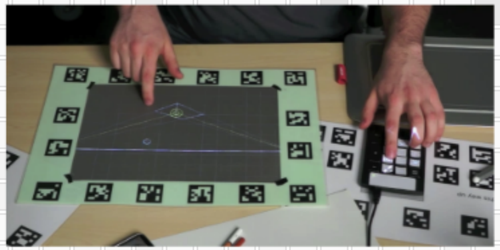


Boucle tracking / projection très précise.

des applications en réalité mixte.



Manipulation 3D



Lignes de construction pour le dessin

Interfaces tangibles

Liens :

http://processing.org

http://hello.processing.org

http://papart.gforge.inria.fr

http://team.inria.fr/potioc