

## tutorial(s) – flex/as3

material(s) / actionscript / animation(s) / example(s)

### section(s)

- 0: getting started
- 1: programming the display
- 2: media & playlists
- 3: handlers & interaction
- 4: animations & effects
- 5: graphics & bitmaps
- 6: sound & visualizations
- 7: organize (y)our code
- 8: libraries & framework(s)
- 9: wrap up(s)

### section 0 – getting started

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- lookat – [www.adobe.com/products/flex](http://www.adobe.com/products/flex)
- flex SDK – [opensource.adobe.com/wiki/display/flexsdk/Downloads flex 3 / flex 4](http://opensource.adobe.com/wiki/display/flexsdk/Downloads+flex+3+%2F+flex+4)
- IDE? – flex builder (sdk 3) / [labs.adobe.com/technologies/flashbuilder4](http://labs.adobe.com/technologies/flashbuilder4)
- read – flash player 10<sup>1</sup> / developer documentation<sup>2</sup>
- explore – [bubblemark.com](http://bubblemark.com) / [www.google.nl/search?q=rich+internet+applications](http://www.google.nl/search?q=rich+internet+applications)

### course(s) – multimedia authoring / interactive visualization

multimedia authoring<sup>3</sup> / interactive visualization<sup>4</sup>

- flex/as3 sdk – **declarative** + **operational**
- **web-based multimedia** – flash(player) is (de facto) standard<sup>5</sup>
- coding multimedia – **design** + **development**<sup>6</sup>
- **application(s)** – alien(s) ... (musical) flowers ... shopping ... tunnel(s) ... flow(s)

<sup>1</sup>[www.adobe.com/products/flashplayer](http://www.adobe.com/products/flashplayer)

<sup>2</sup>[opensource.adobe.com/wiki/display/flexsdk/Developer+Documentation](http://opensource.adobe.com/wiki/display/flexsdk/Developer+Documentation)

<sup>3</sup>[www.cs.vu.nl/~eliens/mma](http://www.cs.vu.nl/~eliens/mma)

<sup>4</sup>[www.cs.vu.nl/~eliens/.CREATE/create-nm2.html](http://www.cs.vu.nl/~eliens/.CREATE/create-nm2.html)

<sup>5</sup>[www.webpronews.com/topnews/2009/08/13/the-biggest-security-hole-on-the-web](http://www.webpronews.com/topnews/2009/08/13/the-biggest-security-hole-on-the-web)

<sup>6</sup>[deseloper.org/read/2009/03/what-is-a-deseloper](http://deseloper.org/read/2009/03/what-is-a-deseloper)

## explore, *copy & paste*, understand, adapt

explore, *copy & paste*, understand, adapt

- lookat(s) – *selected examples*
- flex & actionscript – *from livedocs*<sup>7</sup>
- animation(s) – *foundation animation: making things move*<sup>8</sup>
- flex construct(s) – *professional flex 2*<sup>9</sup>
- example(s) – *miscellaneous topics*

## getting (in) shape(s)

help / getting (in) shape(s)

- image gallery – tutorial / example
- bitmaps/filters – tutorial(s)
- amf php – tutorial / example
- (u)maps – tutorial / example

## section 1 – programming the display

section 1 – programming the display

- read – about flex development(s)<sup>10</sup>
- lookat – getting (in) shape(s)
- flash/as3 – flash.display.Sprite / flash.display.DisplayObject
- flex/core – mx.core.UIComponent
- control(s) – mx:Image
- container(s) – mx:Canvas / google(s)

## compiling with mxmhc / compc / asdoc

compiling with mxmhc / compc / asdoc

```
mxmhc file.mxml / file.as / file.css
mxmhc -include-libraries corelib.swc -source-path+=".\" file.mxml
compc -output book.swc -is com -is org
asdoc -source-path . -output apidoc -doc-sources file.mxml
asdoc -source-path . -output apidoc -doc-sources net/ximpel/
```

- read – getting started with mxmhc and as3<sup>11</sup> / asdoc
- consult – option(s)<sup>12</sup> / swc file(s)

<sup>7</sup>[livedocs.adobe.com/flex/3/html/help.html?content=Part6\\_ProgAS\\_1.html](http://livedocs.adobe.com/flex/3/html/help.html?content=Part6_ProgAS_1.html)

<sup>8</sup>[www.friendsofed.com/book.html?isbn=1590597915](http://www.friendsofed.com/book.html?isbn=1590597915)

<sup>9</sup>[www.wrox.com/WileyCDA/WroxTitle/Professional-Adobe-Flex-2.productCd-0470102675.html](http://www.wrox.com/WileyCDA/WroxTitle/Professional-Adobe-Flex-2.productCd-0470102675.html)

<sup>10</sup>[learn.adobe.com/wiki/display/Flex/Getting+Started](http://learn.adobe.com/wiki/display/Flex/Getting+Started)

<sup>11</sup>[www.senocular.com/flash/tutorials/as3withmxmhc](http://www.senocular.com/flash/tutorials/as3withmxmhc)

<sup>12</sup>[flexstuff.googlepages.com/FlexCompilerOptions.html](http://flexstuff.googlepages.com/FlexCompilerOptions.html)

## setting (y)our style(s)

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- lookat – style(s) / embedded style(s) / css / runtime style(s)
- flex/as3 – mx:Style
- explore – accordion(s) / item renderer(s) / css property list(s) / **skin(s)**
- try – style creator<sup>13</sup> / **style explorer**

## creating (the) component(s)

creating (the) component(s)

- look at – photo viewer / gallery / **photo show**
- read – documentation<sup>14</sup>
- see – flickr photo viewer / blog(s)<sup>15</sup>
- try – **mxml component explorer**

## section 2 – media & playlists

section 2 – media & playlists

- lookat – **video player** / camera(s)
- event(s) – mx.events.VideoEvent
- control(s) – mx.VideoDisplay
- read – extending the video display component<sup>16</sup>

## loading the playlist(s)

loading the playlist(s)

- lookat – video player (script)
- event(s) – mx.rpc.http.mxml.HTTPService / mx.rpc.events.ResultEvent
- read – accessing XML data<sup>17</sup> / loading external data with HTTPService<sup>18</sup>
- study – **e4x tutorial** / example(s)

## the *powerrail* experience

the *powerrail* experience

- lookat – **powerrail** / presentation
- read – about blog.papervision3d.org
- explore – selection(s)

<sup>13</sup>[flexonrails.net/stylescreator/public](http://flexonrails.net/stylescreator/public)

<sup>14</sup>[www.adobe.com/devnet/flex/samples/photo\\_explorer](http://www.adobe.com/devnet/flex/samples/photo_explorer)

<sup>15</sup>[work.whoischarles.com/content/flickr-photo-viewer-in-50-lines-of-code](http://work.whoischarles.com/content/flickr-photo-viewer-in-50-lines-of-code)

<sup>16</sup>[blog.flexexamples.com/2008/01/15/clearing-the-video-on-a-flex-videodisplay-control](http://blog.flexexamples.com/2008/01/15/clearing-the-video-on-a-flex-videodisplay-control)

<sup>17</sup>[www.adobe.com/devnet/flex/quickstart/accessing\\_xml\\_data](http://www.adobe.com/devnet/flex/quickstart/accessing_xml_data)

<sup>18</sup>[www.adobe.com/devnet/flex/quickstart/httpservice](http://www.adobe.com/devnet/flex/quickstart/httpservice)

## configuration(s) & parameters

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- lookat – configuration(s) with XML and object parameter(s)
- read – about using XML<sup>19</sup> and flashVars<sup>20</sup>
- and do not forget to look (again) at – **ximpel.net** / view(s)<sup>21</sup>

## professional (XML) components

professional (XML) components

- lookat – XML / flex data / viewer(s)
- read – representing data<sup>22</sup> / **working with XML**<sup>23</sup>
- explore – dishes / e4x

## section 3 – handlers & interaction

section 3 – handlers & interaction

- lookat – alarm clock / color picker / drag & drop
- read – **handling events**<sup>24</sup>

## drawing (on) the screen(s)

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- lookat – **draw tool** / script / diagram(s) / effect(s) / scribble(s) / **paint**
- read – drawing lines and curves<sup>25</sup> / tutorial(s)<sup>26</sup>
- explore – **display(s)** / drawingboard<sup>27</sup>

## section 4 – animation(s) & effect(s)

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- lookat – garden(s) / bubble(s) / firework(s) / rotation(s)
- see – physics flash animation(s)<sup>28</sup> / animation(s) / advanced animation(s)
- explore – playground(s) / **algorithmic visual generator**

<sup>19</sup>[www.thetechlabs.com/xml/working-with-xml-e4x-and-actionscript-3](http://www.thetechlabs.com/xml/working-with-xml-e4x-and-actionscript-3)

<sup>20</sup>[livedocs.adobe.com/flex/3/html/help.html?content=passingarguments\\_3.html](http://livedocs.adobe.com/flex/3/html/help.html?content=passingarguments_3.html)

<sup>21</sup>[www.cs.vu.nl/~eliens/media/view.html](http://www.cs.vu.nl/~eliens/media/view.html)

<sup>22</sup>[livedocs.adobe.com/flex/3/html/help.html?content=Part2\\_DevApps\\_1.html](http://livedocs.adobe.com/flex/3/html/help.html?content=Part2_DevApps_1.html)

<sup>23</sup>[livedocs.adobe.com/flex/3/html/help.html?content=Part6\\_ProgAS\\_1.html](http://livedocs.adobe.com/flex/3/html/help.html?content=Part6_ProgAS_1.html)

<sup>24</sup>[livedocs.adobe.com/flex/3/html/help.html?content=16\\_Event\\_handling\\_1.html](http://livedocs.adobe.com/flex/3/html/help.html?content=16_Event_handling_1.html)

<sup>25</sup>[livedocs.adobe.com/flex/3/html/help.html?content=Drawing\\_Vector\\_Graphics\\_4.html](http://livedocs.adobe.com/flex/3/html/help.html?content=Drawing_Vector_Graphics_4.html)

<sup>26</sup>[www.kirupa.com/developer/actionscript/tricks/drawing\\_api.htm](http://www.kirupa.com/developer/actionscript/tricks/drawing_api.htm)

<sup>27</sup>[www.kirupa.com/developer/actionscript/drawingboard.htm](http://www.kirupa.com/developer/actionscript/drawingboard.htm)

<sup>28</sup>[www.upscale.utoronto.ca/GeneralInterest/Harrison/Flash](http://www.upscale.utoronto.ca/GeneralInterest/Harrison/Flash)

## infamous (cover) flow(s)

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- lookat – fish eye(s) / coverflow(s) / book(s)
- read – designing for flex – guiding with motion<sup>29</sup>
- explore – **coverflow(s)**<sup>30</sup> / user interface animation<sup>31</sup>
- question(s) – **what is missing in the iPhone?**<sup>32</sup>

## section 5 – graphics & bitmaps

section 5 – graphics & bitmaps

- lookat – mask(s) / ascii art / scrap book image(s) / led(s) / iso metric(s) / **filter(s)**
- read – using the drawing API<sup>33</sup> / available display filters<sup>34</sup>
- explore – **filter workbench** / selection(s) / example(s)
- let it – rain / snow / burn: (media|create)

## distortion(s) & visualisation(s)

distortion(s) & visualisation(s)

- lookat – **distortion lab** / media cube / perlin landscape(s)
- read – flex graphic trick(s)<sup>35</sup>
- explore – **flex graphic component(s)**<sup>36</sup>

## filter(s) & shader(s)

filter(s) & shader(s)

- lookat – **alien(s)** / lady in red / **selection(s)**
- read – convolution matrix<sup>37</sup>
- explore – crystal(s) / hypno(s) / plane(s) / **tunnel(s)** / vortex

<sup>29</sup>[www.adobe.com/devnet/flex/articles/fig\\_pt6.html](http://www.adobe.com/devnet/flex/articles/fig_pt6.html)

<sup>30</sup>[dougmcune.com/blog/2007/11/19/flex-coverflow-performance-improvement-flex-carousel-component-and-vertical-coverflow](http://dougmcune.com/blog/2007/11/19/flex-coverflow-performance-improvement-flex-carousel-component-and-vertical-coverflow)

<sup>31</sup>[doloresjoya.com/blog/user-interface-animation](http://doloresjoya.com/blog/user-interface-animation)

<sup>32</sup>[www.apple.com/quicktime/qtv/mwsf07](http://www.apple.com/quicktime/qtv/mwsf07)

<sup>33</sup>[livedocs.adobe.com/flex/3/html/help.html?content=Drawing\\_Vector\\_Graphics\\_4.html](http://livedocs.adobe.com/flex/3/html/help.html?content=Drawing_Vector_Graphics_4.html)

<sup>34</sup>[livedocs.adobe.com/flex/3/html/help.html?content=Filtering\\_Visual\\_Objects\\_08.html](http://livedocs.adobe.com/flex/3/html/help.html?content=Filtering_Visual_Objects_08.html)

<sup>35</sup>[www.insideria.com/2008/01/flex-graphics-tricks-part-1-ma.html](http://www.insideria.com/2008/01/flex-graphics-tricks-part-1-ma.html)

<sup>36</sup>[www.adobe.com/cfusion/exchange/index.cfm?s=5&from=1&o=desc&cat=187&l=-1&event=productHome&exc=15](http://www.adobe.com/cfusion/exchange/index.cfm?s=5&from=1&o=desc&cat=187&l=-1&event=productHome&exc=15)

<sup>37</sup>[docs.gimp.org/en/plugin-convmatrix.html](http://docs.gimp.org/en/plugin-convmatrix.html)

## section 6 – sound & visualizations

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- lookat – sound explorer / wave(s) / flower(s)
- read – working with sound<sup>38</sup>

## section 7 – organize (y)our code

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- lookat – object(s) / component(s) / template(s) / code(s)
- read – creating flex components<sup>39</sup> / **livedoc(s)**<sup>40</sup>
- explore – **selection(s)** / editor(s)
- try – iframe(s) / bridge(s) / wii: actionpaint (documentation/code<sup>41</sup>)

## section 8 – libraries & frameworks

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- lookat – **student(s)** / lib(s) / **material(s)** / philosopher(s) / roamer(s) / **game(s)**
- read – about
  - using camera(s)<sup>42</sup>
  - physics engine(s)<sup>43</sup>
  - using google sketchup in flex<sup>44</sup>
  - papervision3D in flex<sup>45</sup>
- explore – google map(s)<sup>46</sup> / **declarative graphics**<sup>47</sup>

## section 9 – wrap up(s)

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- lookat – flex.org/showcase / **www.gotoandlearn.com**
- read – **designing for flex**<sup>48</sup> / extra(s) / **math game(s)**
- explore – **replay(s)**<sup>49</sup>

A. Eliëns (24/8/2009)

<sup>38</sup>[livedocs.adobe.com/flex/3/html/help.html?content=Working\\_with\\_Sound\\_01.html](http://livedocs.adobe.com/flex/3/html/help.html?content=Working_with_Sound_01.html)

<sup>39</sup>[www.artima.com/weblogs/viewpost.jsp?thread=212818](http://www.artima.com/weblogs/viewpost.jsp?thread=212818)

<sup>40</sup>[livedocs.adobe.com/flex/3/html/help.html?content=Part4\\_CreateComps\\_1.html](http://livedocs.adobe.com/flex/3/html/help.html?content=Part4_CreateComps_1.html)

<sup>41</sup>[www.cs.vu.nl/~eliens/project/@archive/student/ba-CS/timen](http://www.cs.vu.nl/~eliens/project/@archive/student/ba-CS/timen)

<sup>42</sup>[livedocs.adobe.com/flash/9.0/ActionScriptLangRefV3/flash/media/Camera.html](http://livedocs.adobe.com/flash/9.0/ActionScriptLangRefV3/flash/media/Camera.html)

<sup>43</sup>[www.pathf.com/blogs/2008/09/flash-flex-physics-engines-and-examples](http://www.pathf.com/blogs/2008/09/flash-flex-physics-engines-and-examples)

<sup>44</sup>[shardulbartwal.wordpress.com/2008/06/20/3d-in-flex-3](http://shardulbartwal.wordpress.com/2008/06/20/3d-in-flex-3)

<sup>45</sup>[www.unitzeroone.com/blog/2006/12/12/papervision-3dflex-2-example-flex-makes-its-first-pv3d-steps](http://www.unitzeroone.com/blog/2006/12/12/papervision-3dflex-2-example-flex-makes-its-first-pv3d-steps)

<sup>46</sup>[www.insideria.com/2009/07/google-maps—now-with-perspec.html](http://www.insideria.com/2009/07/google-maps—now-with-perspec.html)

<sup>47</sup>[www.degrafa.org/code](http://www.degrafa.org/code)

<sup>48</sup>[www.adobe.com/devnet/flex/articles/fig\\_pt1.html](http://www.adobe.com/devnet/flex/articles/fig_pt1.html)

<sup>49</sup>[www.cs.vu.nl/~eliens/.CREATE/resource-replay.html](http://www.cs.vu.nl/~eliens/.CREATE/resource-replay.html)