

Sketchlet Tutorial

Exercises

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Exercises: Flip Book Animation

1. Define a flipbook animation that, in 5 frames, illustrates “working” of a sand clock



2. Define a flipbook animation that illustrates walking of a man

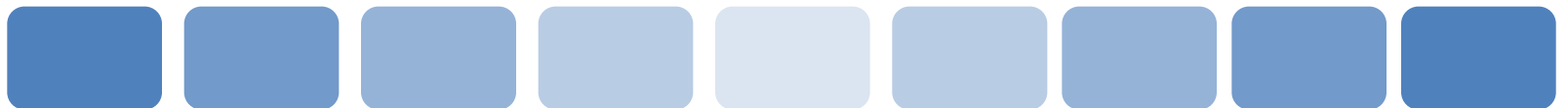
3. Take an image of a cartoon from the Internet (such as from <http://www.dilbert.com/>), and turn it into a flipbook animation





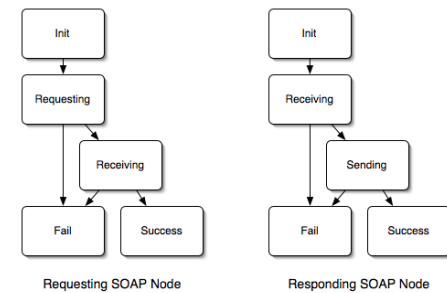
Exercise: Properties Animation

1. Create properties animation that illustrates a ball rolling from left to the right and back
 - Tip: animate two properties, 'position x' and 'rotation'. Use “pulse forever” animation
2. Create a properties animation that changes (pulses) the transparency of an image

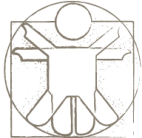




Exercise: Page Transitions

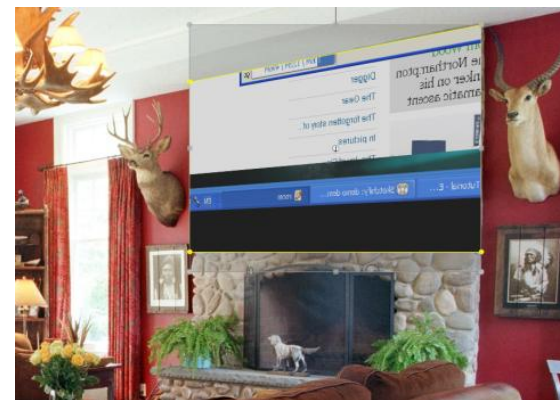


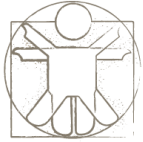
- Define a project to illustrate working of a coffee machine
 - Screen 1: selection of three drinks by mouse clicks
 - Screen 2: shows an information which drink is being prepared, and after 5 seconds automatically transfers back to Screen 1
- Variations:
 - Enable selection of drinks in Screen 1 by keyboard
 - Define one more page with information that a drink is not available. Change Screen 1 to transit to this page when a user selected one of three drinks. The page should also have a button that enables a user to goes back to Screen 1.
 - Enable selection of drinks by speech, using a speech recognizer I/O service and 'on variable updates' page actions.



Exercise: Screen Capturing

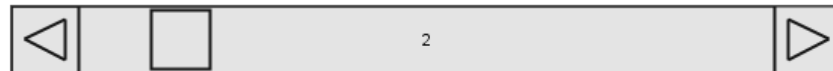
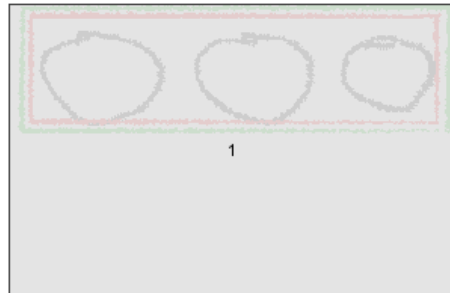
- Open a Web browser with a YouTube video, and define a page where we show this video over the image of the room.
 - Tip: Find an image of the room on the Internet, and copy and paste it as background image of the page. Use perspective transformations of the region to align a captured movie on the image of the wall.





Exercise: Widgets

- Define two active regions, one with an image, and other with the horizontal scrollbar widget. Define interaction so that scrollbar is used to define the transparency of the image.





Exercise: Timers



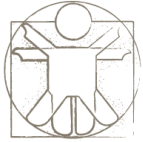
- Define a timer that animates variable 'x' from 0 to 500. Create a region with an image in it, and use the variable 'x' to change regions' x position.
- Variation:
 - Extend the timer to change the value of the variable 'a' from 0 to 360
 - Use variable 'a' to control the y position of the region by formula $y = 200 + \sin(a) * 100$



Exercise: Trajectories and Timers

- Define an active region in in an oval shape, and define trajectory and associated timer that shows how the region falls from a table and bounces on the floor.





Exercise: Formulas and Spreadsheets

- Create a variable 'a'
- Create a variable 'b', and set that its value equals value of the variable 'a' multiplied by 3
- Open internal spreadsheets panel, and set the field 'A1' to take value from variable 'a'
- Set 'B1' as a sum of variable b and field 'A1'
- Define an active region, and connect the variable 'a' to its 'position x' so that dragging the region updates the variable. Set the text property of the region to be take from the field 'B1'.





Exercise: Keyboard Events

- Define a variable 'height', and set its value to 100
- Define an active region, and set its 'height' property to be taken from the variable 'height'
- Open page keyboard events panel and define:
 - On pressing the key 'A',
increment the variable height by 10
 - On pressing the key 'B',
decrement the variable height by 10
- Variation:
 - define that variable 'height' is incremented/decremented every half a second when a user is holding keys A or B





Exercise: Macros

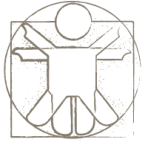
- Create two pages, and on a second page define an entry macro that does the following:
 - Updates variable x to 0
 - Pauses execution for 2 seconds
 - Updates variable x to 100
 - Pauses execution for 3 seconds
 - Make a transition to first page
- Variation:
 - On the second page, create an active region and set its text property and horizontal position to be taken from a variable x .



Exercise: Face Detector

- Start a face detector I/O service, and create an active region where horizontal and vertical position of the region are taken from the face detector, so that movements of the face move the action region on the screen.

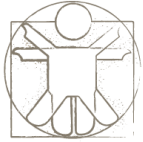




Exercise: Speech

- Start the text-to-speech I/O service, and define an audio book, with three images in three regions, and define the interaction of that when a user moves a mouse over an image, the text-to-speech service pronounces what it is.

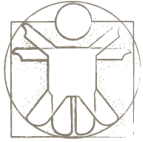




Exercise: Wii

- Start a Wii I/O service and define an active region whose rotation is define by the Wii X axis accelerator.





Exercise: VNC and iPhone

- Start a VNC client on you mobile device, and connect it to the machine on which Sketchlet is running on the port 5950.