

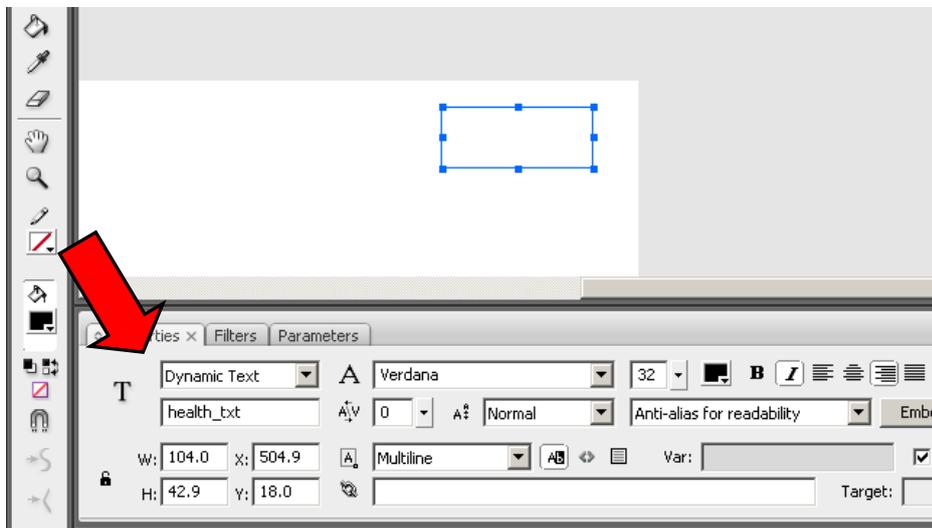
Dealing with collisions

This third tutorial shows you how to deal with Jump Man colliding with the crates and how to make him lose health.

Open the previous file and add a new layer called *info*.

Using the Text tool, draw a text box near the top right corner of the stage. Check the Properties Panel and ensure the text box is set to Dynamic (there's a menu with options of Static, Input and Dynamic) and make sure the text is set to a colour that will show up against the background. Also give the text box an instance name of *health_txt*.

Dynamic text boxes contain information that can be updated by Actionscript. They are useful for displaying scores or lives in a game.



Now select the *code* layer and open the Actions Panel (F9).

Move to the start of the code and insert a few blank lines at the top.

Add the following code at the start.

```
var health=20;

health_txt.text=health.toString();
```

These two lines set up the health of Jump Man. The first line creates a variable, which remembers Jump Man's current health. At the start of the game Jump Man has 20 health.

The next line displays the health in the text box on the screen. The health is represented by a number and text boxes can only display strings of characters. The number has to be converted to a string – so this is why we use `toString()` at the end of the code.

Now move down to the `gameloop` function and add the highlighted code below.

```
function gameloop(e:Event):void{  
    crate_mc.x-=20;  
    if (crate_mc.x<-100){  
        crate_mc.x=650;  
    }  
    if (jumpman_mc.hitTestObject(crate_mc)) {  
        health--;  
        health_txt.text=health.toString();  
    }  
}
```

This additional code checks to see if `jumpman_mc` hits `crate_mc`. If Jump Man hits the crate, his health is lowered and the new health is displayed in the text box on the stage.

In this block of code you use a special function called `hitTestObject` to test if one object collides with another. This is used a lot in games and can be used to check whether a character has been hit by a bullet or a car has collided with an obstacle.

Test your game by pressing *Ctrl & Enter* at the same time or go to the menu bar and choose *Control – Test Movie*.

You should find that Jump Man's health goes down every time he collides with a crate. Unfortunately we haven't written any code to deal with his health running out, so he just keeps losing health and it even goes into negative numbers!

Exercise

What do you think should happen when Jump Man's health reaches zero?

How could you add some kind of scoring system to the game? What would you use to display the score on the screen?

What could be changed to make Jump Man start the game with higher or lower health?

Here is a complete code listing for Scene 1:

```
var health=20;
health_txt.text=health.toString();
stage.addEventListener(Event.ENTER_FRAME, gameloop);
function gameloop(e:Event):void{
    crate_mc.x-=20;
    if (crate_mc.x<-100){
        crate_mc.x=650;
    }
    if (jumpman_mc.hitTestObject(crate_mc)) {
        health--;//decrease health
        health_txt.text=health.toString();
    }
}
stage.addEventListener(KeyboardEvent.KEY_DOWN, jump);
function jump(e:KeyboardEvent):void {
    jumpman_mc.play();
}
```