AS3 Multimedia Animation Demonstration Design in Flash CS4

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Abstract: Multimedia animation demonstration, as a broad market development prospect and important application field of Flash animation, has a very important significance and value in the field of education teaching. Combining high school knowledge, this paper gives a detailed overview of AS3.0 features in Flash CS4 by producing a physics course ware with strong interactivity.

With the continuous application of multimedia technology in recent years, a variety of multimedia animation demonstration in the field of education plays a very important significance and value. Multimedia demonstration animation, based on strong expressiveness, visual and sound effects, fully shows the expression of information presentation. AS has experienced continuous renewal of versions from AS1.0 to AS3.0 along with the long development, and its function is becoming more and more powerful. AS3.0 function, compared with other versions, is excellent. It has the ability to create and have issued data set and highly complex applications with reusable object-oriented code base in the event processing mechanism, so its application is very extensive. In Flash platform, when apply AS3.0 for multimedia animation demonstration design, we need to abandon various components, add AS script, and write the script on a frame. Animation and course ware based on AS3.0 language development are cross-platform and have strong adaptability. A physics class will be produced by combining Flash AS3.0 scripting language to show its powerful functions.

I. The advantages of AS language in course ware creation

Usually Flash course ware is presented in linear video and there is no difference between demonstration times. Due to they are more established on the basis of frame animation, the biggest advantage of Flash is that it can be ignored. Thus this reduces the interactivity of course ware, and the user will lose interest in its function after a few times contact. AS language course ware production will greatly improve the interactivity. As long as the makers can use this feature, they are able to make course ware more vivid, more objectively and directly display the content of course ware, affectionately show learners course ware content. Course ware production by using AS3.0 and join the frame animation application. In Flash platform, use a frame of animation. In the early stages of course ware production, draw a particle, which is called ball in a script, and then initialize and quantify the surrounding environment of the particle. The main variables are the acceleration of gravity, vertical velocity, level acceleration, level velocity, and so on. In order not to let the particle deviate from the learner's vision field, certain restrictions are made in the particle’s motion specification, and there is a lot of relevance with the collision detection of the ball and the walls of the screen.

II. Course ware production requirements

Course ware production needs a PC or Macintosh platform apple Mac with Flash CS4 based on Windows XP or Windows Vista platform. Design content performance needs to make physical knowledge content easy to understand and emphasize the science of physics. On the whole, it does not require too much emphasis on color but need to be concise and lively, and it must meet high school students’ physical and mental needs. On the whole design style, pay attention to the characteristics and cohesion between various pages. In picture design and video clips, be rich and typical which can have the effect of making the finishing point. In animation and video clips, the corresponding sound should be equipped. According to corresponding music performance of physical content design, in the interface, there is a need to set up some common sense and related

knowledge of physics, and basic button icons should be consistent. Different pages can flexibly jump between each other. Collect data before the design, and make comprehensive design according to relevant contents of physics.

III. SPECIFIC PROCESS OF COURSE WARE CREATION

A. Start from the simplest

In the process of program writing, we need to build a Package {}, define a constructor of the type. Code processing is based on Flash environment. In the application part, use / *... * / format, specifically as follows:

Package {/*package*/import Flash.display.Sprite;/* import Sprite class, etc. Sprite and Movie Clip are similar to a class, but more light than Movie Clip, constructor function*/public class MyClass extends... structured function content is more clear, and the internal structure clarity is a good habit of programming. * /} private function init () : void {/ * write code *}}}.

The creation contents above in AS3.0 animation are required, so the creation will mainly focus on the specific tasks. In the design of ball class, it is able to generate animated particle and establish an as3.0 document in the Flash platform, then input the code and the color of the ball in the editor window. Press Ctrl + s to save ball.as to a folder after the input. In the folder, ball's name and constructed function as well as ball's name in the class must be consistent; otherwise flash player does not show the animation when they run the program and the system also won't have any hints. Then in Flash platform, establish a. fla file name, and input Ball into label blank in the attribute column. In Course Waer file, name it fla as file name and press Ctrl + s to save to Ball. as folders, and press Ctrl + enter to view the results.

B. Let the particle motion

Use the first part steps to establish the second. as files, and enter the following code:

Package {import Flash.display.sprite;import flash.events.... and so on, first introduce it in, and then call * / public class Move extends Sprite... / * define ball. Directly quote * / private var vy:..... } private function init () :... Ball: / * generate ball class instance ball * / addchild (ball); / * let ball instance on the stage show, you need to call addchild () method * / addevetlistener... : void {ball. Y + vy; / * need to let the ball along y axis after each refresh and move down vy quadrant, and add the speed in the * /}}.

Name Move.as file name and then save it in ball's all files. In Course Ware, name class label as Move, and then the red ball will be shown downward movement at a constant speed along y axis.

C. Transform the constant speed of the ball falling into accelerate falling

Number5 in a Move class can change 5 to 0, and insert code Number = .1:; // gravitational acceleration is 1,. Add code: / * in ball. y + = vy, and add acceleration on the speed. Animation time is the reciprocal of frame frequency, and do not show t variable and can show time variable in the process of animation broadcast. Save the generated code and run according to Ctel + Enter. Display the ball along vertical direction in the animation to accelerate the effect.

D. Let the ball get level sports ability

Add code private var: Number = 0 and Numeber = 2 to Number = 0 in Move class, and insert vx+=a,ball.x+=vx in vy+ = g. The saved code can run in the animation to see the ball appearing acceleration on 45 degrees direction of the ball. Change the value of vx, vy and a, g, etc, and we are able to see other visual effects, and the effect can make physical teaching content display more vivid.

E. Limit the movement of the ball

The designed code has the fleeting effect in order to make the ball a movement. In this section, the design will let the ball appear in the animation field of vision. Add the corresponding boundary value of the new code /*stage Width/stage-Height to ball.y+=vy, and set according to the resolution of screen. The left border and boundary values are 0*/if(ball.x+ball.radius....){ball.x=stage ...../* line code is designed to let the ball move around the perimeter of the screen and perfectly show the movement of the ball. The below is the same*/vx*=-1;}/{ball.y=stage Height-ball*/}else

if(ball.y-ball /{ball.y=0+ball;vy*=-1;}.
Insert the following code in import flasn: import flash dispaly. Stage a lign/on the top of the ball = new ball and insert stage .scale =s\teage mode./TOP-LEFT in the animation lock (0, 0) as a stage in the top left corner of the screen, and there will not be any screen stretch phenomenon. Save and run can significantly improve the effect of the animation. But that the movement of the ball can't stop it, so in the design, there is a need to add air blocking and the effect of going anywhere in the movement of the ball in order to let the ball movement slowing down.

F. Slow down movement due to energy

In private var g number =1; there is a need to insert the following code: /*air. This ball can reduce the movement by friction with air velocity, which also is a kind of physical resistance simulation, the below is the same*/private var air number =1lowers the speed by the friction caused by small ball's hitting the wall around. In the bottom of vx+=a, insert vx*=(1-air) and in the bottom of vy+=g, insert vy*=(1-air). Save and run to see the ball stops after resistance and some wonderful sports phenomenon of the ball can be got and show the small ball's movement trajectory.

G. Record the ball movement path with dots

Insert the code:graphics.beginfill/(ball.xball.y,1)/ below ball.y + = vy to mainly track ball movement routes, and display the shape of parabola ball movement on the screen animation. Move Down); / * add the movement of the ball to a listener to display a series of actions of the ball. Add Move Up listener on the stage to let the small ball move quickly, and keep program running, we will find that ball movement is close to the shape of a parabola.

IV. CONCLUSION

Multimedia animation demonstration can give vivid imagination performance of the course ware content. In both education and other application fields, it is able to give a person deep impression. The emergence of AS3.0 shows its powerful function and it can provide users with powerful features.

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