

Finite State Machines – Beavers' Valley

Game FSM

INTRO:

display intro screen
if "START" key selected this.currentState=INITPLAY
if "END" key selected this.currentState=EXIT_GAME

INITPLAY:

init game play
this.currentState=PLAY

PLAY:

call main game loop

OUTTRO:

clean up game states
display outro screen with scores and statistiscs
if any key pressed this.currentState=INTRO

Woody FSM

INIT

set position of Woody
this.current state = PLAY

PLAY

move into the world and collision detection
if gnaws tree this.currentState=MOVE_WITH_TABLE and Tree.currentState=DESTROYED
if water hits Woody currentState=SUBMERGED

MOVE_WITH_TABLE

move into the world and collision detection
if the table is placed this.currentState=PLAY
if water hits Woody currentState=SUBMERGED

SUBMERGED

decrease lives left
if lives left = 0 then GameFSM.currentState=OUTTRO
otherwise currentState=INIT

Tree FSM

INIT

set position of the tree(according to the level)
this.currentState=ALIVE

ALIVE

tree is firm in its position

DESTROYED
tree disappears
this.currentState=WOODEN_TABLE

WOODEN_TABLE
the table moves with Woody or is placed by him somewhere

Dam FSM

INIT
set dam's timer and position (according to the level)
if timer is out this.currentState=EXPLODE

EXPLODE
play explosion sound
Water.currentState= START

Water FSM

START
take position from dam
this.currentState=FLOW

FLOW
if collision with house House.currentState= DESTROYED
if collision with hills this.currentState=DEFLECTS
if collision with wooden table this.currentState=DEFLECTS

DEFLECTS
water change direction according to table orientation or according to hill's point of hit
this.currentState=FLOW

House FSM

INIT
set position of the house(according to the level)

DESTROYED
house disappears
if house belongs to core village {
decrease lives
if lives left = 0 then GameFSM.currentState=OUTTRO
otherwise currentState=INIT
}
otherwise decrease score

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