In Sweets Paradise you play a young girl who was chosen to collect the sweets for a festival. You are in the sweets paradise and try to collect as many cakes as possible. You win the game if you collect a certain number of the cakes and take them to the ghost (the familiar of the mayor of the village), which tries to rum away from you. But there are also dragons who love to steal sweets. If they run into you, they will steal one of your cakes. You lose if there aren't enough cakes left. You have to bring at least 8 cakes to the ghost.

Camera

We implemented a third player camera that can be controlled with moving the mouse while pressing the right mouse button. Depending on the distance of the mouse to the center of the game-window-centre the mouse will move faster or slower. The mouse wheel can be used for zooming.

Complex Objects

The models are made with blender, exported as Collada dae files and loaded with assimp. All of them are illuminated and textured.

Animated Objects

The main character has hierarchical animation. The ghost moves up and down while floating along the ground.

View-Frustum-Culling

The objects are culled, if they are outside the visible area.

Transparency

The ghost (your goal) is half-transparent.

Experimenting

We use

 - Vertex-Buffer-Objects, Vertex-Array-Objects and Frame-Buffer-Objects.

- Mip Mapping

  - Textur-Sampling-Quality (Bi/Trilinear Filtering)

  - Wire Frame mode

keys:

F2 - Framerate on/off

F3 - Wire Frame on/off

F4 - Textur-Sampling-Quality: Nearest Neighbor/Bilinear

F5 - Mip Mapping-Quality: Off/Nearest Neighbor/Linear

F7 - Object count on/off

F8 - Viewfrustum-Culling on/off

F9 - Transparency on/off

Effects

As effects we implemented shadow mapping and snow (particle system).

The ressources used were

shadow maps and pcf „OpenGL 4.0 Shading Language Cookbook" (ISBN13: 9781849514767) (without the subroutines) To soften the edges of the shadows we used pcf.

partikel http://ogldev.atspace.co.uk/www/tutorial28/tutorial28.html
What differs from the tutorial is the data that is send to the shader and the calculations of the snowflakes, since the tutorial implemented a completely different particle system (fireworks, not snow).

Additional libraries

glfw http://www.glfw.org/

glew http://glew.sourceforge.net/

glm http://glm.g-truc.net/

assimp http://assimp.sourceforge.net/

Other special features

a huge cake

dragons

snow on the ground