

Use of the labtrainer code

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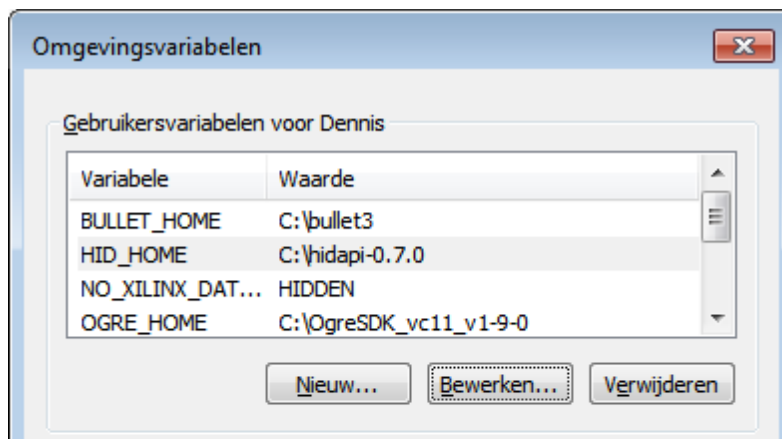
Status:
[Draft][Ready for]Under]Review|Accepted]

Introduction

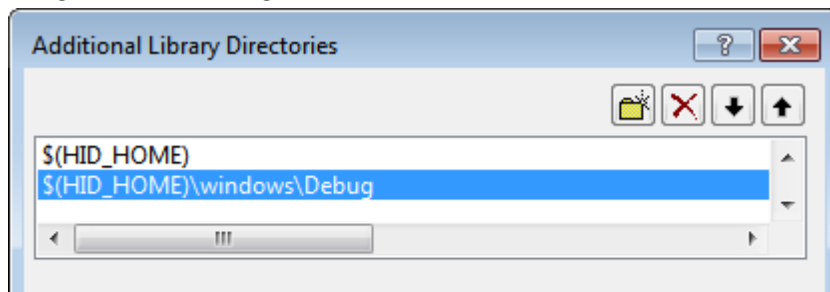
To use the program in visual studio some remarks have to be made to use it probably without understanding the whole code. The program has been changed last week so some new settings are needed before it can be compiled.

Environment variable

To don't have to change every time the place to search for the HIDAPI you can provide the place of HIDAPI to set a environment variable. This can be set like the way you install Ogre (see the manual) the variable to be set is **HID_HOME**

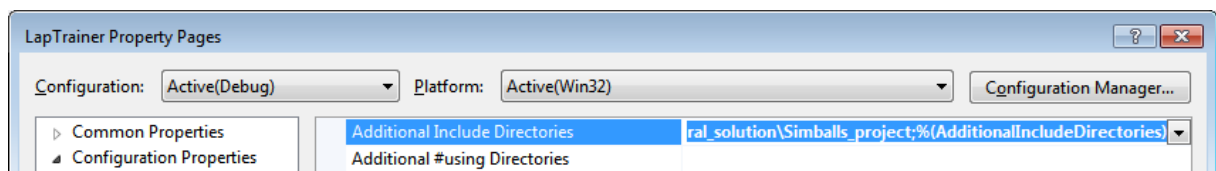


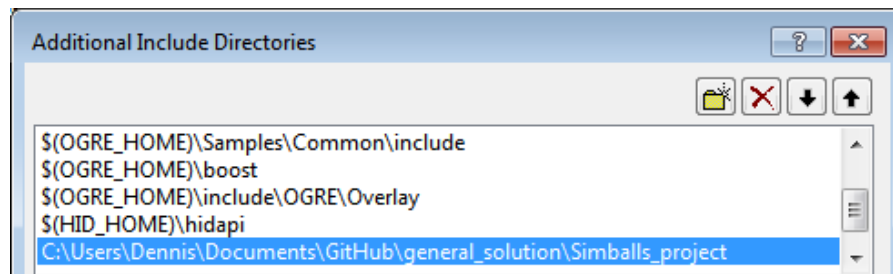
In ogre these settings look like this



Finding files from other projects

To compile the project you the compiler needs to find the files of the other projects like the simballs project. So you've to add this, this is for everybody different so you need to set this at this location.





Checking for simball connection

A check is added to check if the simballs are connected if not then the movement of the simballs will not be added.

Camera movement

The camera is placed in two scenenodes and will work the same way like the entity. You can just move, yaw, rotate etc. the sceneNodes see for an example the keyboard controls.

Box creation

To use the application a box should be created to move the nodes in, to do that we need to use CEGUI, I tried to make this with planes but that doesn't work. The nodes are now placed on the x coordinates 300 and -300 it doesn't look right but if you connect the symbols it must be working. We need to finetune the location when the box is made.

Material of floor

For this we probably need to create a new material or just give it a color like red.

Light

The light is now at the point 100,100,100 but it should be at the same place as the camera?

Keyboard movements

To debug the application keyboard movements are added and updated, the next movements are possible to use.

Key	Element	Action
1	General	Normal movement speed
2	General	Slower movement speed
3	General	Slowest movement speed
a	Left stick	Move left
s	Left stick	Move back
d	Left stick	Move right
w	Left stick	Move forward
a + shift	Left stick	Roll left
s + shift	Left stick	Pitch left
d + shift	Left stick	Yaw left
a + alt	Left stick	Roll right
s + alt	Left stick	Pitch right
d + alt	Left stick	Yaw right
q	Left stick	Move insertion negative
e	Left stick	Move insertion positive
z	Left stick	Move up
x	Left stick	Move down
arrow left	Right stick	Move left
arrow down	Right stick	Move back
arrow right	Right stick	Move right
arrow up	Right stick	Move forward
arrow left + shift	Right stick	Roll left
arrow down + shift	Right stick	Pitch left

arrow right + shift	Right stick	Yaw left
arrow left + alt	Right stick	Roll right
arrow down + alt	Right stick	Pitch right
arrow right + alt	Right stick	Yaw right
n	Right stick	Move insertion negative
m	Right stick	Move insertion positive
k	Right stick	Move up
l	Right stick	Move down
y	Camera	Pull out insertion
u	Camera	Put in insertion
i	Camera	Roll left
o	Camera	Pitch left
p	Camera	Yaw left
i + shift	Camera	Roll right
o + shift	Camera	Pitch right
c	Camera	x increase
v	Camera	y increase
b	Camera	z increase
c + shift	Camera	x decrease
v + shift	Camera	y decrease
b + shift	Camera	zdecrease
p + shift	Camera	Yaw right
4	Debug window	Show frame stats
5	Debug window	Hide frame stats
6	Debug window	Show camera info
7	Debug window	Show left stick info

8	Debug window	Show right stick info
9	Debug window	Hide info

Proposal how to use exercises

To use the exercises a combination of function must be used. The collision can be detected with the function collision detected from ogre bullet, to update the time something can be placed in the framerenderingqueued. For setting the exercises and make settings for this we can use CEGUI to make buttons. Also CEGUI will be used to show the score and the time etc. The combination of these functions are making it possible to implement the exercises.

Moving the scissors

To move the scissors of the node it's possible to work with a skeleton, you can move parts of the skeleton and cut for example.

Note: pitch yaw roll

While testing I noticed that you've when rolling the degrees are turning I think that's also happening with the sybballs I think but I'm not sure.

Changing the debug window

You can add/change lines in initSDKTray() in Ogre.cpp

The updating of the data happends in frameRenderingQueued in LapTrainer.cpp

Please note you can use the keys 1,2,3 for changing the moving speed

Testing

Please test again if the sybballs are working, the sticks are moved so maybe it doesn't expect as expected. After this it's possible to implement the camera syball.

Tip for testing

It's easier for testing to don't use full screen so you can change this in ogre.cfg.

References

None