SDL 5 - Scene Switching

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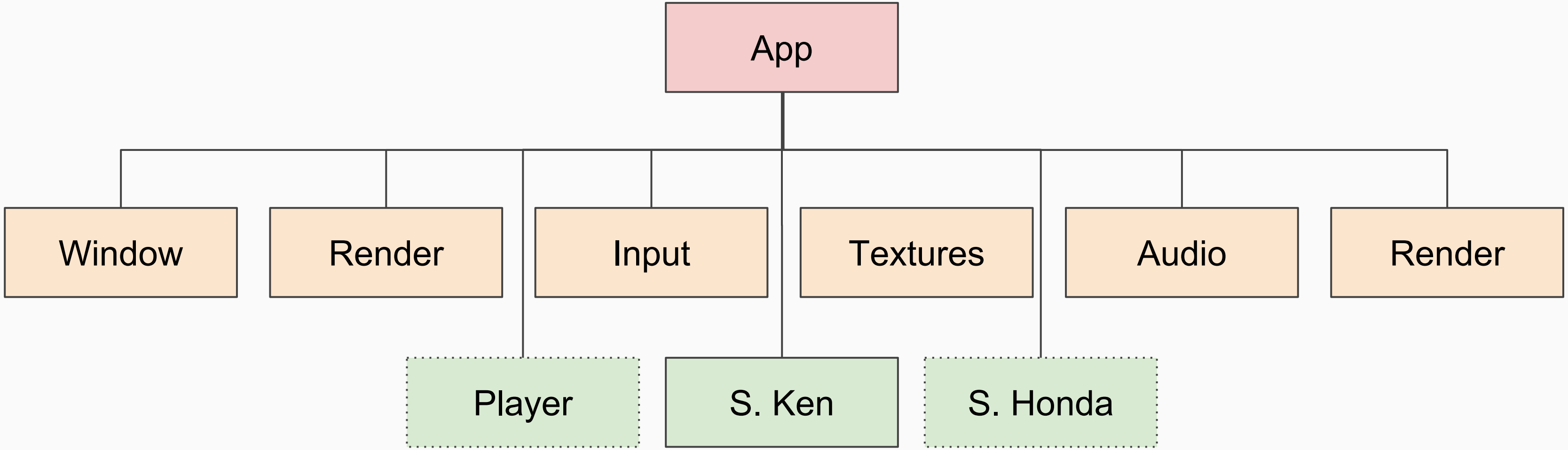
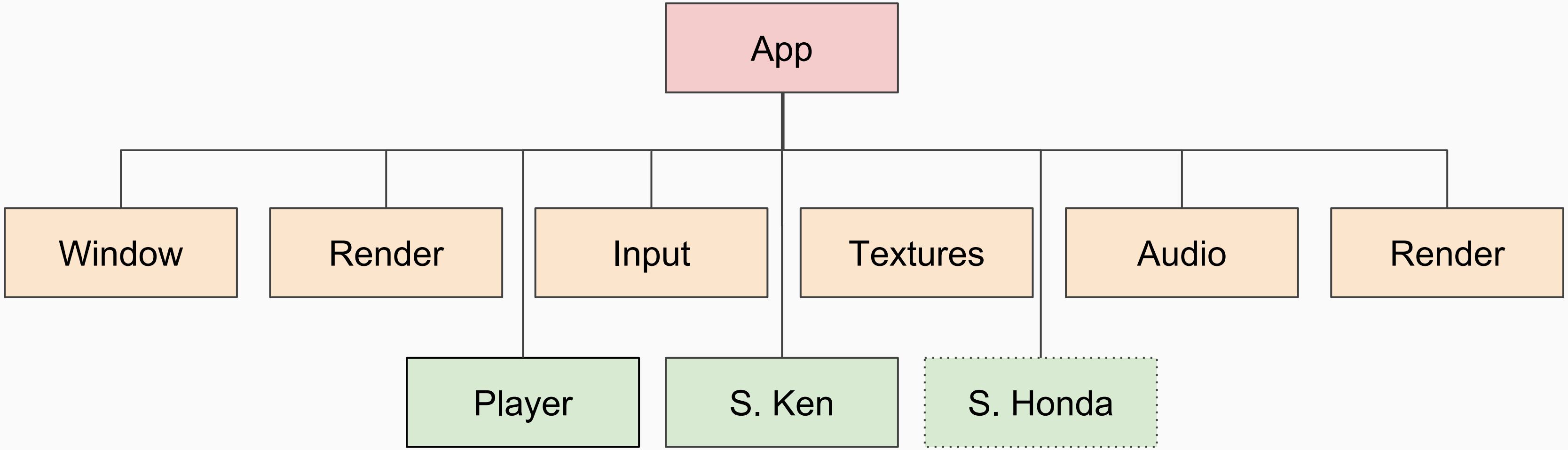
General improvements

- MIN(a,b) MAX(a,b) macros added to Globals.h
- Now Module has a *Enable() Disable()* and *IsEnabled()*
- Disabled modules **do not**: *Start() PreUpdate() Update() PostUpdate()*
- When **Enabling** a Module *Start()* will be called
- When **Disable** a Module *CleanUp()* should be called
- We can unload textures using *ModuleTextures::Unload()*

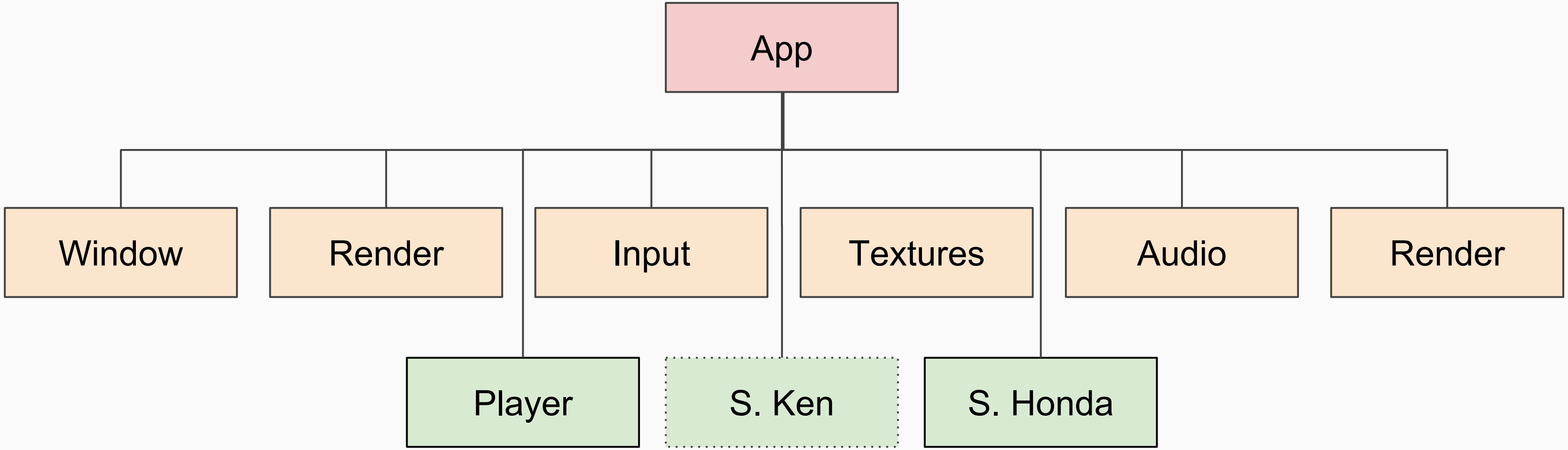
Modules Initial Setup



When the game starts



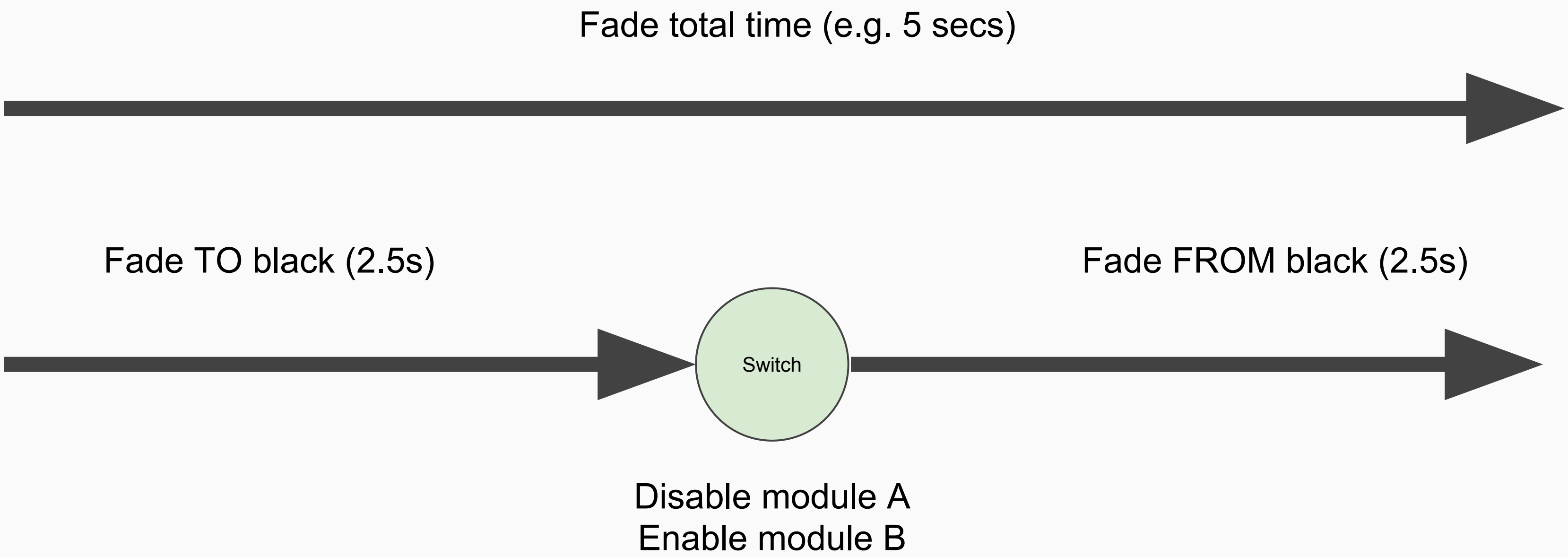
When we switch to Honda



New Module: Fade To Black!

- Will draw a black rectangle on the screen
- It gains/loses alpha over time
- At the midpoint, we call disable then enable (in this order) another module
- Take your time to read the code
- Check the usage of SDL_GetTicks()

Fading over time



Fade total time (e.g. 5 secs)

Fade TO black (2.5s)

Fade FROM black (2.5s)

Disable module A
Enable module B

TODO 0

“Call CleanUp() for disabling a module”

- Follow the code of Enabled()
- … then do the opposite!
- Notice how disabled modules do not Update in Application
- During Application::Init we disable the initial modules
- If you did it well, Ryu should not be there

TODO 1

“Enable (and properly disable) the player module”

- Player must start disabled
- … so we only enable it when a scene starts
- Remember to also disable del player when the scene leaves (CleanUp())
- If you did it well, Ryu should be there again :)

TODO 2

“Enable / Disable the modules received when FadeToBlack() gets called”

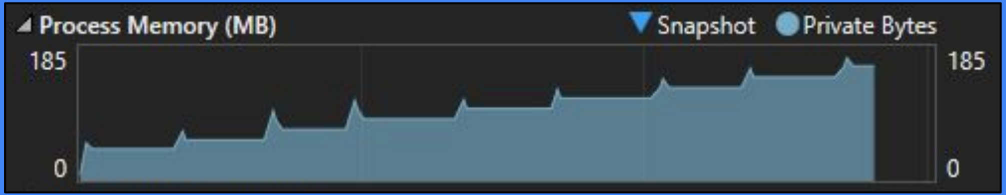
- Read the code carefully and try to understand everything
- Update() doesn’t do anything until a FadeToBlack() call gets made
- Try LOG the normalized variable to understand the progress of alpha
- Nothing should be happening yet
    - Hint: some “TODOs” affect more than the function in which they are placed ;)

TODO 3

“Make so pressing SPACE the KEN/HONDA stage is loaded”

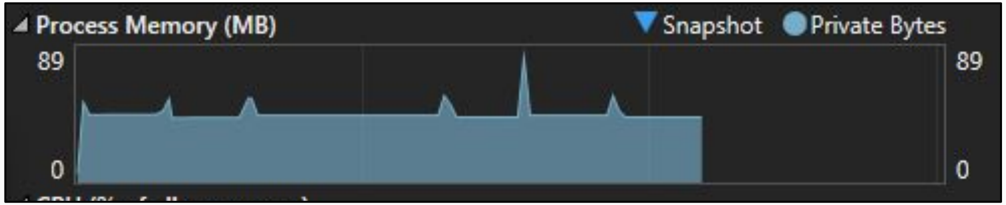
- Same code goes to Honda **and** Ken Scene Modules
- You must disable yourself and enable the other one
- Experiment with different fade times
- You should be able to change between scenes now

TODO 4



“Remove All Memory Leaks”

- Check the memory debugger from Visual Studio
- It is clear that every time we switch scenes we increase the memory used
- We are leaking memory in few modules, not just one!



Homework

- Create a version 0.2 of your game with:
  - Welcome screen
  - First level
  - Second level
  - Congrats screen
  - Back to Welcome screen
- Each of them with the correct music!