True Type Fonts (TTF)

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A guy that knows C++

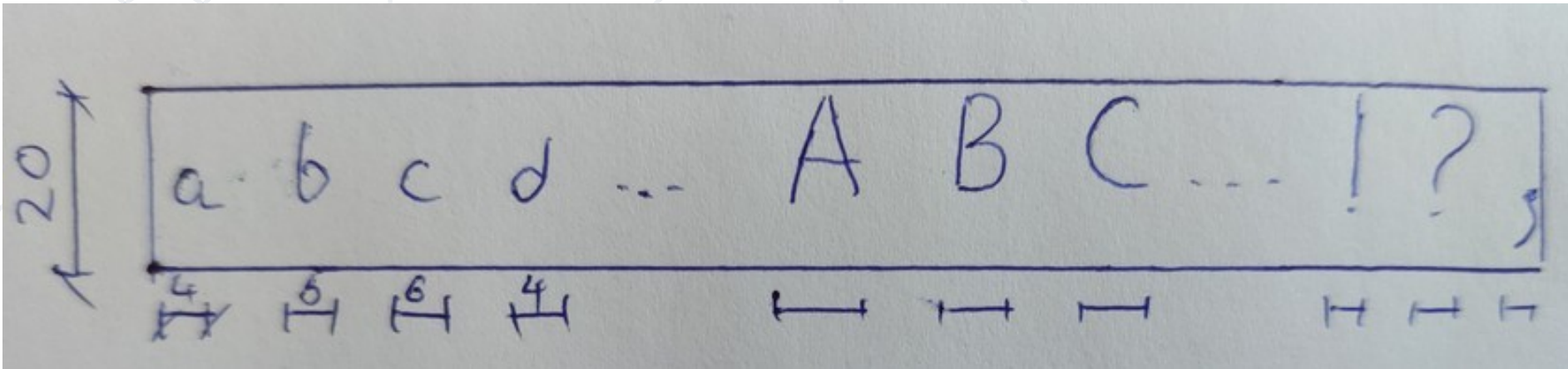**Software University**

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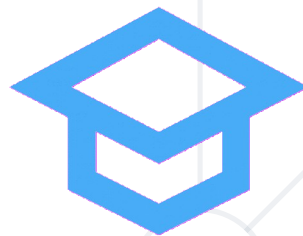
sli.do

#app-dev-cpp

True Type Fonts

- True type font is a **font standard** (*.ttf)
- It offers high **degree of control** over precisely how the font is displayed right down to pixel level, at **various font sizes**
- In order the achieve this the font has an **embedded glyphs** (size of different part of the letters, offsets from characters, etc...)


- *Simplified view

True Type Fonts Usage

- Load the TTF font with the **desired font size**

- Generate **run-time texts** → turned into graphical CPU primitives (SDL_Surface for example)

- **Obtain** the run-time surface **width** and **height**
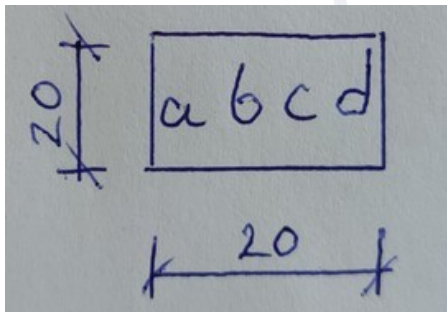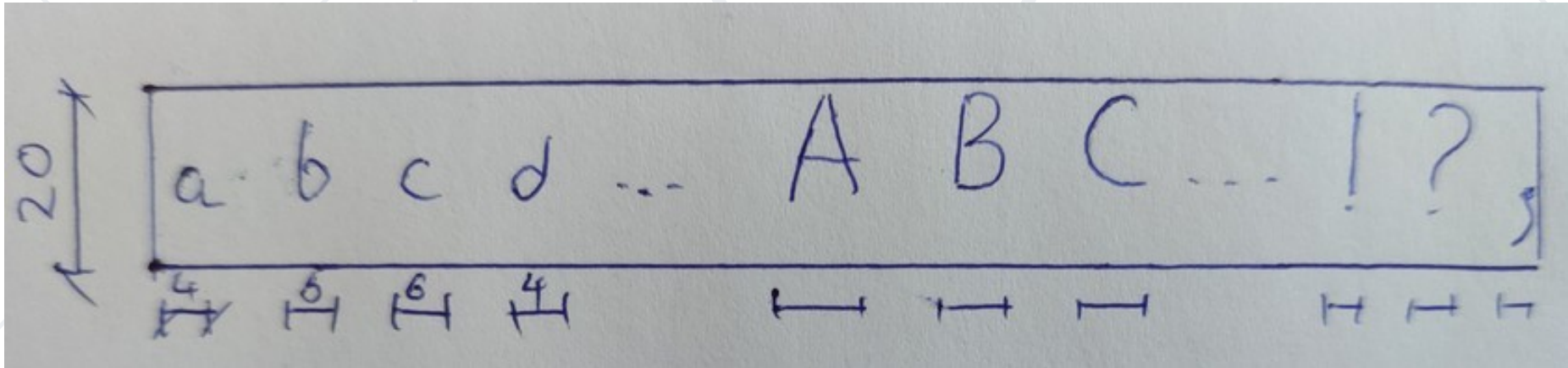
- **Upload** the CPU surface to the GPU → (SDL_Texture for example)
- **Destroy** the CPU surface
- If CPU surface is not destroyed → **memory leak**
- The "text" could no longer be changed since it is **embedded** into the graphical asset
- Changing of a "text" requires **destruction** of the previous "text" and **dynamic creation** of new one
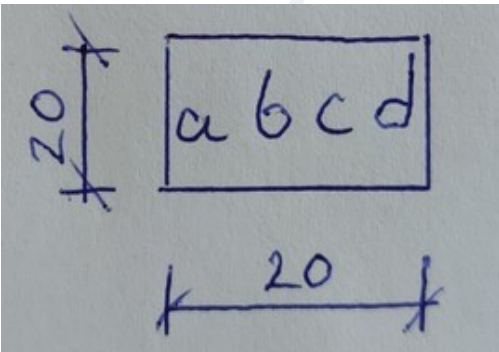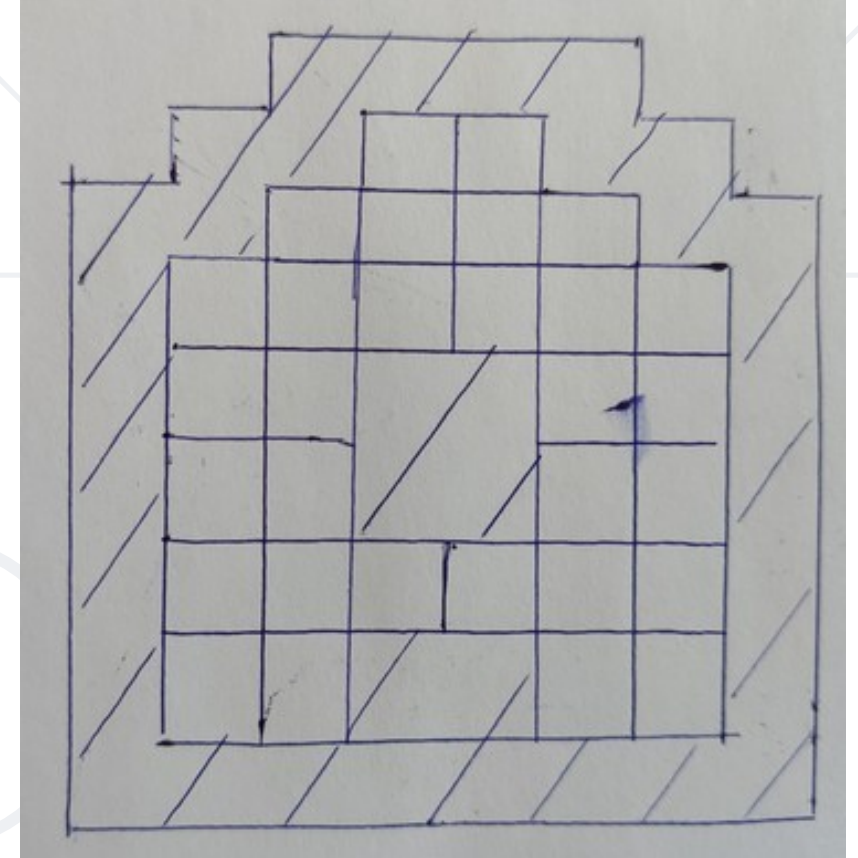
True Type Fonts Pitfalls

- Using "raw" true type fonts will probably lead to the graphical assets containing **sharp edges**

- If you look closely – you can see the sharp edges (pixels)

- This is due to the **sudden change** between **background** and **text** pixels
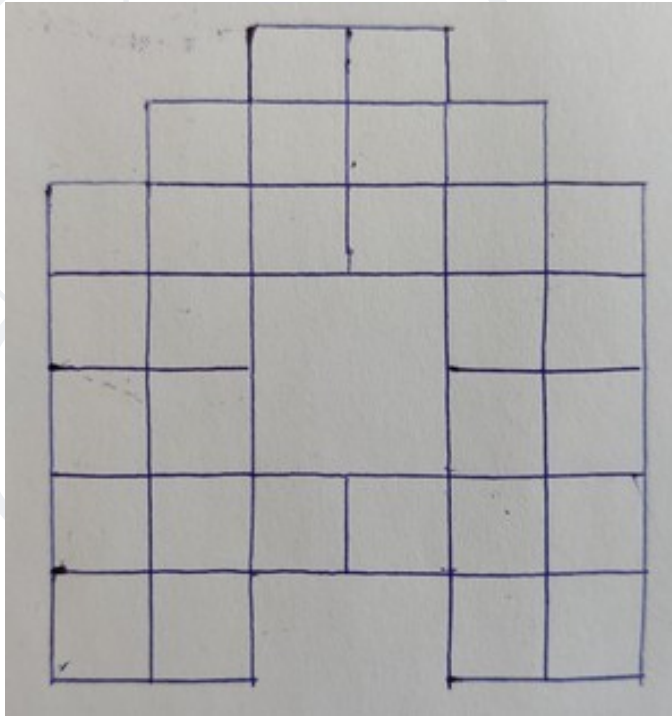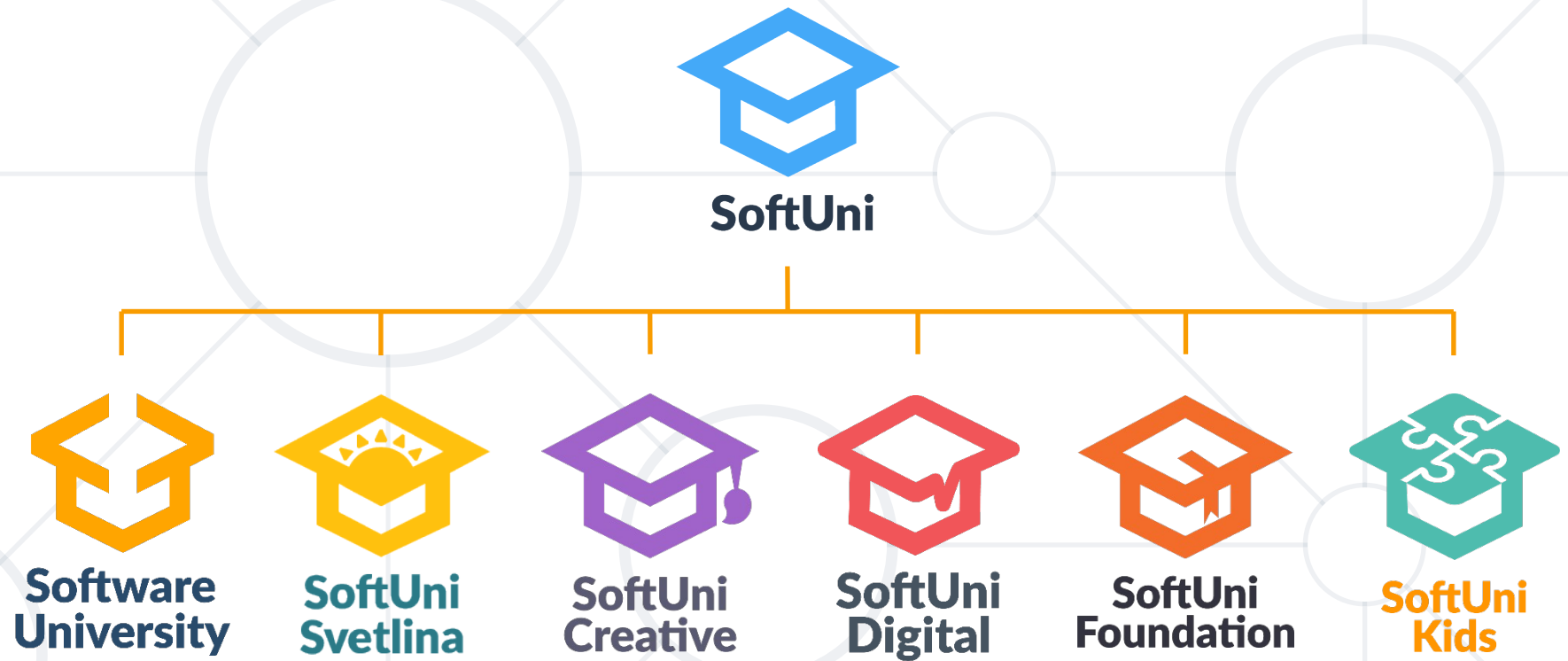
True Type Fonts Enhancements

- A technique called **anti-aliasing** could be applied to **smooth** the text edges

- There is a small **run-time penalty**, but nothing crucial

- An **additional layer/layers** of pixels is applied on the corner of the text so a smooth pixel value **transition** could be achieved

- This is automatically applied by developers to every modern GUI that deals with texts

Questions?

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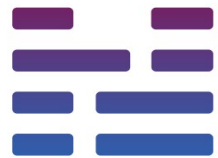
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