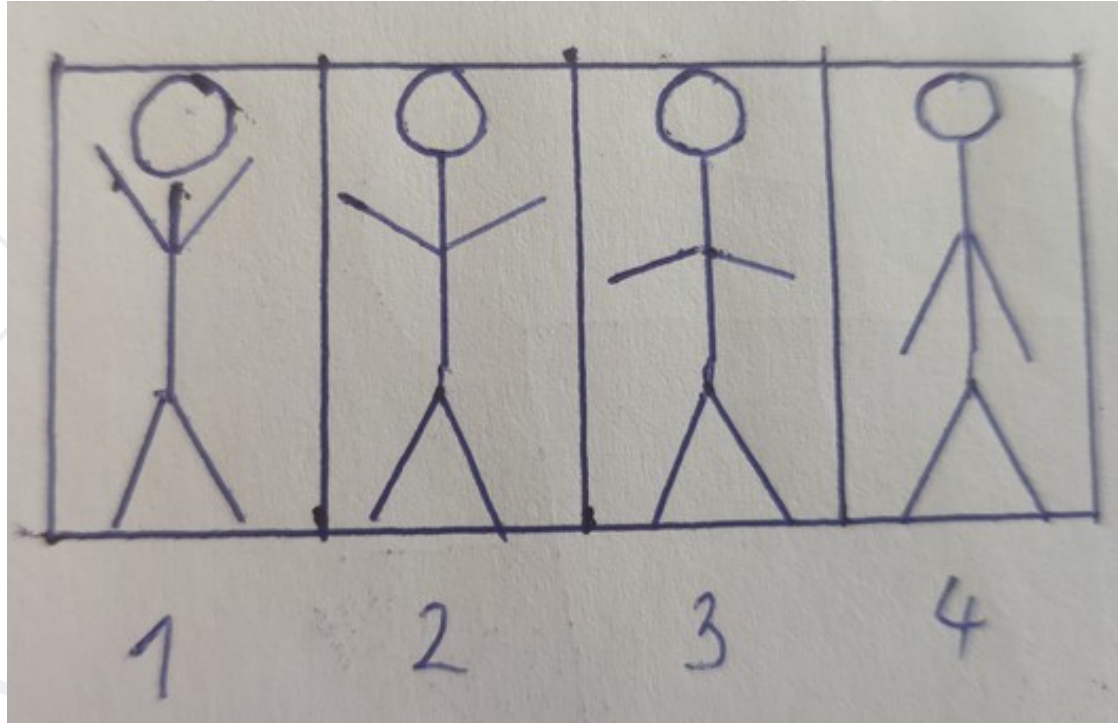
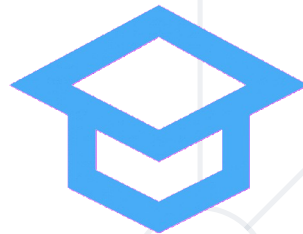


Sprite Sheets and Animations



Zhivko Petrov

A guy that knows C++



SoftUni



Software University

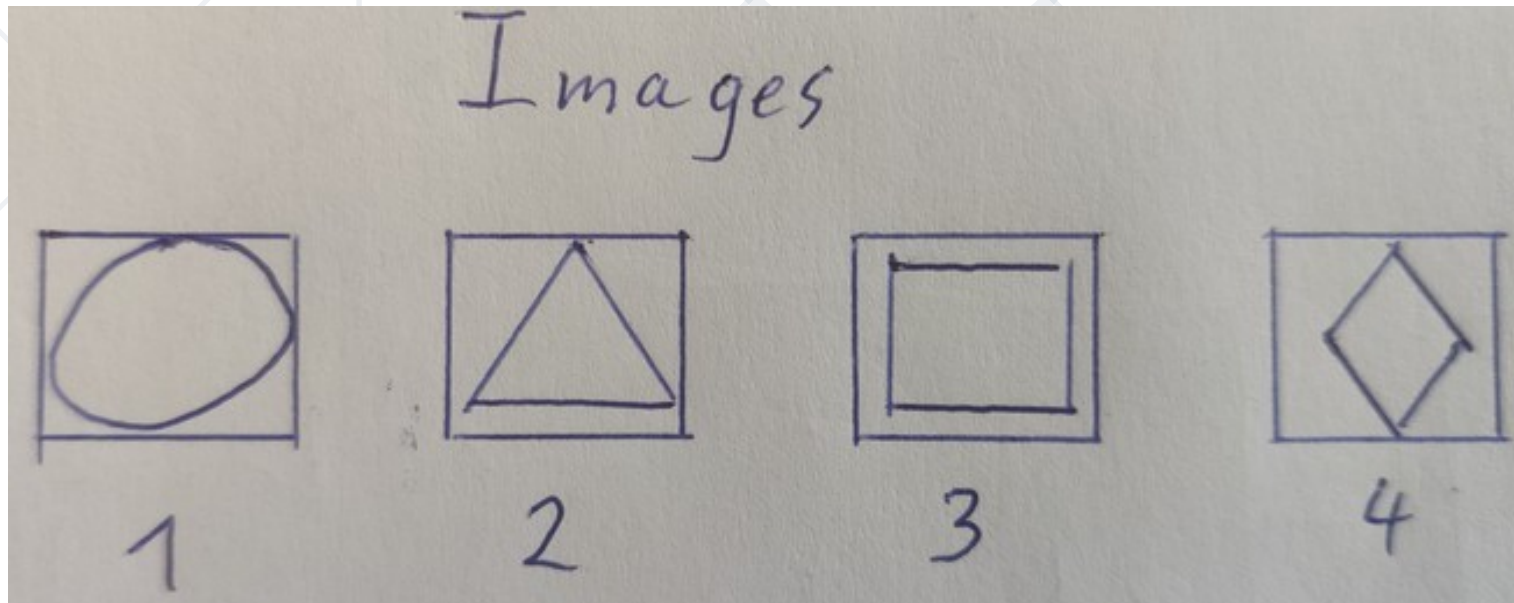
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sli.do

#app-dev-cpp

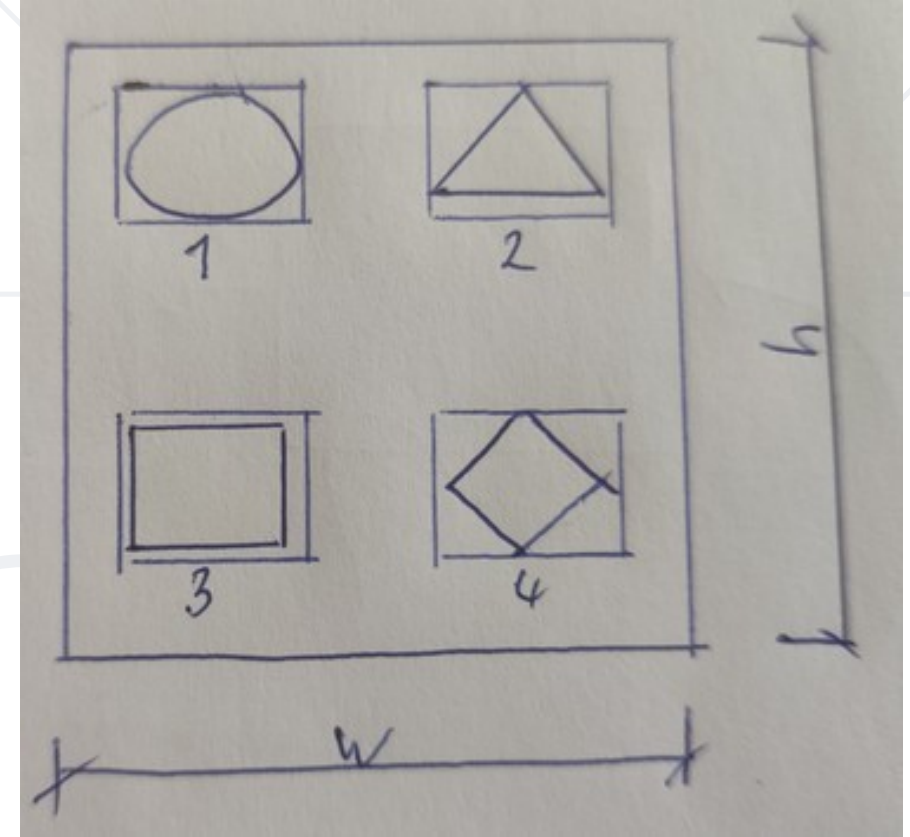
Multiple images

- Usually the UI in graphical applications contains **many images**
- Potentially tens, hundreds, thousands
- If all of those images are loaded as separate assets this could be **slow and tedious**



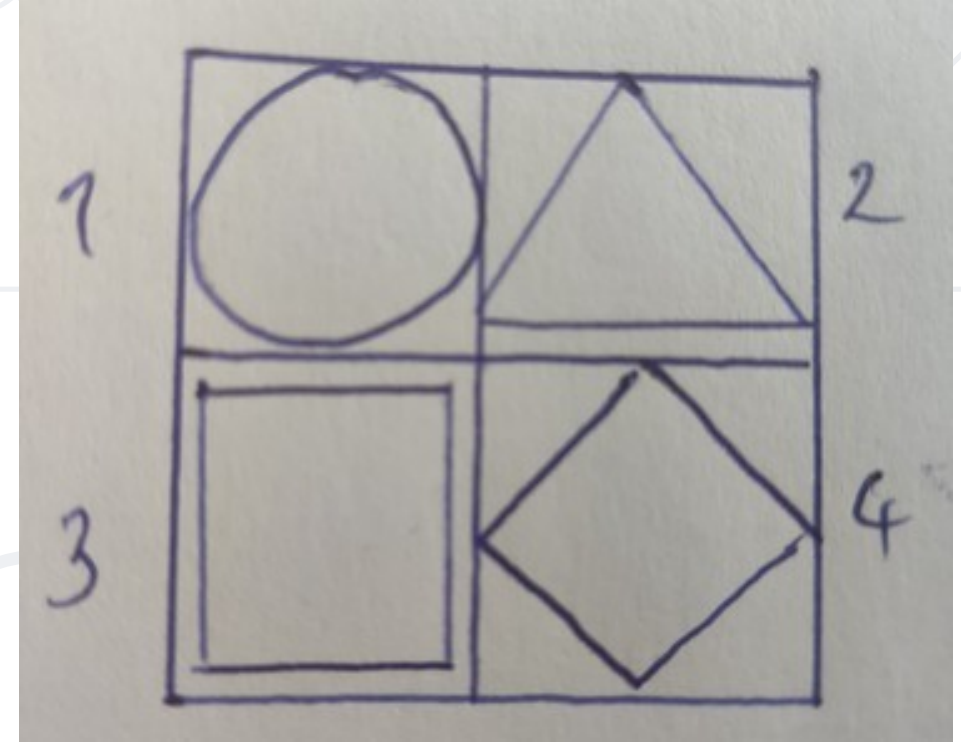
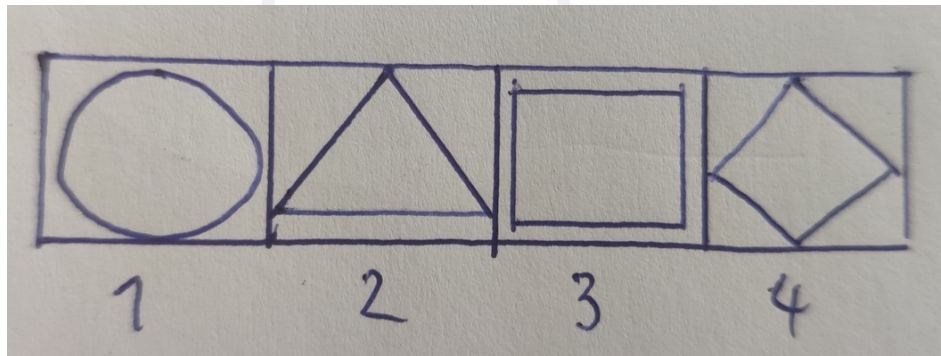
Sprite Sheets

- Usually assets of the same family (or animation) are stored together into a **single file**
- Different asset position and dimensions are marked with a **bounding rectangle**
- We can **choose** to draw only a certain part of the asset (certain bounding rectangle)
- This also **improves the GPU performance**



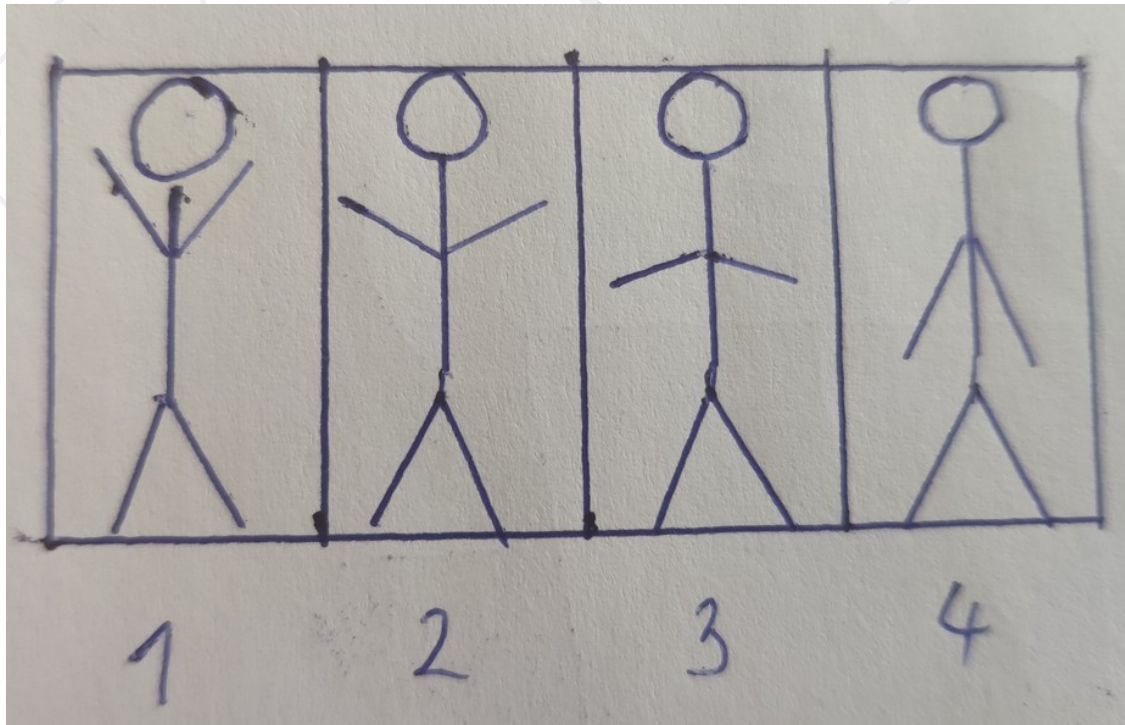
Optimal Sprite Sheets

- There is a lot of **empty wasted space** in the asset
- It is a **penalty** we have to eliminate
- **Strip the asset** from the redundant space
- Layout of the assets is not important.
- The **bounding rectangles** are



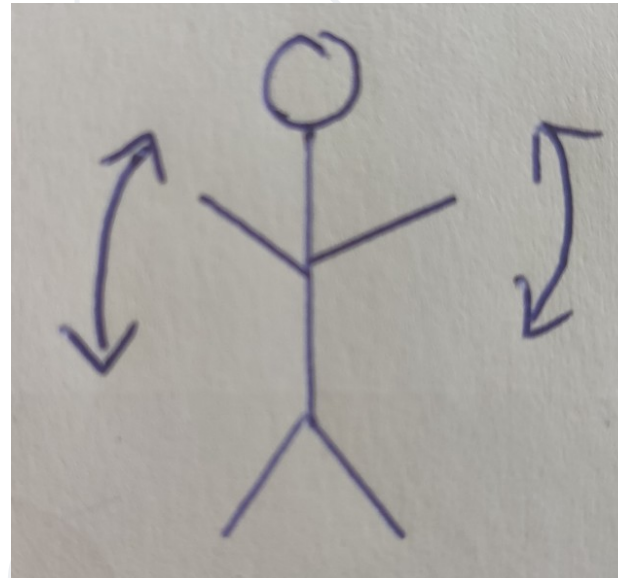
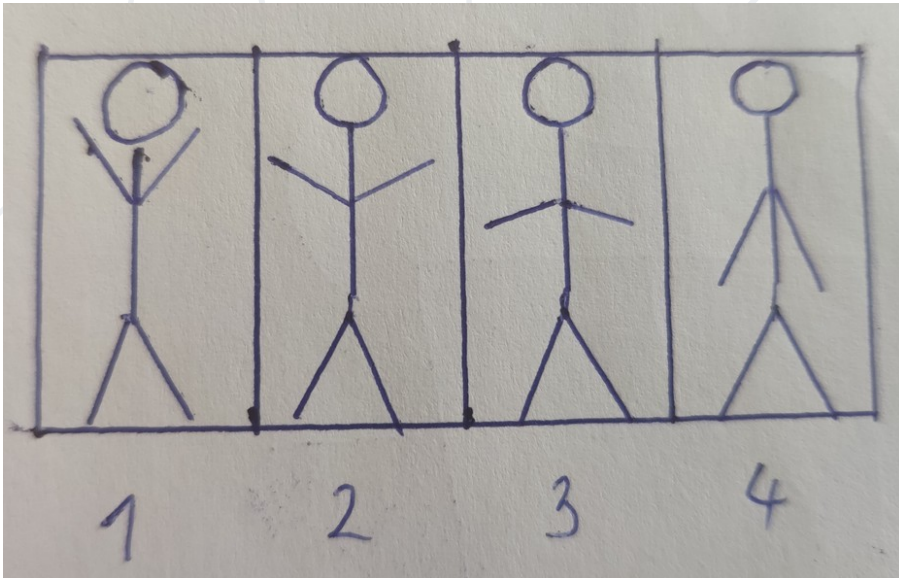
Sprite Sheets with common family

- Even more common scenario is to combine assets of the same family (**same asset**) into a **single sprite sheet**
- This way they are logically bound and visible
- It is the pillar of animations (sprite animations)

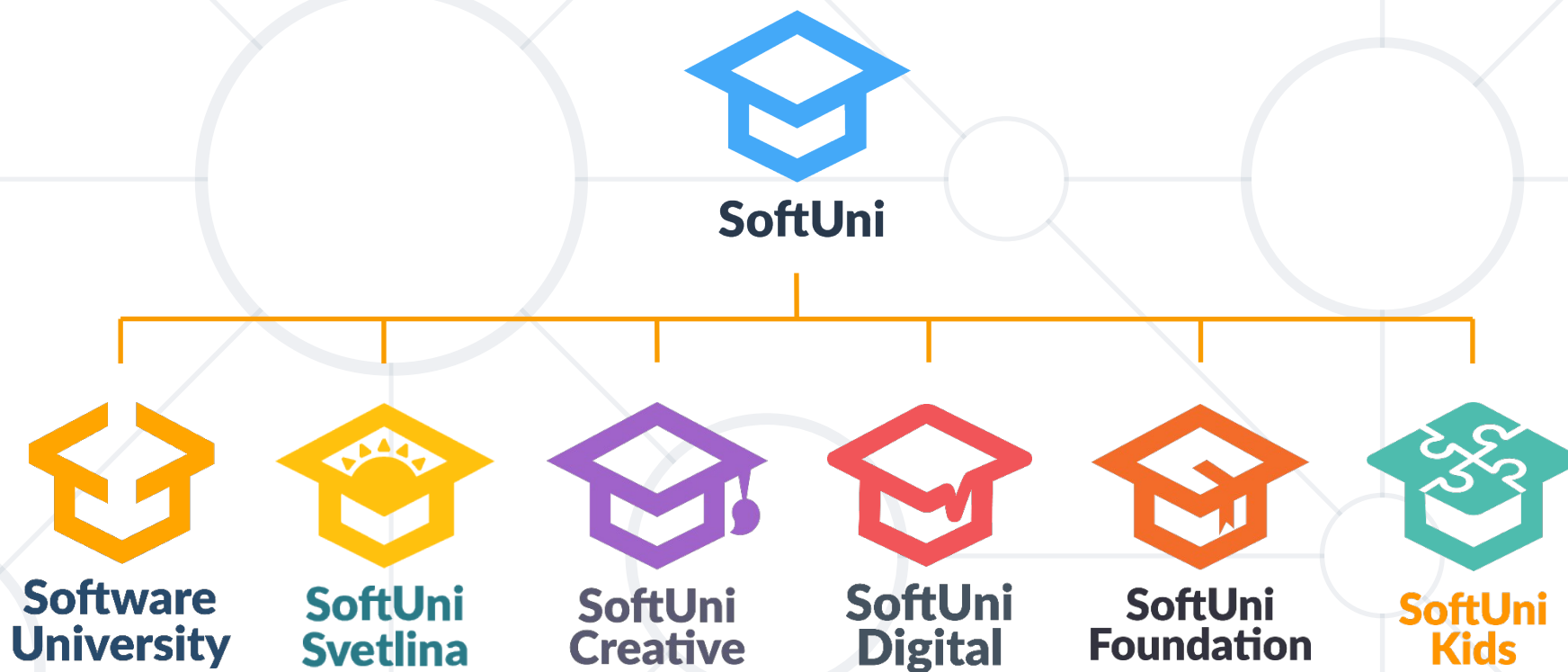


Sprite Sheets animations

- Imagine the first rectangle is drawn at position X, Y
- Then the first rectangle is hidden
- Then the second rectangle is drawn at the same position X,Y
- Then the second rectangle is hidden
- Repeat until the end



Questions?



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