



```
"typeScene": "VIRTUAL",
"objects": [
{
  "name": "Esfera petita",
  "type": "sphere",
  "center": [0.0, 0.0, 0.0],
  "radius": 0.5,
  "material": {
    "type": "lambertian",
    "ka": [0.2, 0.2, 0.2],
    "kd": [0.5, 0.5, 0.5],
    "ks": [1.0, 1.0, 1.0],
    "shininess": 10.0,
    "kt": [0.0, 0.0, 0.0],
    "nut": 0.0
  }
}
```

spheres.json

DATA\_TYPES::VIRTUALWORLD  
DATA\_TYPES::TEMPORALVW

Objectes  
Virtuals

elements geomètrics  
(objectes)  
propietats òptiques  
(materials i textures)

OBJECT\_TYPES::SPHERE  
OBJECT\_TYPES::PLANE  
MATERIAL\_TYPES::MATERIAL,  
MATERIAL\_TYPES::COLORMAP  
LIGHT\_TYPES::POINTLIGHT



Coordenades de Món

Escena virtual

setup.json

```
{
  "renderType": "ONLINE",
  "output": "resultat.ppm",
  "camera": {
    "lookFrom": [0.0, 0.0, 2.0],
    "lookAt": [0, 0, -1],
    "vup": [0, 1, 0],
    "vfov": 90.0,
    "aspectRatio": 1.77,
    "pixelsX": 400
  },
  "colorTopBackground": [0.5, 0.7, 1],
  "colorDownBackground": [ 1.0, 0.2, 0.2]
}
```

Fitxer .jpg

Menú File  
->Save Buffer

ZBuffer

Finestra  
GLWidget

Fitxer .jpeg

Menú File  
->Star and Save Animation

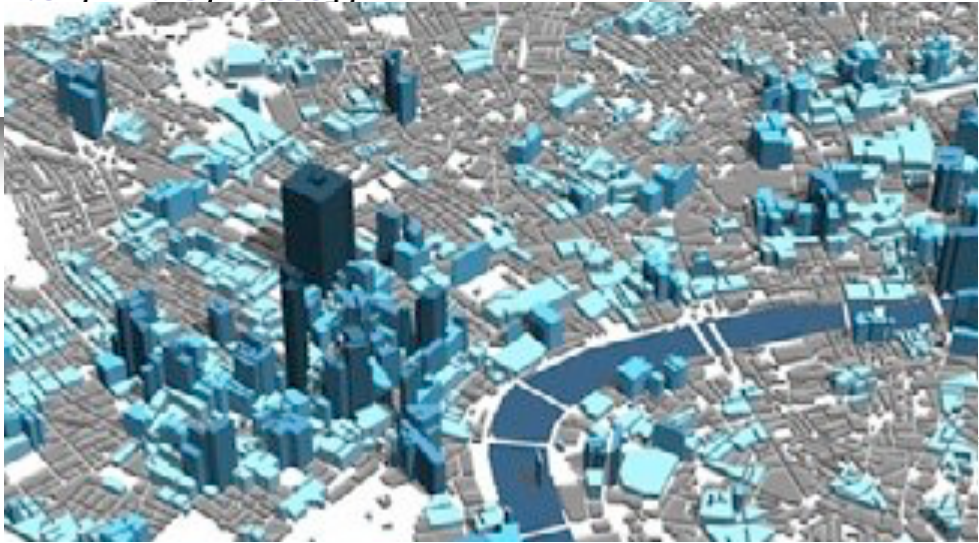
```
"typeScene": "REALDATA",
"properties": [
{
  "name": "temperatura",
  "gyzmo": "sphere",
  "minValue": 0,
  "maxValue": 500000,
  "colorMap": "COLOR_MAP_TYPE_PLASMA",
  "material": {
    "type": "lambertian",
    "ka": [0.2, 0.2, 0.2],
    "kd": [0.7,0.6,0.5],
    "ks": [0.7, 0.7, 0.7],
    "shininess": 10.0
  }
},
"data": [
[ 2.1, 41.31, 10000],
[ 2.2, 41.32, 10000],
[ 2.25, 41.35, 10000],
[ 2.07, 41.45, 10000],
[
[
[
```

dadesEuropa.json

Adquisició de  
dades

Visualització  
mapping

DATA\_TYPES::REALDATA  
DATA\_TYPES::TEMPORALDATA







```
"typeScene": "VIRTUAL",
"objects": [
{
  "name": "Esfera petita",
  "type": "sphere",
  "center": [0.0, 0.0, 0.0],
  "radius": 0.5,
  "material": {
    "type": "lambertian",
    "ka": [0.2, 0.2, 0.2],
    "kd": [0.5, 0.5, 0.5],
    "ks": [1.0, 1.0, 1.0],
    "shininess": 10.0,
    "kt": [0.0, 0.0, 0.0],
    "nut": 0.0
  }
}
```

spheres.json

DATA\_TYPES::VIRTUALWORLD  
DATA\_TYPES::TEMPORALVW

setup.json

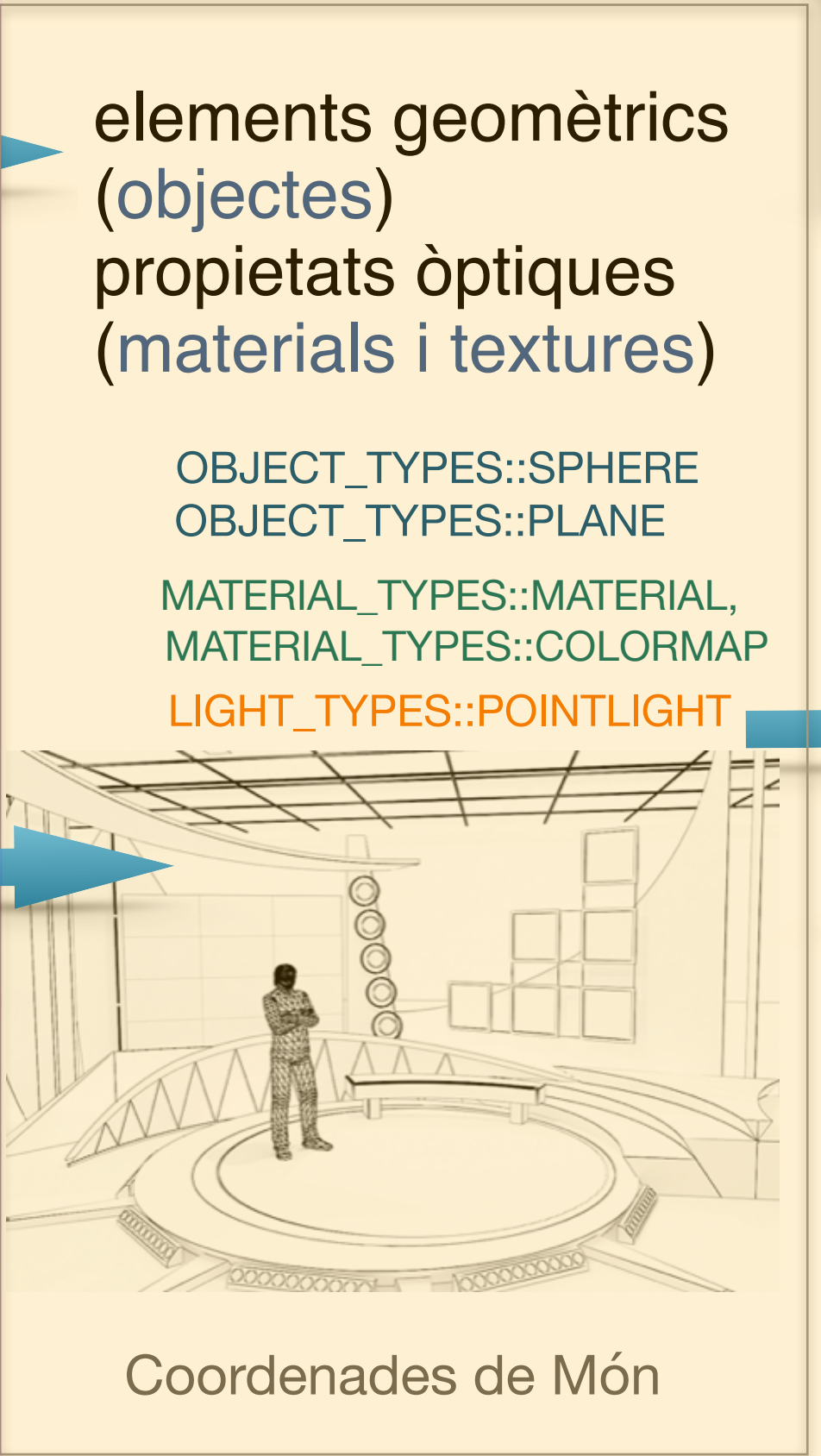
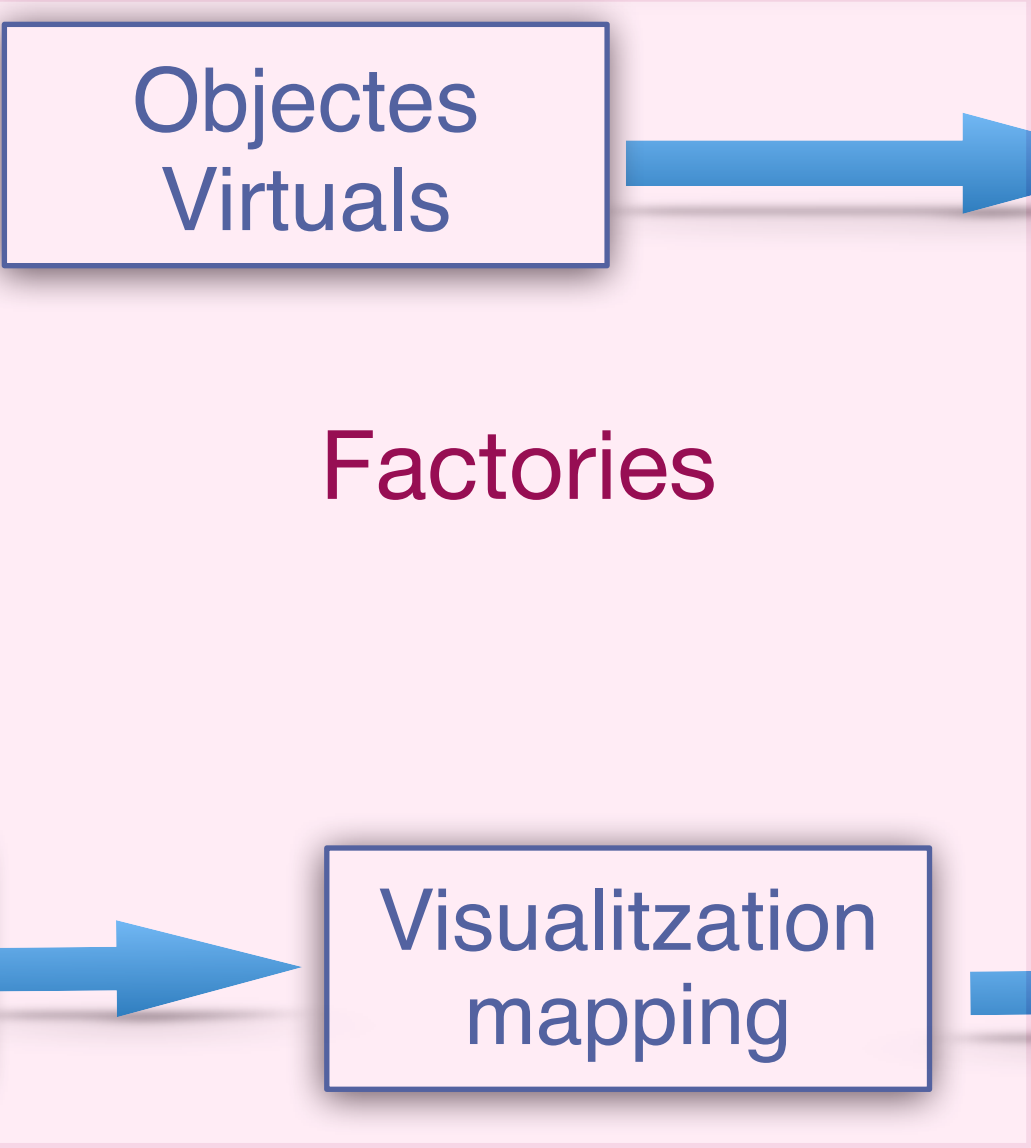
```
{
  "renderType": "ONLINE",
  "output": "resultat.ppm",
  "camera": {
    "lookFrom": [0.0, 0.0, 2.0],
    "lookAt": [0, 0, -1],
    "vup": [0, 1, 0],
    "vfov": 90.0,
    "aspectRatio": 1.77,
    "pixelsX": 400
  },
  "colorTopBackground": [0.5, 0.7, 1],
  "colorDownBackground": [ 1.0, 0.2, 0.2]
}
```

```
"typeScene": "REALDATA",
"properties": [
{
  "name": "temperatura",
  "gyzmo": "sphere",
  "minValue": 0,
  "maxValue": 500000,
  "colorMap": "COLOR_MAP_TYPE_PLASMA",
  "material": {
    "type": "lambertian",
    "ka": [0.2, 0.2, 0.2],
    "kd": [0.7,0.6,0.5],
    "ks": [0.7, 0.7, 0.7],
    "shininess": 10.0
  }
},
"data": [
[ 2.1, 41.31, 10000],
[ 2.2, 41.32, 10000],
[ 2.25, 41.35, 10000],
[ 2.07, 41.45, 10000],
[
[
[
```

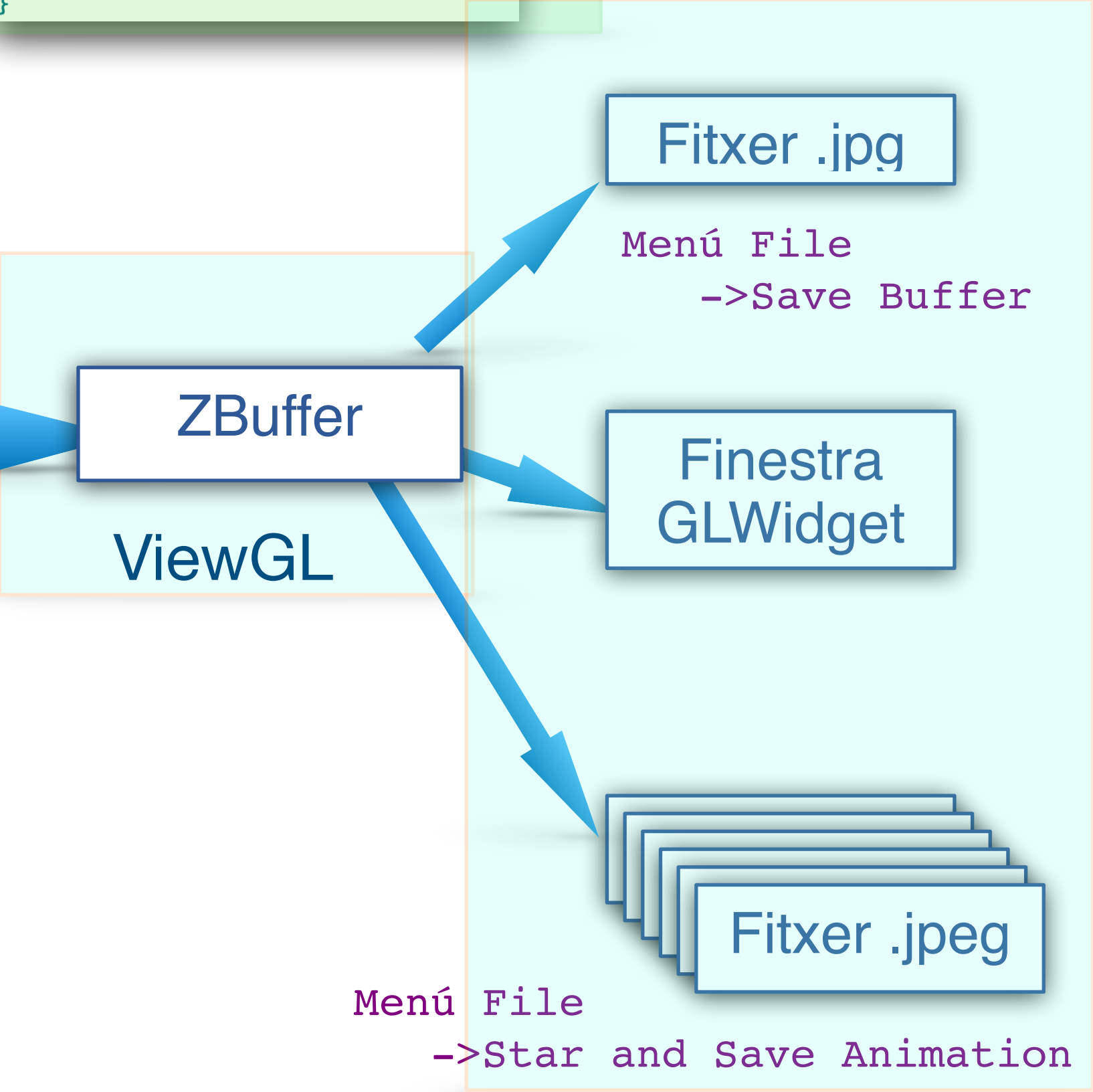
dadesEuropa.json

Adquisició de dades

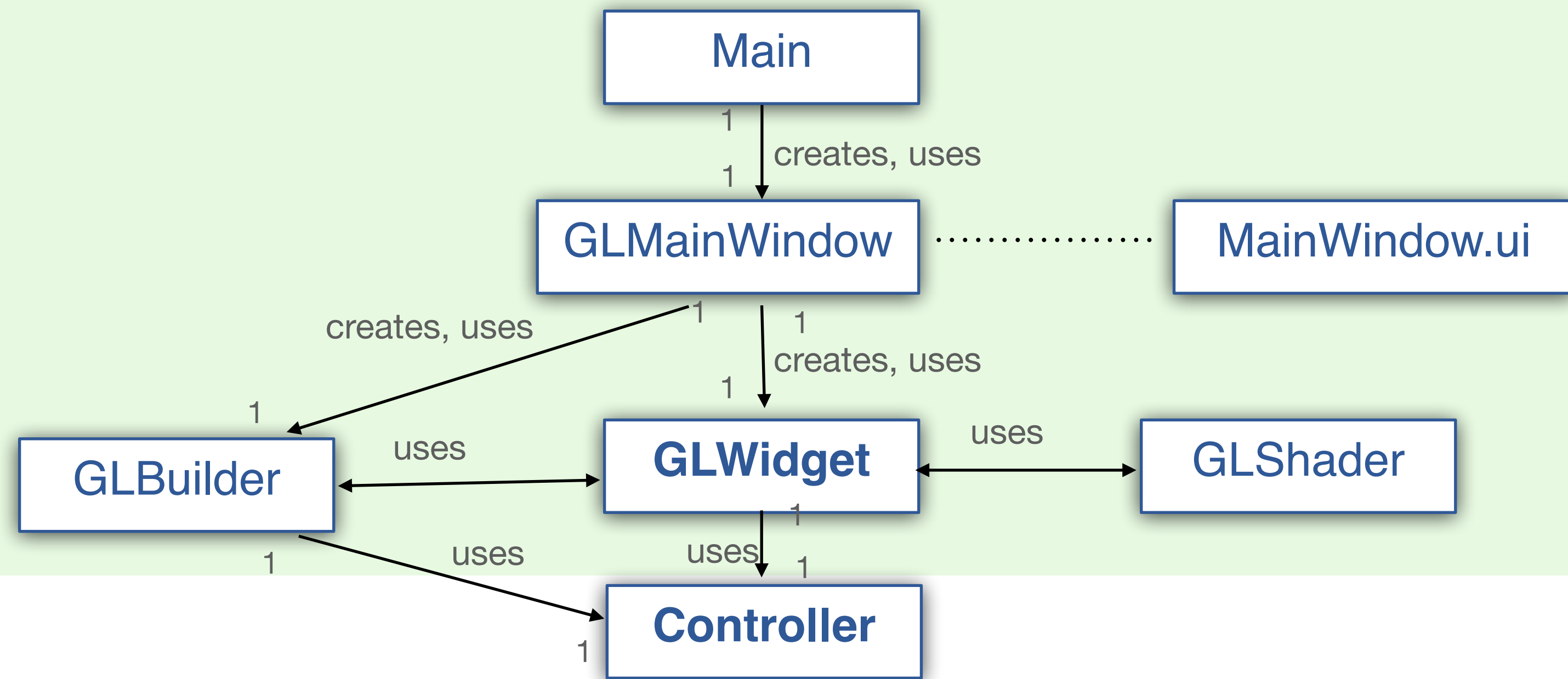
DATA\_TYPES::REALDATA  
DATA\_TYPES::TEMPORALDATA



Escena virtual  
Modelling/GPUConnections



## ViewGL



## GPUConnections

GPUFactories\*

