ofxApp

Features (1)

- Startup / Loading Screen with progress (ofxStateMachine)
- CMS Asset download/cache/checksum management (ofxSimpleHttp, ofxAssets, ofxTagSystem)
- CMS JSON content loading & failover recovery (ofxMTJsonParser)
- CPU & GPU profiler (ofxTimeMeasurements)
- Dynamic texture load / unload (TexturedObject)

Features (2)

- Logging to file & screen (ofxSuperLog)
- Parameter Tweaking (ofxRemoteUI)
- Error Reporting to CMS (ofxSensu)
- Static Textures preloading + access by fileName + live asset edits (ofxAppStaticTextures + ofxAutoTexture)
- Analytics (ofxGoogleAnalytics)
- Fonts (ofxFontStash)

Features (3)

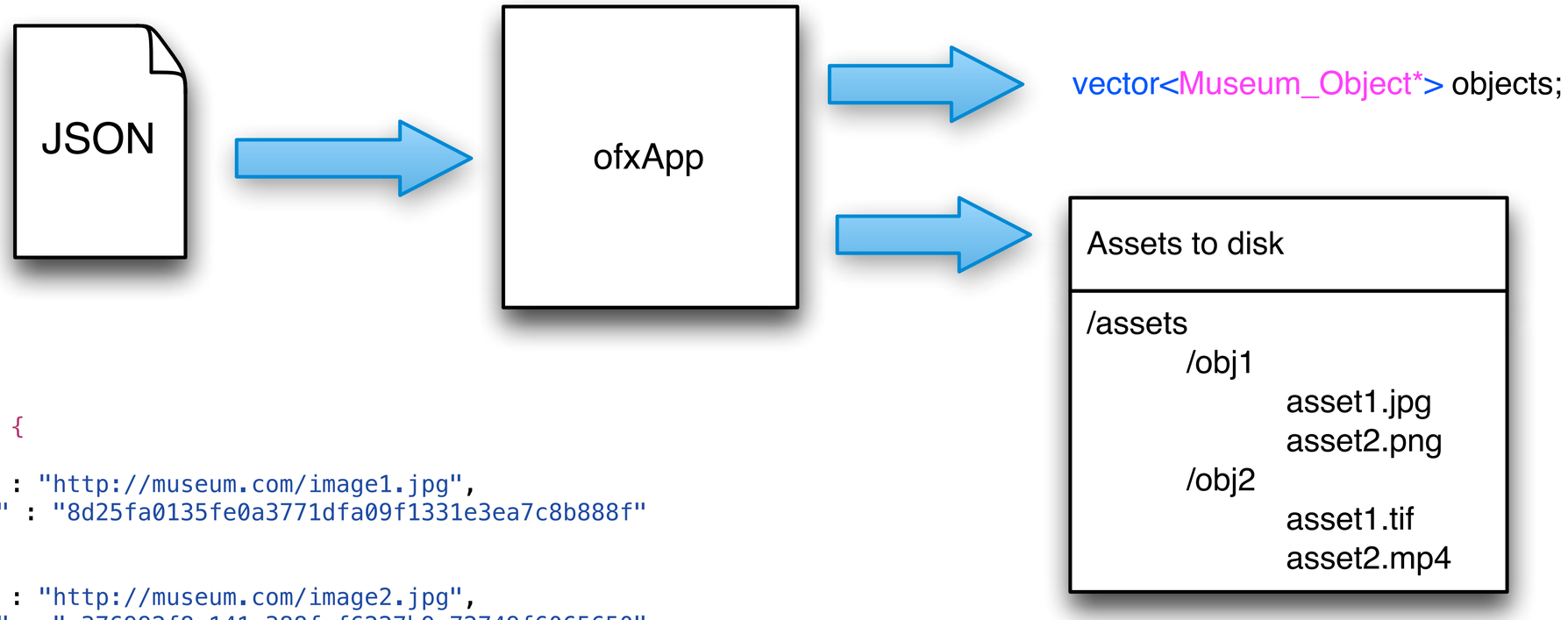
- TUIO (ofxTuio)
- Screen Management (fullscreen, window, etc) (ofxScreenSetup)
- All behaviors highly configurable from a single config file (ofxJsonSettings)

Dependencies

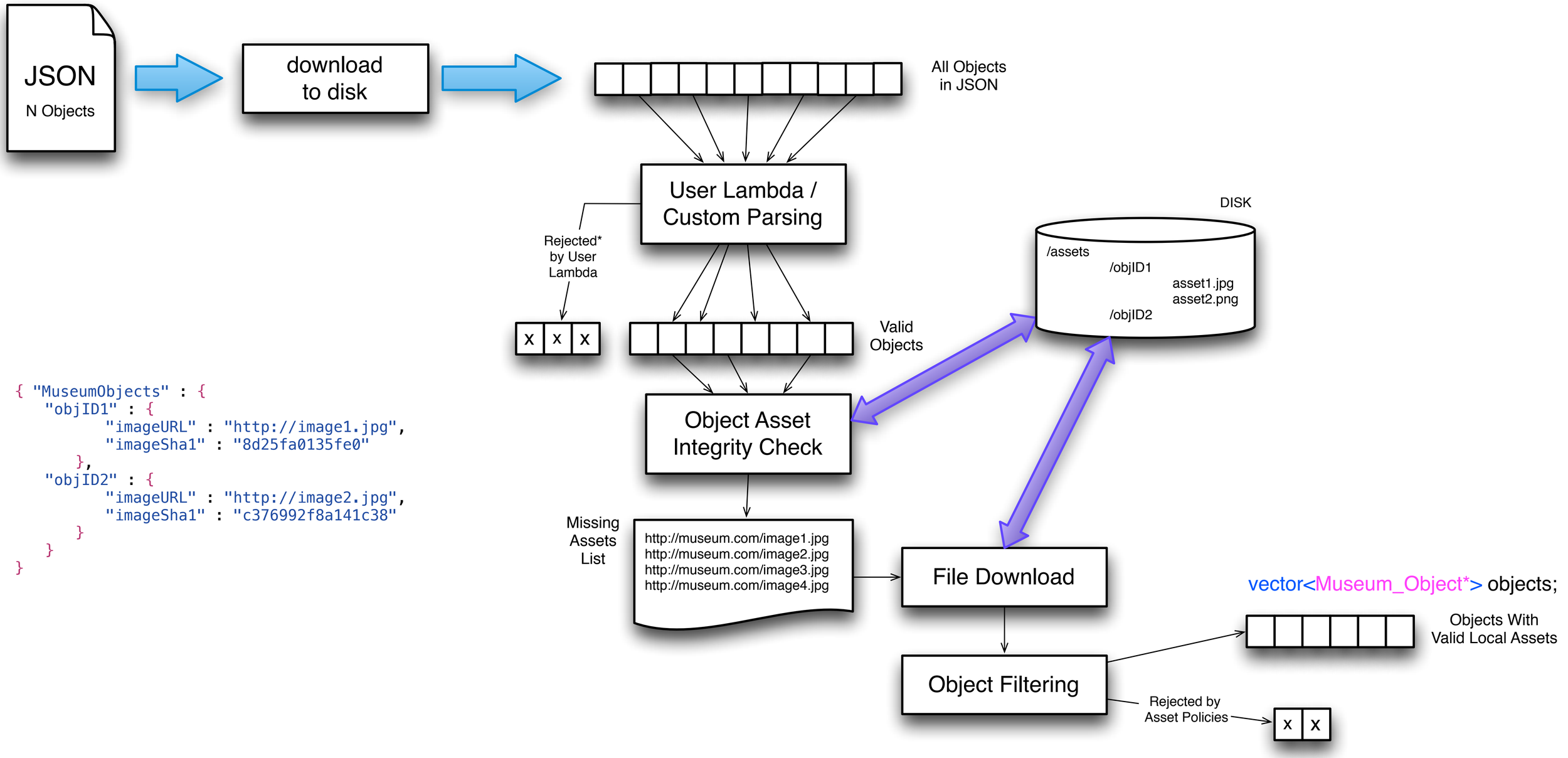
- ofxOSC
- ofxXmlSettings
- ofxFontStash
- ofxTuio
- ofxJson
- ofxSuperLog
- ofxAutoTexture
- ofxMtJsonParser
- ofxSimpleHttp
- ofxTagSystem
- ofxStateMachine
- ofxAssets
- ofxThreadSafeLog
- ofxProgressiveTextureLoad
- ofxTexturedObject
- ofxOpenCV
- ofxSensu
- ofxNetwork
- ofxGoogleAnalytics
- ofxJsonSettings
- ofxTimeMeasurements
- ofxRemoteUI
- ofxHistoryPlot
- ofxScreenSetup
- ofxMullion


Time in State: 0.1 seconds
WILL LOAD CONTENT - doing stuff ...
ofxRemoteUIServer: CONNECTED (192.168.43.120)!

Content Abstraction




```
{ "MuseumObjects" : {
   "objID1" : {
         "imageURL" : "http://museum.com/image1.jpg",
         "imageSha1" : "8d25fa0135fe0a3771dfa09f1331e3ea7c8b888f"
      },
   "objID2" : {
         "imageURL" : "http://museum.com/image2.jpg",
         "imageSha1" : "c376992f8a141c388faf6227b9e72749f6065650"
      }
   }
}
```




```
{ "MuseumObjects" : {
   "objID1" : {
         "imageURL" : "http://image1.jpg",
         "imageSha1" : "8d25fa0135fe0"
      },
   "objID2" : {
         "imageURL" : "http://image2.jpg",
         "imageSha1" : "c376992f8a141c38"
      }
   }
}
```

Content Abstraction

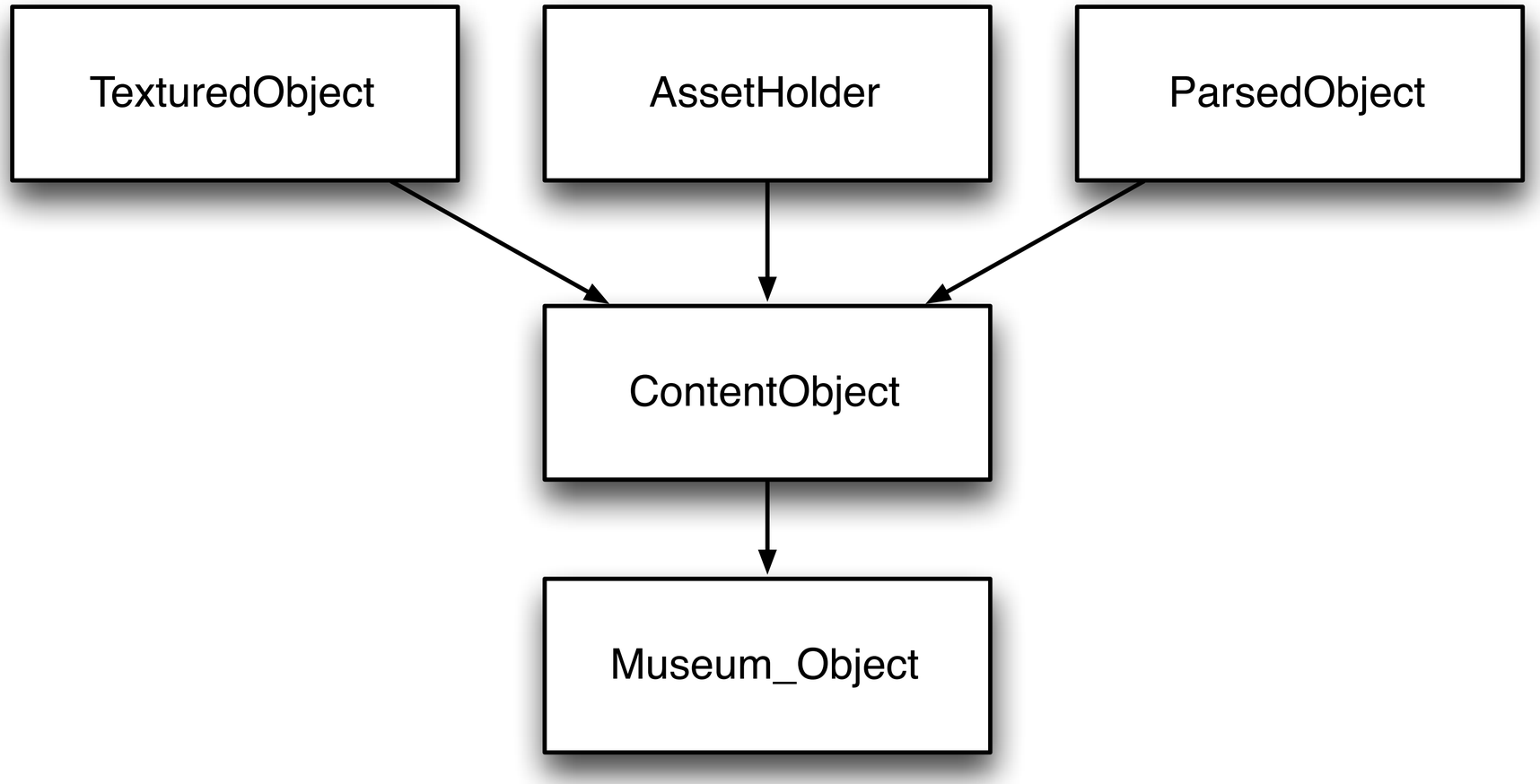
ofxApp needs you to answer a few questions ...

Content Abstraction

- **Where are the Objects?** Locate objects inside the JSON
- **What fields do you need** from each object?
- Is the **object valid?**
- What is the **Object UUID?**
- Does the object have **textures** you want to dynamically load and unload?

```
{ "MuseumObjects" : {
   "objID1" : {
         "imageURL" : "http://image1.jpg",
         "imageSha1" : "8d25fa0135fe0"
      },
   "objID2" : {
         "imageURL" : "http://image2.jpg",
         "imageSha1" : "c376992f8a141c38"
      }
   }
}
```

Content Object

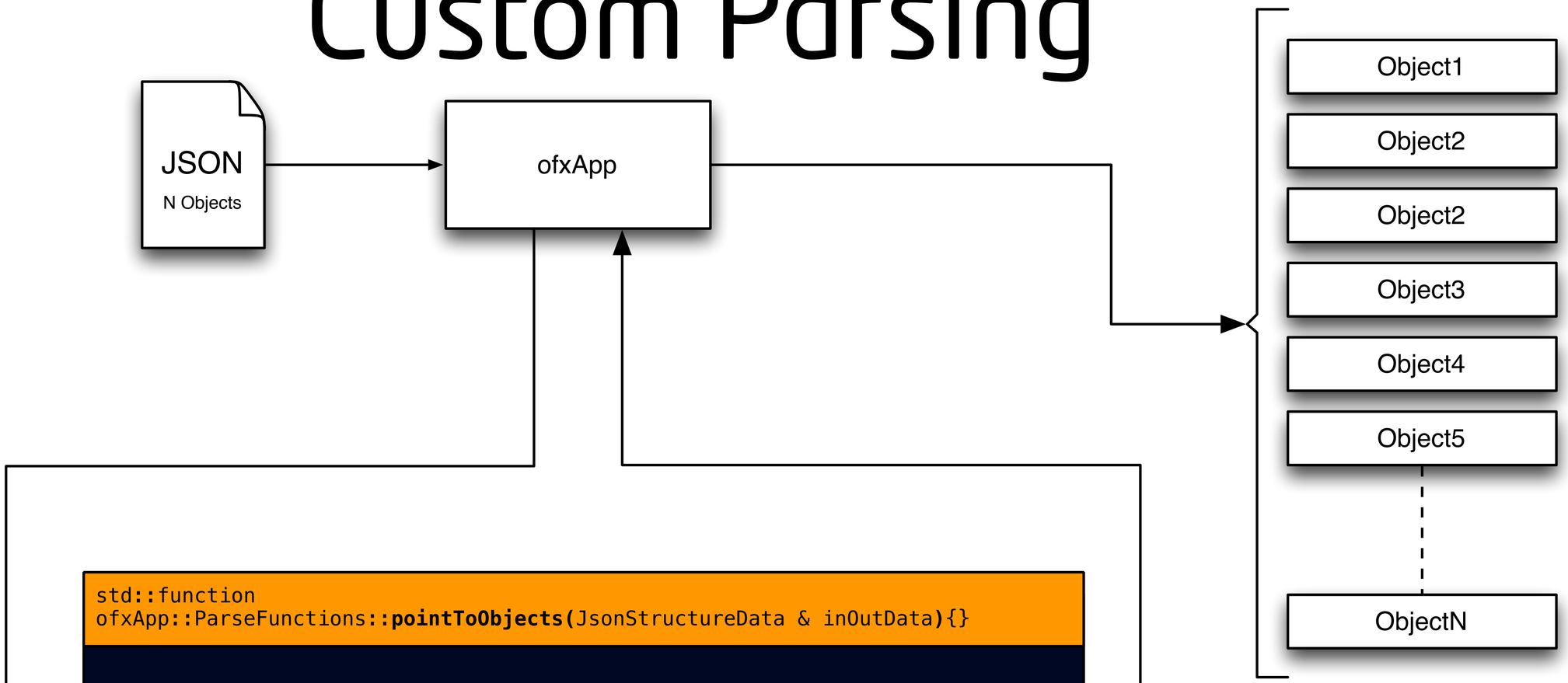


Custom Parsing

- (3) user lambdas need to be defined per each content source
- (4) if you need dynamic texture loading

```
std::function<void (ofxMtJsonParserThread::JsonStructureData &)> pointToObjects;
std::function<void (ofxMtJsonParserThread::SingleObjectParseData &)> parseOneObject;
std::function<void (ofxApp::CatalogAssetsData &)> defineObjectAssets;
std::function<void (ContentObject*)> setupTexturedObject;
```

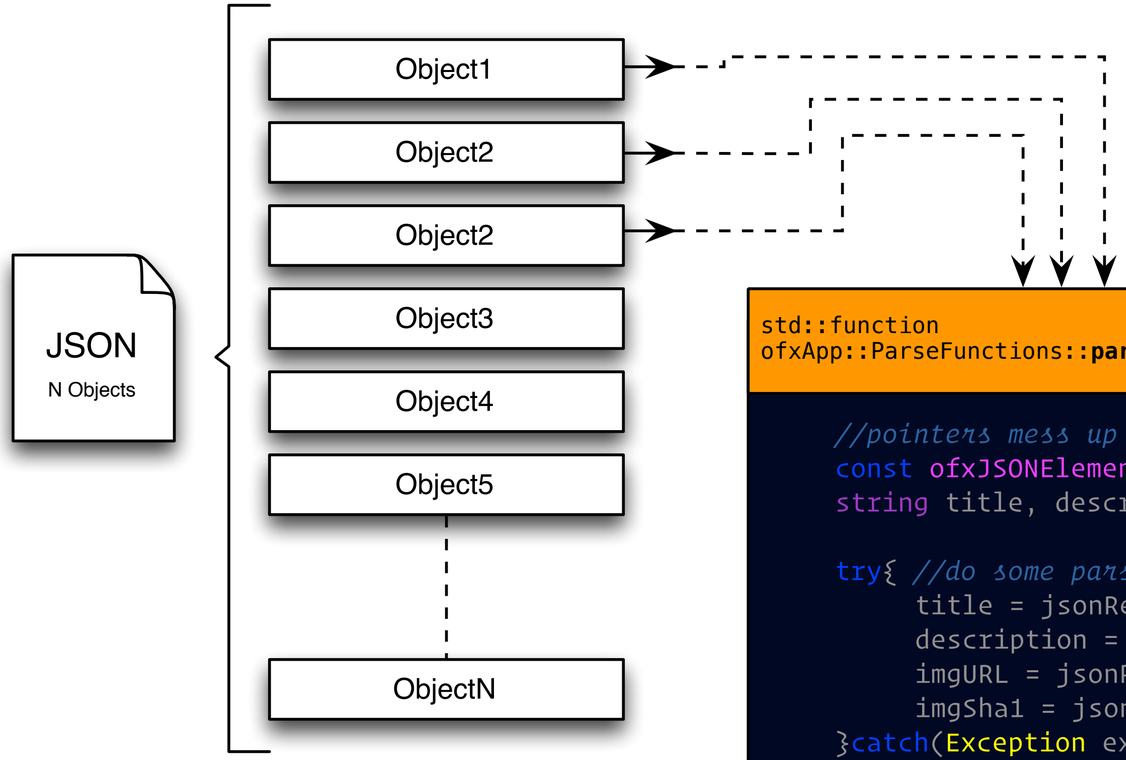
Custom Parsing




```
std::function
ofxApp::ParseFunctions::pointToObjects(JsonStructureData & inOutData){}
```

```
ofxJSONElement & jsonRef = *(inOutData.fullJson);

if(jsonRef["data"].isObject()){
    inOutData.objectArray = (ofxJSONElement*) &(jsonRef["data"]);
}else{
    ofLogError("ofApp") << "JSON has unexpected format!";
    //if the json is not what we exepcted it to be,
    //let the parser know by filling it the data like this:
    inOutData.objectArray = NULL;
}
```

Custom Parsing

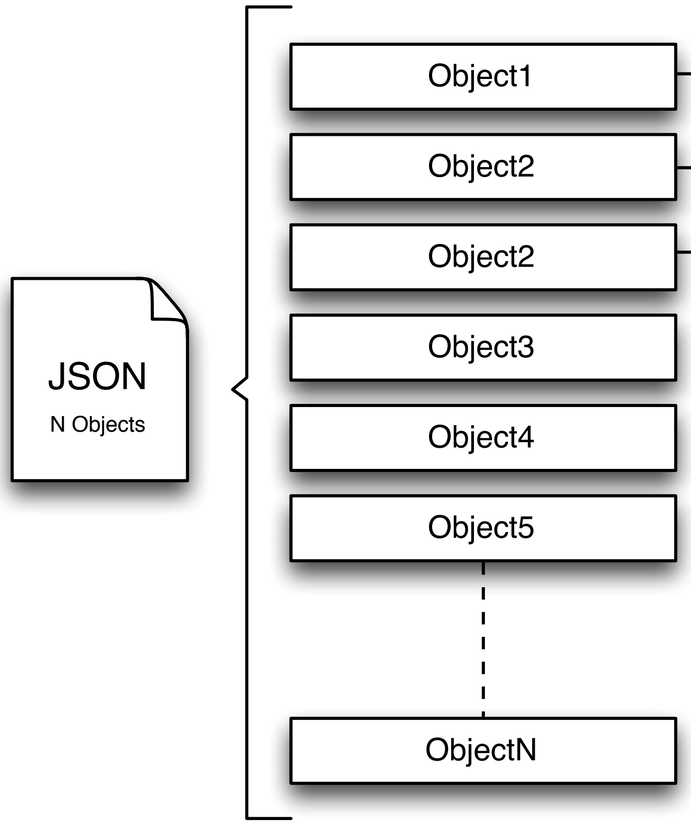



```
std::function
ofxApp::ParseFunctions::parseOneObject(SingleObjectParseData & inOutData){}
```

```cpp
//pointers mess up the json syntax somehow
const ofxJSONElement & jsonRef = *(inOutData.jsonObj);
string title, description, imgURL, imgSha1;

try{ //do some parsing - catching exceptions
     title = jsonRef["title"].asString();
     description = jsonRef["description"].asString();
     imgURL = jsonRef["image"]["uri"].asString();
     imgSha1 = jsonRef["image"]["chksum"].asString();
}catch(Exception exc){
     inOutData.printMutex->lock();
     ofLogError("ofApp") << exc.what() << " " << exc.message() <<
     " " << exc.displayText() << " WHILE PARSING OBJ " << inOutData.objectID;
     inOutData.printMutex->unlock();
}

CWRU_Object * o = new CWRU_Object();
o->title = title;
o->description = description;
o->imgURL = imgURL;
o->imgSha1 = imgSha1;
inOutData.objectID;
//in this case we dont need to set the objectID back to the parser
//bc this json happens to be a dictionary, not a list... so its
//smart enough to get it from there.

//this is how we "return" the object to the parser;
inOutData.object = dynamic_cast<ParsedObject*> (o);
```


```json
{
    "53603249c3fc6b0981d482b4": {
        "description": "bla bla",
        "image": {
            "chksum": "32f20d70f34491c7e7912f1ce385be3b8f6ed89d",
            "uri": "http://129.22.220.12/asset/images/GTbyj.caldwell4.jpg"
        },
        "title": "Alumni Profile: Gregg Gillis",
    },
    "53603249c3fc6b0981d482b5": {
        "description": "bla bla",
        "image": {
            "chksum": "f0459c1c6c92d88f9218d0cd52764ecf65f3e77f",
            "uri": "http://129.22.220.12/asset/images/russo-brothers.jpg"
        },
        "title": "Alumni Profile: The Russo Brothers",
    },
}
```

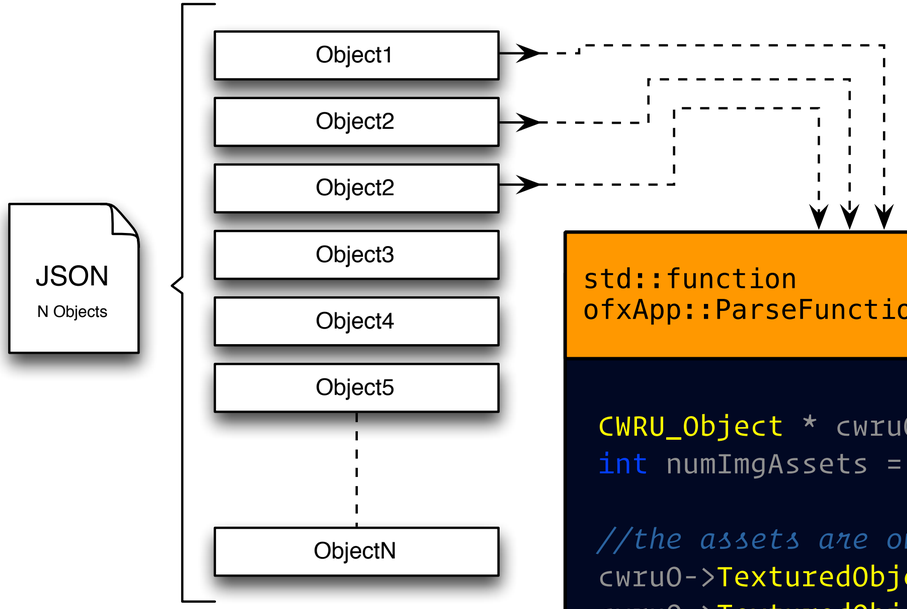
Custom Parsing




```
std::function
ofxApp::ParseFunctions::defineObjectAssets(ofxApp::CatalogAssetsData & data){}
```

```
//cast from ContentObject to our native type
CWRU_Object * cwru = dynamic_cast<CWRU_Object*>(data.object);
string assetsPath = data.assetLocation + "/" + cwru->getObjectUUID();
cwru->AssetHolder::setup(assetsPath, data.assetUsagePolicy, data.assetDownloadPolicy);
if(cwru->imgURL.size()){
    cwru->imagePath = cwru->addRemoteAsset(cwru->imgURL, cwru->imgSha1);
}
```

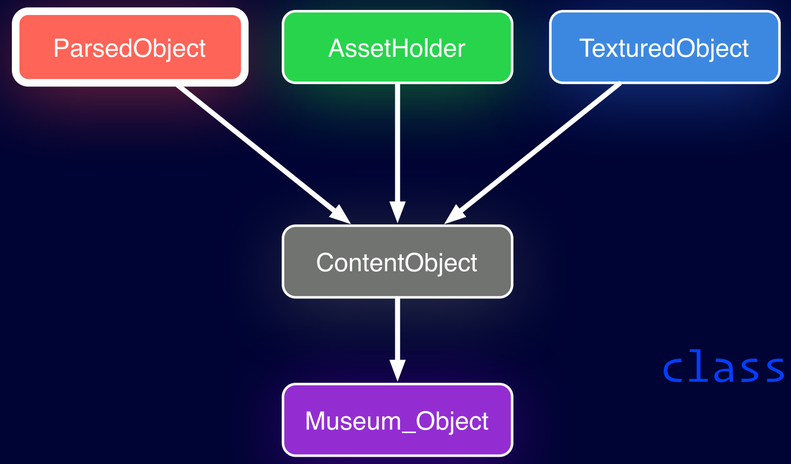
Custom Parsing




```
std::function
ofxApp::ParseFunctions::setupTexturedObject(ContentObject* texturedObject){}
```

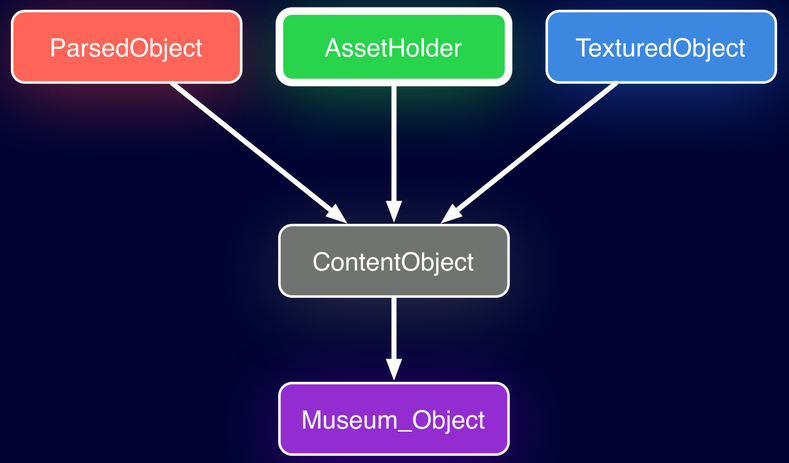
```
CWRU_Object * cwruO = dynamic_cast<CWRU_Object*>(texuredObject); //cast from ContentObject to our native type
int numImgAssets = cwruO->AssetHolder::getNumAssets();   //this will always be 1 for this example, 1 img per object

//the assets are owned by my extended object "AssetHolder"
cwruO->TexturedObject::setup(numImgAssets, TEXTURE_ORIGINAL); //we only use one tex size, so lets choose ORIGINAL
cwruO->TexturedObject::setResizeQuality(CV_INTER_AREA); //define resize quality (in case we use mipmaps)

//this example show how to tackle certain problems; would not usually be necessary
//but we need to check the pixel size of each image for TextureLoader to be able to work;
//so we do that here.
for(int i = 0; i < numImgAssets; i++){
      ofxAssets::Descriptor & d = cwruO->AssetHolder::getAssetDescAtIndex(i);

      switch (d.type) {
            case ofxAssets::VIDEO: break;
            case ofxAssets::IMAGE:{
                  auto info = ofxApp::utils::getImageDimensions(d.relativePath);
                  if(info.valid){
                        cwruO->imgSize = ofVec2f(info.width, info.height);
                  }else{
                        ofLogError("TexturedObject") << "cant load image at " << d.relativePath;
                  }break;
            }
            default: break;
      }
}
```

ParsedObject



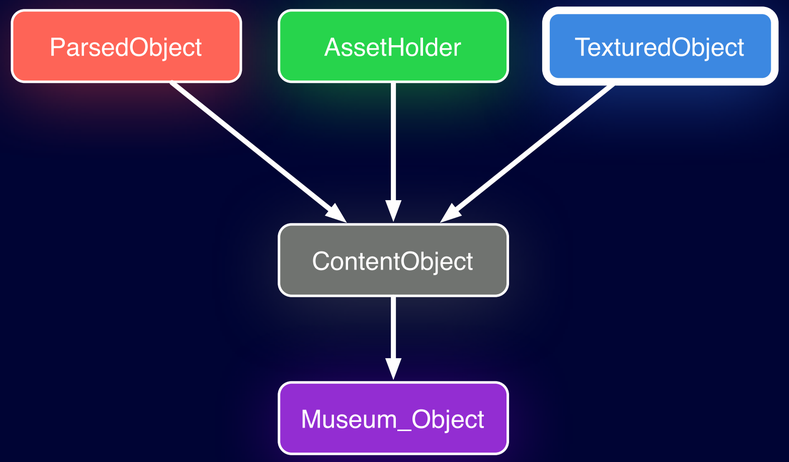

```
class ParsedObject{

    public:
        string getObjectUUID(){return uuid;}
        void setObjectUUID(const string & uiid){ this->uuid = uiid;}

    private:
        string uuid; //must be unique!
};
```

AssetHolder




```
class AssetHolder{
public:

    AssetHolder();
    void setup(const string& directoryForAssets,
               const ofxAssets::UsagePolicy & assetOkPolicy,
               const ofxAssets::DownloadPolicy & downloadPolicy);

    string addRemoteAsset(const string& url,
                          const string& sha1,
                          const vector<string>& tags = vector<string>(),
                          ofxAssets::Specs spec = ofxAssets::Specs(),
                          ofxAssets::Type type = ofxAssets::TYPE_UNKNOWN
                          );

    string addLocalAsset(const string& path, //path relative to data!
                         const vector<string>& tags = vector<string>(),
                         ofxAssets::Specs spec = ofxAssets::Specs(),
                         ofxAssets::Type type = ofxAssets::TYPE_UNKNOWN
                         );

    // Access To Assets…
    bool remoteAssetExistsInDB(const string& url);
    bool localAssetExistsInDB(const string& absPath);

    // ... by key (relative path)
    ofxAssets::Descriptor& getAssetDescForPath(const string& path); //should be a relative path
    ofxAssets::Descriptor& getAssetDescForURL(const string& url);
    vector<ofxAssets::Descriptor> getAssetDescriptorsForType(ofxAssets::Type);

    // ... by Index
    int getNumAssets();
    ofxAssets::Descriptor& getAssetDescAtIndex(int i); //in add order

    // Read/Write custom User info //
    ofxAssets::UserInfo & getUserInfoForPath(const string& path);

    // Tags //
    void addTagsforAsset(const string & relPath, vector<string> tags);
    vector<ofxAssets::Descriptor> getAssetDescsWithTag(const string & tag);
```

TexturedObject




```
class TexturedObject{
public:
  TexturedObject();

  void setup(int numTextures, TexturedObjectSize size);
  bool isSetup(){return hasBeenSetup;}

  void update(float timeNow); //feed me ofGetElapsedTimef()!

  // SUBCLASSES MUST IMPLEMENT these methods ////////////////////////////////////////////
  virtual ofVec2f getTextureDimensions(TexturedObjectSize s = TEXTURE_ORIGINAL, int index = 0) = 0;
  virtual string getLocalTexturePath(TexturedObjectSize s = TEXTURE_ORIGINAL, int index = 0) = 0;

  // CONFIG ////////////////////////////////////////////////////////////////////////////

  void setResizeQuality(int resizeQ){ resizeQuality = resizeQ; } // CV_INTER_NN, CV_INTER_LINEAR, C

  // TEXTURE COMMANDS //////////////////////////////////////////////////////////////////

  ofTexture* requestTexture(TexturedObjectSize s = TEXTURE_ORIGINAL,
                  int index = 0,
                  bool highPriority = false,
                  bool withMipmaps = true
                  );

  void releaseTexture(TexturedObjectSize s = TEXTURE_ORIGINAL,
              int index = 0,
              float delaySeconds = TexturedObjectConfig::one().getDefaultTextureUnloadDelay());

  // STATUS COMMANDS ///////////////////////////////////////////////////////////////////

  bool isLoading(TexturedObjectSize s = TEXTURE_ORIGINAL, int index = 0);
  bool isUnloading(TexturedObjectSize s = TEXTURE_ORIGINAL, int index = 0);

  bool isReadyToDraw(TexturedObjectSize s = TEXTURE_ORIGINAL, int index = 0);
  bool isFullyLoaded(TexturedObjectSize s = TEXTURE_ORIGINAL, int index = 0);
  bool isWaitingForCancelToFinish(TexturedObjectSize s = TEXTURE_ORIGINAL, int index = 0);
```

- How are Content Sources defined?

“bin/data/configs/ofxAppSettings.json”

```
"ofxApp":{
    "Content":{
        "JsonSources":{
            "CH" : {
                "url" : "http://uri.cat/LP/ch_small.json",
                "jsonDownloadDir": "CH_JsonDownloads",
                "assetsLocation": "CH_assets",
                "shouldSkipObjectPolicyTests" : false
            },
            "CWRU" : {
                "url" : "http://uri.cat/LP/cwru.json",
                "jsonDownloadDir": "CWRU_JsonDownloads",
                "assetsLocation": "CWRU_assets",
                "shouldSkipObjectPolicyTests" : false
            }
        }
    }
}
```

“src/ofApp.cpp”

```
void ofApp::setup(){

    //create my custom lambdas for parsing objects
    ofxAppParsers myParsers = ofxAppParsers();

    map<string, ofxApp::ParseFunctions> objectParsers;
    objectParsers["CWRU"] = myParsers.cwru;
    objectParsers["CH"] = myParsers.ch;

    //start the ofxApp setup process
    ofxApp::get().setup(objectParsers, this);
}
```

- How are Content Sources defined?

“ofxAppParsers.h”

```
class ofxAppParsers{

public:

    ofxAppParsers();
    ofxApp::ParseFunctions cwru;
    ofxApp::ParseFunctions ch;
};
```

“ofxAppParsers.cpp”

```
ofxAppParsers::ofxAppParsers(){

    // CWRU ////////////////////////////////////////////////////////////////

    cwru.pointToObjects = [](ofxMtJsonParserThread::JsonStructureData & inOutData){};
    cwru.parseOneObject = [](ofxMtJsonParserThread::SingleObjectParseData & inOutData){};
    cwru.defineObjectAssets = [](ofxApp::CatalogAssetsData & data){};
    cwru.setupTexturedObject = [](ContentObject * texuredObject){};

    // CH ////////////////////////////////////////////////////////////////

    ch.pointToObjects = [](ofxMtJsonParserThread::JsonStructureData & inOutData){};
    ch.parseOneObject = [](ofxMtJsonParserThread::SingleObjectParseData & inOutData){};
    ch.defineObjectAssets = [](ofxApp::CatalogAssetsData & data){};
    ch.setupTexturedObject = [](ContentObject * texuredObject){};
}
```

ofxAppDelegate

- How does your app communicate with ofxApp?

```
class ofxAppDelegate{
public:

    //this will be your entry point to start loading stuff
    virtual void ofxAppPhaseWillBegin(ofxApp::Phase) = 0;
    //after u are asked to start loading content, ofxApp will query every frame to check if you are done
    virtual bool ofxAppIsPhaseComplete(ofxApp::Phase){return true;} //override this method if you are loading custom con
    virtual void ofxAppDrawPhaseProgress(ofxApp::Phase, const ofRectangle & r){}; //override the loading screen drawing
    virtual string ofxAppGetStatusString(ofxApp::Phase){return "";}; //override the progress bar status text
    virtual float ofxAppGetProgressForPhase(ofxApp::Phase){return -1;} //return [0..1] to report progressbar; -1 for ind

    //this is how your app gets all the parsed objects - up to you how you store them
    virtual void ofxAppContentIsReady(const string & contentID, vector<ContentObject*> ) = 0;

    //tuio callbacks
    virtual void tuioAdded(ofxTuioCursor & tuioCursor){};
    virtual void tuioRemoved(ofxTuioCursor & tuioCursor){};
    virtual void tuioUpdated(ofxTuioCursor & tuioCursor){};

    //screen setup changed callback
    virtual void screenSetupChanged(ofxScreenSetup::ScreenSetupArg &arg){};
};
```

ofxAppDelegate

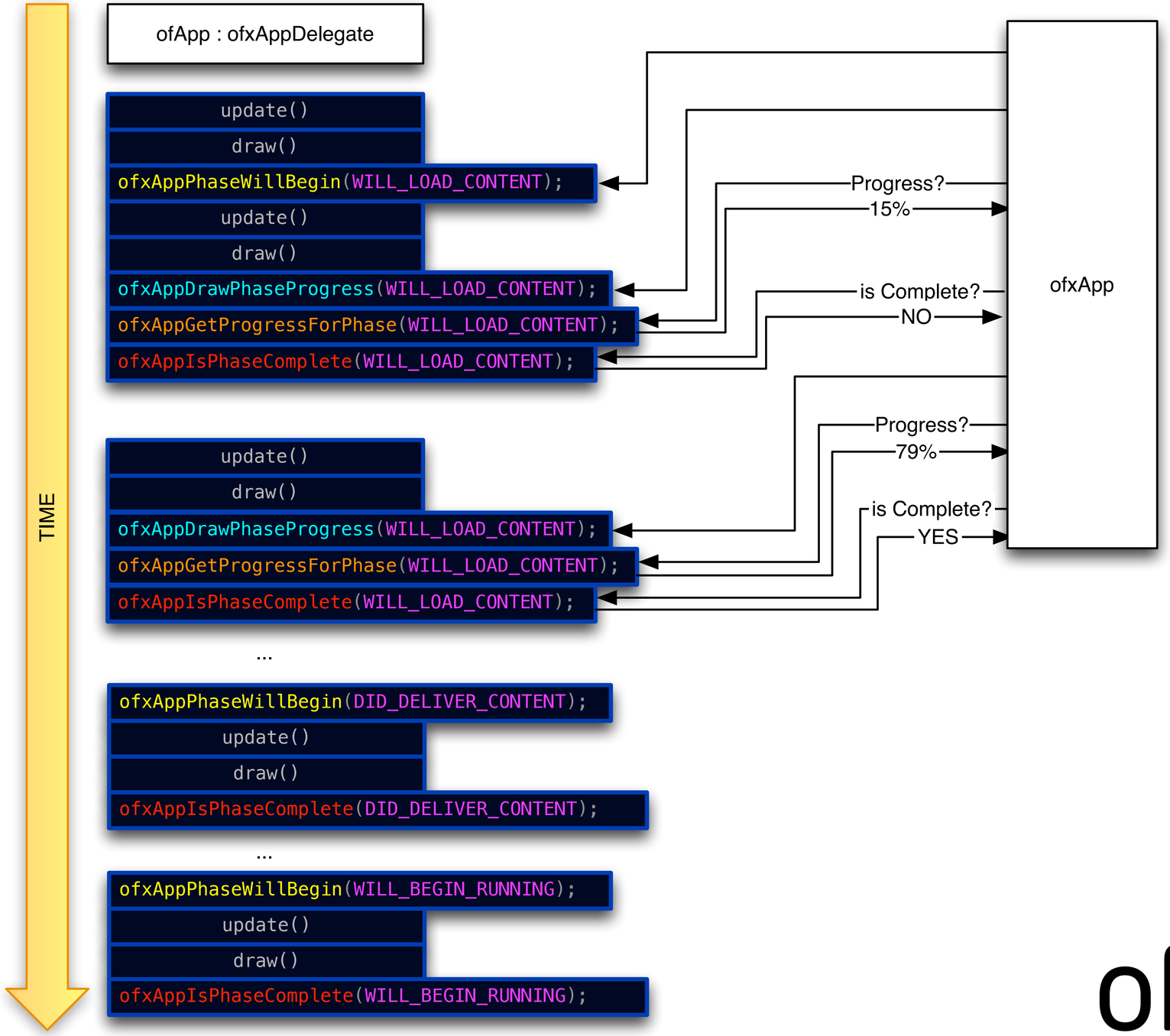
- You are given opportunities to do custom “setup” while ofxApp starts:

```
enum class Phase{
    WILL_LOAD_CONTENT,   //Before any content is loaded
    DID_DELIVER_CONTENT, //After content has been delivered
    WILL_BEGIN_RUNNING   //Just before the app starts running
};


 void    ofxAppPhaseWillBegin(ofxApp::Phase);
 bool    ofxAppIsPhaseComplete(ofxApp::Phase);

 void    ofxAppDrawPhaseProgress(ofxApp::Phase, const ofRectangle & r);
 string  ofxAppGetStatusString(ofxApp::Phase);
 float   ofxAppGetProgressForPhase(ofxApp::Phase);
```

ofxAppDelegate

- Your ofApp must subclass ofxAppDelegate

```
class ofApp : public ofBaseApp, public ofxAppDelegate{
public:

    void setup();
    void update();
    void draw();

    // ofxAppDelegate Callbacks ////////////////////////////////////////////
    void    ofxAppPhaseWillBegin(ofxApp::Phase);
    bool    ofxAppIsPhaseComplete(ofxApp::Phase);

    void    ofxAppDrawPhaseProgress(ofxApp::Phase, const ofRectangle & r);
    string  ofxAppGetStatusString(ofxApp::Phase);
    float   ofxAppGetProgressForPhase(ofxApp::Phase);

    void    ofxAppContentIsReady(const string & contentID, vector<ContentObject*>);
};
```



Simple Polling

```
void start(PHASE);
bool areYouDoneYet(PHASE);
```

ofxAppDelegate

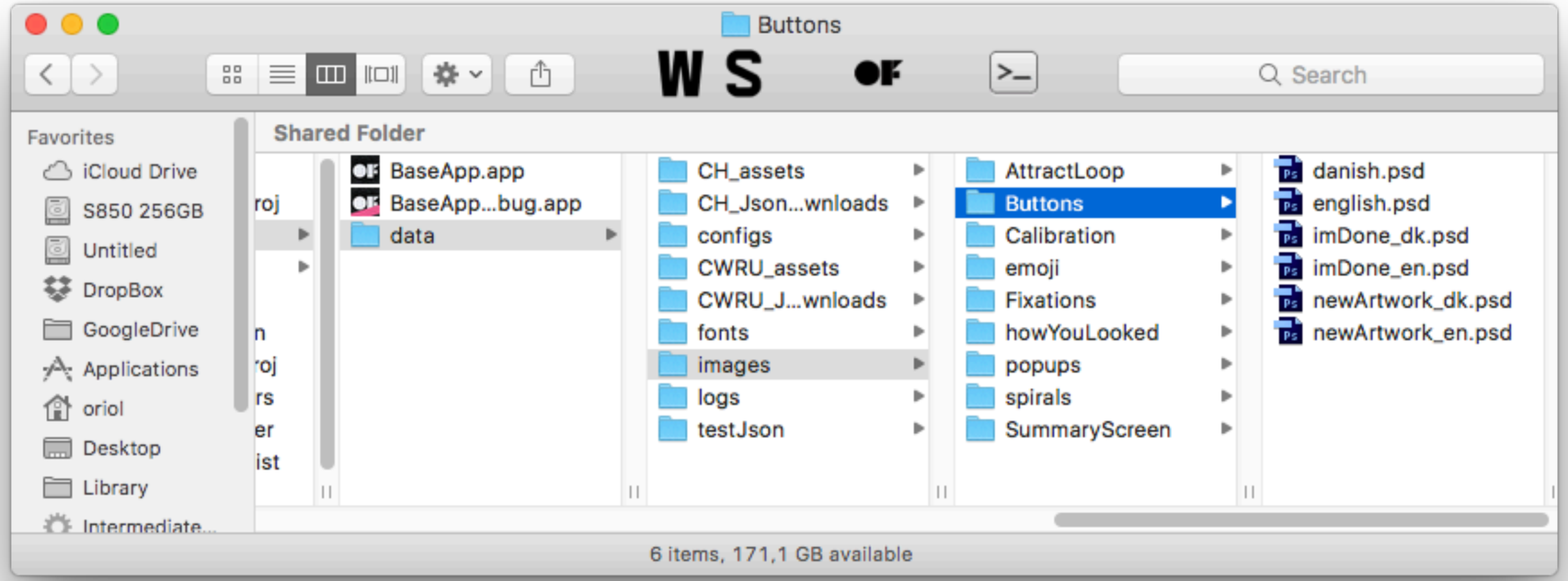
ofxApp

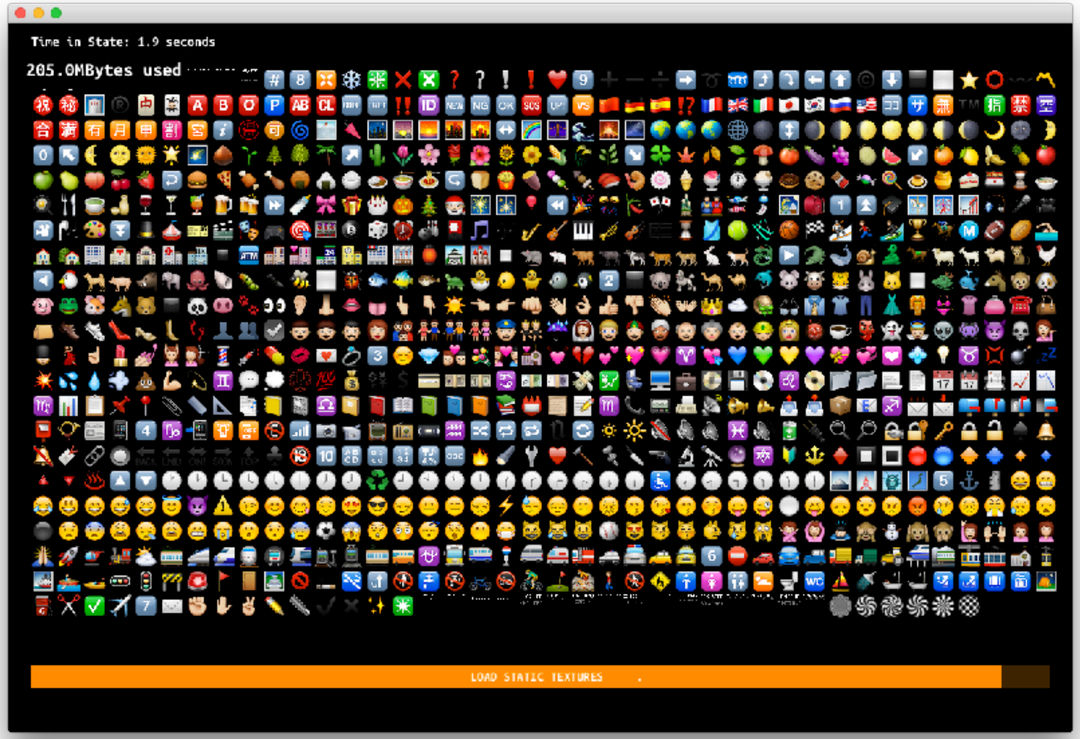
- How does it take over?

```
void ofApp::setup(){
    ofxApp::get().setup(this); //start the ofxApp setup process
}

void ofApp::update(){
    if(ofxApp::get().getState() == ofxApp::State::RUNNING){
        //Your App updates here
    }
}

void ofApp::draw(){
    if(ofxApp::get().getState() == ofxApp::State::RUNNING){
        //Your App draws here
    }
}
```

ofxApp::StaticTextures

- Static Images (icons & such)





ofxAppStaticTextures: #### Loaded "images/popups/timedOut.png" ##
ofxAppStaticTextures: Name:"popups/timedOut" [372x164] Mipmap:0 Format:GL_RGBA8 Mem: 512.00 KB
ofxAppStaticTextures: #### Loaded "images/popups/takeOffGlasses.png" ##
ofxAppStaticTextures: Name:"popups/takeOffGlasses" [1080x166] Mipmap:0 Format:GL_RGBA8 Mem: 2.00 MB
ofxAppStaticTextures: #### Loaded "images/popups/soSorry.png" ##
ofxAppStaticTextures: Name:"popups/soSorry" [352x162] Mipmap:0 Format:GL_RGBA8 Mem: 512.00 KB
ofxAppStaticTextures: #### Loaded "images/popups/sitUpStraight.png" ##
ofxAppStaticTextures: Name:"popups/sitUpStraight" [576x162] Mipmap:0 Format:GL_RGBA8 Mem: 1.00 MB
ofxAppStaticTextures: #### Loaded "images/popups/pressStart.png" ##
ofxAppStaticTextures: Name:"popups/pressStart" [1450x180] Mipmap:0 Format:GL_RGBA8 Mem: 2.00 MB

ofxApp::StaticTextures

- Mipmaps? GL_TEXTURE_2D or GL_TEXTURE_RECTANGLE_ARB ?

  There are two filename modifiers you can play with:

  - **"_t2d"**: the texture should be loaded as `GL_TEXTURE_2D`
  - **"_mip"**: the texture should have with mipmaps.

  For example, files named like this, will recieve this treatment:

  - **"img.png"** : will load as `GL_TEXTURE_RECTANGLE_ARB` and no mipmaps
  - **"img_mip.png"** : will load as `GL_TEXTURE_2D` with mipmaps
  - **"img_t2d_mip.png"** : will load as `GL_TEXTURE_2D` with mipmaps
  - **"img_t2d.png"** : will load as `GL_TEXTURE_2D` but no mipmaps will be created

ofxApp::StaticTextures

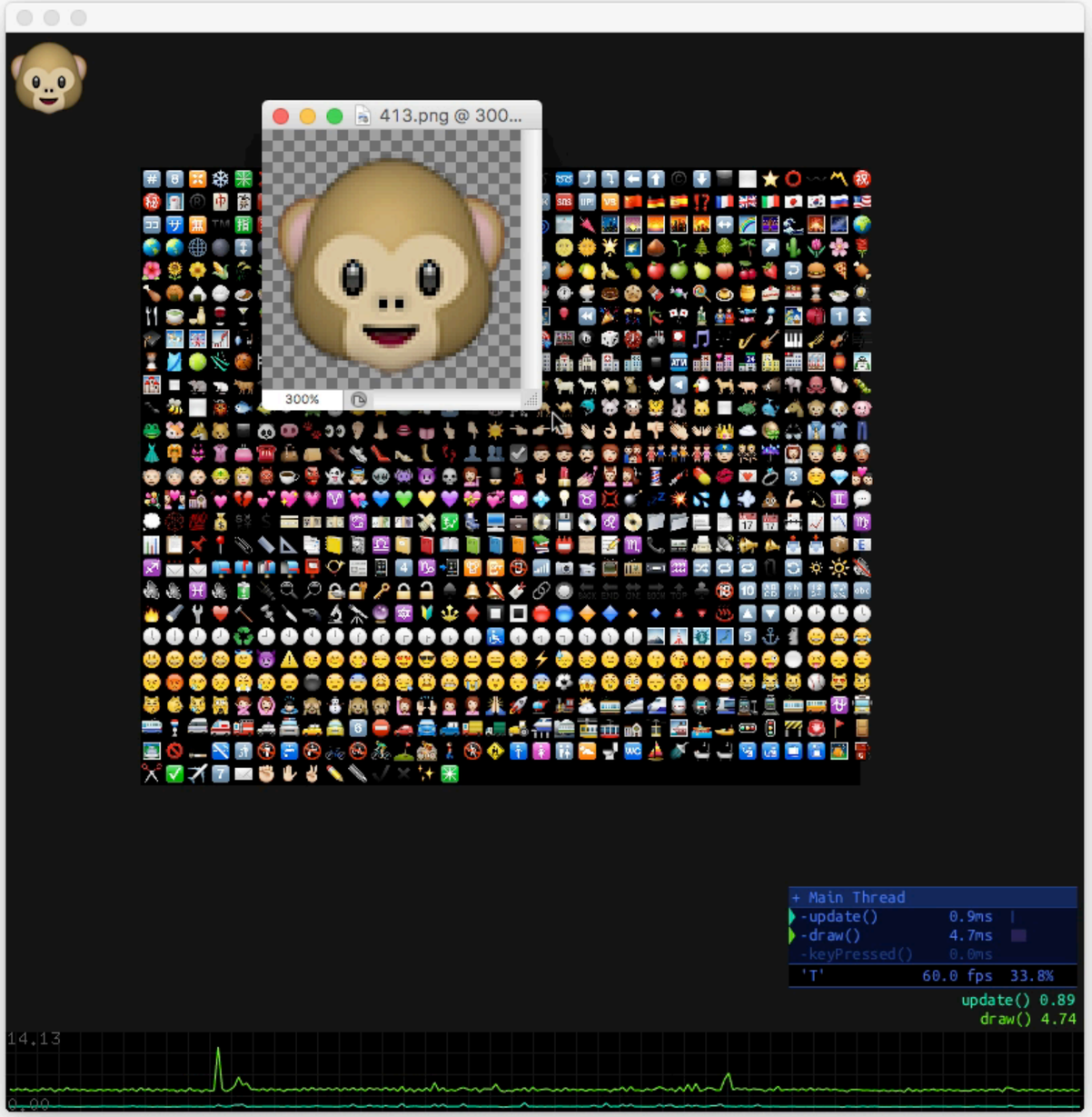
- How To get them?

```
G_TEX("emoji/413")->draw(0,0);
```

ofxApp::StaticTextures

- Fast Edits: Textures are monitored for file changes; edit as the program runs and you will see live changes

- Live edits can be disabled entirely with a simple pre-processor macro

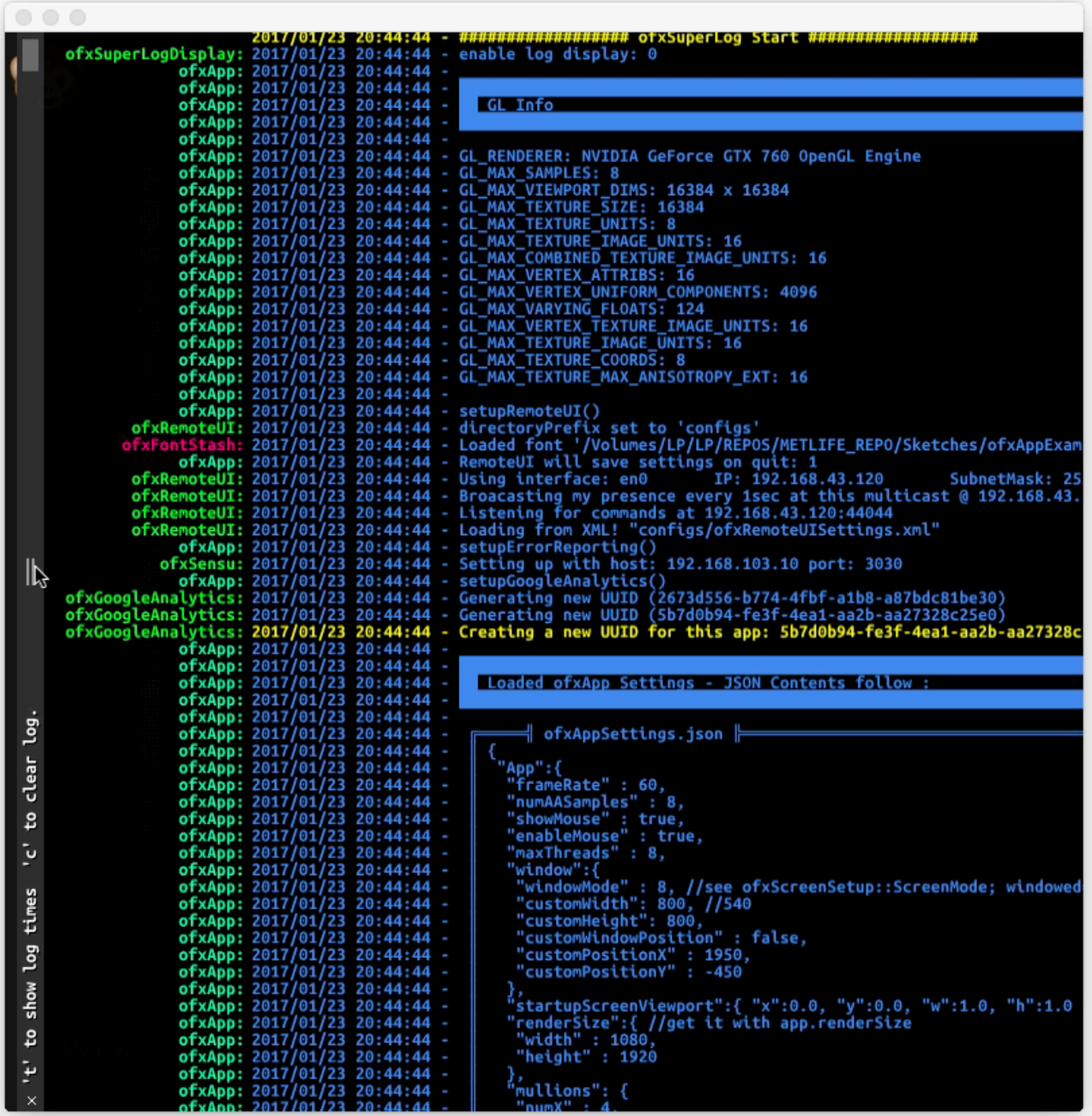


ofxApp :: Logging

- Readable; indented
- Colorized by module && by Log Level
- Timestamps optional
- File and/or Console and/or Screen
- Optionally synchronised (mutexed)

ofxApp :: Logging

```
[notice ]            ofxApp:
[notice ]            ofxApp: ████████████████████████████████████████████████████████████
[notice ]            ofxApp: ██ GL Info
[notice ]            ofxApp: ████████████████████████████████████████████████████████████
[notice ]            ofxApp:
[notice ]            ofxApp: GL_RENDERER: NVIDIA GeForce GTX 760 OpenGL Engine
[notice ]            ofxApp: GL_MAX_SAMPLES: 8
[notice ]            ofxApp: GL_MAX_VIEWPORT_DIMS: 16384 x 16384
[notice ]            ofxApp: GL_MAX_TEXTURE_SIZE: 16384
[notice ]            ofxApp: GL_MAX_TEXTURE_UNITS: 8
[notice ]            ofxApp: GL_MAX_TEXTURE_IMAGE_UNITS: 16
[notice ]            ofxApp: GL_MAX_COMBINED_TEXTURE_IMAGE_UNITS: 16
[notice ]            ofxApp: GL_MAX_VERTEX_ATTRIBS: 16
[notice ]            ofxApp: GL_MAX_VERTEX_UNIFORM_COMPONENTS: 4096
[notice ]            ofxApp: GL_MAX_VARYING_FLOATS: 124
[notice ]            ofxApp: GL_MAX_VERTEX_TEXTURE_IMAGE_UNITS: 16
[notice ]            ofxApp: GL_MAX_TEXTURE_IMAGE_UNITS: 16
[notice ]            ofxApp: GL_MAX_TEXTURE_COORDS: 8
[notice ]            ofxApp: GL_MAX_TEXTURE_MAX_ANISOTROPY_EXT: 16
[notice ]            ofxApp:
[notice ]            ofxApp: setupRemoteUI()
[notice ]       ofxRemoteUI: directoryPrefix set to 'configs'
[notice ]      ofxFontStash: Loaded font '/Volumes/LP/LP/REPOS/METLIFE_REPO/Sketches/ofxAppExample/bin/data/fonts/UbuntuMono-B.ttf' in texture (512 x 512)
[notice ]            ofxApp: RemoteUI will save settings on quit: 1
[notice ]       ofxRemoteUI: Using interface: en0       IP: 192.168.43.120       SubnetMask: 255.255.255.0
[notice ]       ofxRemoteUI: Broacasting my presence every 1sec at this multicast @ 192.168.43.255:25748
[notice ]       ofxRemoteUI: Listening for commands at 192.168.43.120:37126
[notice ]       ofxRemoteUI: Loading from XML! "configs/ofxRemoteUISettings.xml"
[notice ]            ofxApp: setupErrorReporting()
[notice ]          ofxSensu: Setting up with host: 127.0.0.1 port: 3030
[notice ]            ofxApp: setupGoogleAnalytics()
[notice ] ofxGoogleAnalytics: Generating new UUID (9d2a7c61-9495-4315-a867-621fb7807f2f)
[notice ] ofxGoogleAnalytics: Generating new UUID (828c2a4c-ffca-47a4-a857-6cb4eed11585)
[warning] ofxGoogleAnalytics: Creating a new UUID for this app: 828c2a4c-ffca-47a4-a857-6cb4eed11585
```


2017/01/23 20:44:44 - ################## ofxSuperLog Start ##################
ofxSuperLogDisplay: 2017/01/23 20:44:44 - enable log display: 0
ofxApp: 2017/01/23 20:44:44 -
ofxApp: 2017/01/23 20:44:44 -
ofxApp: 2017/01/23 20:44:44 - GL Info
ofxApp: 2017/01/23 20:44:44 -
ofxApp: 2017/01/23 20:44:44 -
ofxApp: 2017/01/23 20:44:44 - GL_RENDERER: NVIDIA GeForce GTX 760 OpenGL Engine
ofxApp: 2017/01/23 20:44:44 - GL_MAX_SAMPLES: 8
ofxApp: 2017/01/23 20:44:44 - GL_MAX_VIEWPORT_DIMS: 16384 x 16384
ofxApp: 2017/01/23 20:44:44 - GL_MAX_TEXTURE_SIZE: 16384
ofxApp: 2017/01/23 20:44:44 - GL_MAX_TEXTURE_UNITS: 8
ofxApp: 2017/01/23 20:44:44 - GL_MAX_TEXTURE_IMAGE_UNITS: 16
ofxApp: 2017/01/23 20:44:44 - GL_MAX_COMBINED_TEXTURE_IMAGE_UNITS: 16
ofxApp: 2017/01/23 20:44:44 - GL_MAX_VERTEX_ATTRIBS: 16
ofxApp: 2017/01/23 20:44:44 - GL_MAX_VERTEX_UNIFORM_COMPONENTS: 4096
ofxApp: 2017/01/23 20:44:44 - GL_MAX_VARYING_FLOATS: 124
ofxApp: 2017/01/23 20:44:44 - GL_MAX_VERTEX_TEXTURE_IMAGE_UNITS: 16
ofxApp: 2017/01/23 20:44:44 - GL_MAX_TEXTURE_IMAGE_UNITS: 16
ofxApp: 2017/01/23 20:44:44 - GL_MAX_TEXTURE_COORDS: 8
ofxApp: 2017/01/23 20:44:44 - GL_MAX_TEXTURE_MAX_ANISOTROPY_EXT: 16
ofxApp: 2017/01/23 20:44:44 -
ofxApp: 2017/01/23 20:44:44 - setupRemoteUI()
ofxRemoteUI: 2017/01/23 20:44:44 - directoryPrefix set to 'configs'
ofxFontStash: 2017/01/23 20:44:44 - Loaded font '/Volumes/LP/LP/REPOS/METLIFE_REPO/Sketches/ofxAppExam
ofxApp: 2017/01/23 20:44:44 - RemoteUI will save settings on quit: 1
ofxRemoteUI: 2017/01/23 20:44:44 - Using interface: en0 IP: 192.168.43.120 SubnetMask: 25
ofxRemoteUI: 2017/01/23 20:44:44 - Broacasting my presence every 1sec at this multicast @ 192.168.43.
ofxRemoteUI: 2017/01/23 20:44:44 - Listening for commands at 192.168.43.120:44044
ofxRemoteUI: 2017/01/23 20:44:44 - Loading from XML! "configs/ofxRemoteUISettings.xml"
ofxApp: 2017/01/23 20:44:44 - setupErrorReporting()
ofxSensu: 2017/01/23 20:44:44 - Setting up with host: 192.168.103.10 port: 3030
ofxApp: 2017/01/23 20:44:44 - setupGoogleAnalytics()
ofxGoogleAnalytics: 2017/01/23 20:44:44 - Generating new UUID (2673d556-b774-4fbf-a1b8-a87bdc81be30)
ofxGoogleAnalytics: 2017/01/23 20:44:44 - Generating new UUID (5b7d0b94-fe3f-4ea1-aa2b-aa27328c25e0)
ofxGoogleAnalytics: 2017/01/23 20:44:44 - Creating a new UUID for this app: 5b7d0b94-fe3f-4ea1-aa2b-aa27328c
ofxApp: 2017/01/23 20:44:44 -
ofxApp: 2017/01/23 20:44:44 -
ofxApp: 2017/01/23 20:44:44 - Loaded ofxApp Settings - JSON Contents follow :
ofxApp: 2017/01/23 20:44:44 -
ofxApp: 2017/01/23 20:44:44 -
ofxApp: 2017/01/23 20:44:44 - ofxAppSettings.json
ofxApp: 2017/01/23 20:44:44 - {
ofxApp: 2017/01/23 20:44:44 - "App":{
ofxApp: 2017/01/23 20:44:44 - "frameRate" : 60,
ofxApp: 2017/01/23 20:44:44 - "numAASamples" : 8,
ofxApp: 2017/01/23 20:44:44 - "showMouse" : true,
ofxApp: 2017/01/23 20:44:44 - "enableMouse" : true,
ofxApp: 2017/01/23 20:44:44 - "maxThreads" : 8,
ofxApp: 2017/01/23 20:44:44 - "window":{
ofxApp: 2017/01/23 20:44:44 - "windowMode" : 8, //see ofxScreenSetup::ScreenMode; windowed
ofxApp: 2017/01/23 20:44:44 - "customWidth": 800, //540
ofxApp: 2017/01/23 20:44:44 - "customHeight": 800,
ofxApp: 2017/01/23 20:44:44 - "customWindowPosition" : false,
ofxApp: 2017/01/23 20:44:44 - "customPositionX" : 1950,
ofxApp: 2017/01/23 20:44:44 - "customPositionY" : -450
ofxApp: 2017/01/23 20:44:44 - },
ofxApp: 2017/01/23 20:44:44 - "startupScreenViewport":{ "x":0.0, "y":0.0, "w":1.0, "h":1.0
ofxApp: 2017/01/23 20:44:44 - "renderSize":{ //get it with app.renderSize
ofxApp: 2017/01/23 20:44:44 - "width" : 1080,
ofxApp: 2017/01/23 20:44:44 - "height" : 1920
ofxApp: 2017/01/23 20:44:44 - },
ofxApp: 2017/01/23 20:44:44 - "mullions": {
ofxApp: 2017/01/23 20:44:44 - "numX" : 4,
't' to show log times 'c' to clear log.

ofxApp :: Logging

```
ofLogNotice("ofApp") << "Start User Process " << ofxApp::toString(s);
```

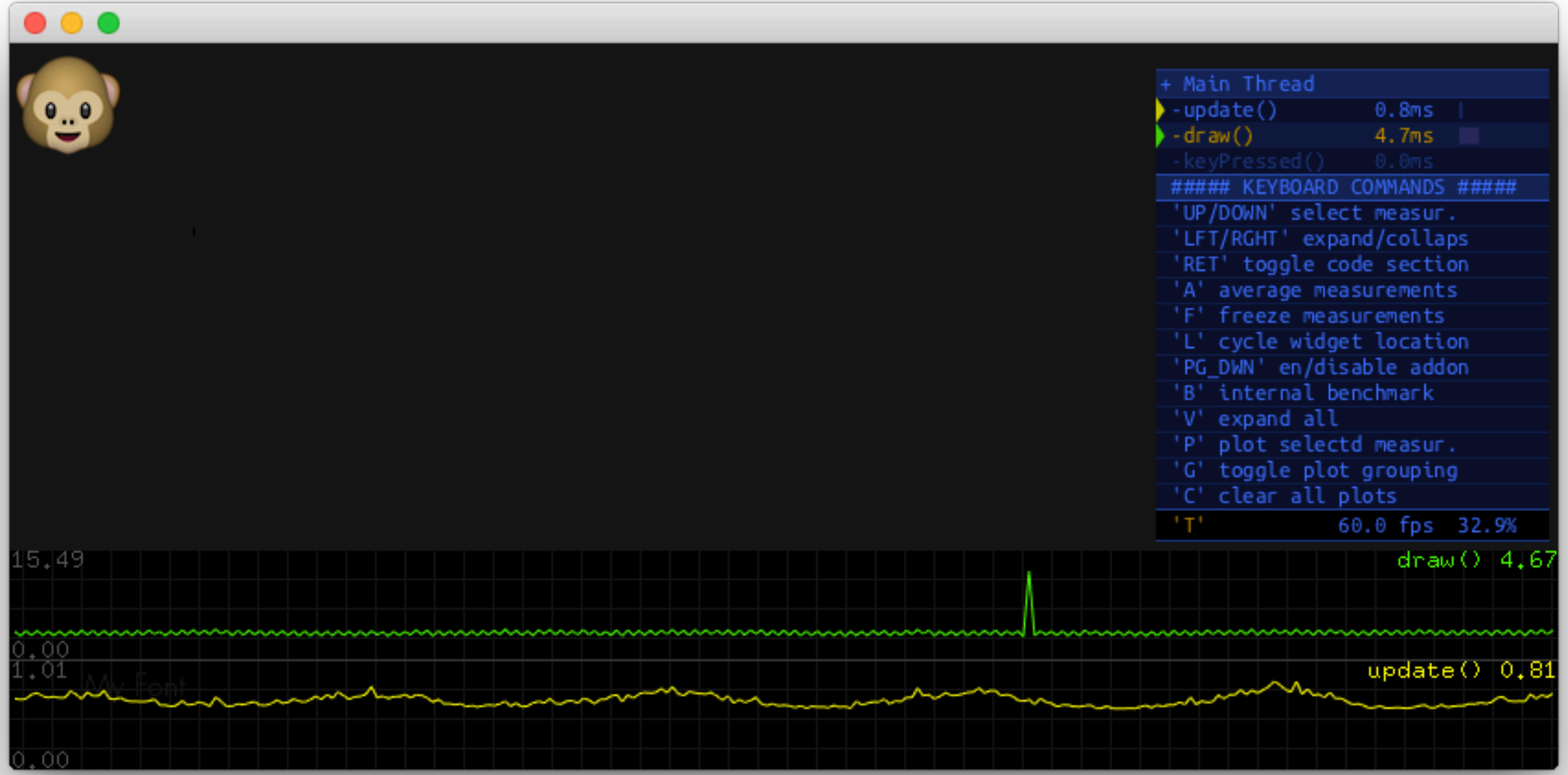
ofxApp :: Logging

logs/assetStatus.log

'https://images.collection.cooperhewitt.org/118668_e56c073e2456f489_z.jpg' EXISTS and SHA1 OK 😄
'https://images.collection.cooperhewitt.org/31634_2366a6ebad71018a_z.jpg' EXISTS and SHA1 OK 😄
'https://images.collection.cooperhewitt.org/35381_83365cef358c5525_z.jpg' EXISTS and SHA1 OK 😄
'https://images.collection.cooperhewitt.org/68429_00ebc9b114f2369a_z.jpg' EXISTS and SHA1 OK 😄
'https://images.collection.cooperhewitt.org/106060_8a004dcc7f53cff5_z.jpg' EXISTS and SHA1 OK 😄
'https://images.collection.cooperhewitt.org/34058_f0da4d59f8c522f1_z.jpg' EXISTS and SHA1 OK 😄
'https://images.collection.cooperhewitt.org/30564_09fcfac3c3ca54dc_z.jpg' EXISTS and SHA1 OK 😄
'https://images.collection.cooperhewitt.org/30150_88a47f5c19481c17_z.jpg' EXISTS and SHA1 OK 😄
'https://images.collection.cooperhewitt.org/24736_471fa14b1f552c1f_z.jpg' EXISTS and SHA1 OK 😄
'https://images.collection.cooperhewitt.org/39102_50770b3c89bb14da_z.jpg' EXISTS and SHA1 OK 😄
'https://images.collection.cooperhewitt.org/28146_9344719e5773f72b_z.jpg' EXISTS and SHA1 OK 😄
'https://images.collection.cooperhewitt.org/68421_92631df45846be92_z.jpg' EXISTS and SHA1 OK 😄
'https://images.collection.cooperhewitt.org/41672_3f9e4245715f79a4_z.jpg' EXISTS and SHA1 OK 😄
'https://images.collection.cooperhewitt.org/34057_7058f5a0438109eb_z.jpg' EXISTS and SHA1 OK 😄
'https://images.collection.cooperhewitt.org/11277_3d6aadade6e41043_z.jpg' EXISTS and SHA1 OK 😄
'https://images.collection.cooperhewitt.org/123489_891f9172791349c1_z.jpg' EXISTS and SHA1 OK 😄

ofxApp :: Profiler

ofxTimeMeasurements



ofxApp :: Profiler

- Measures time it takes for CPU to execute

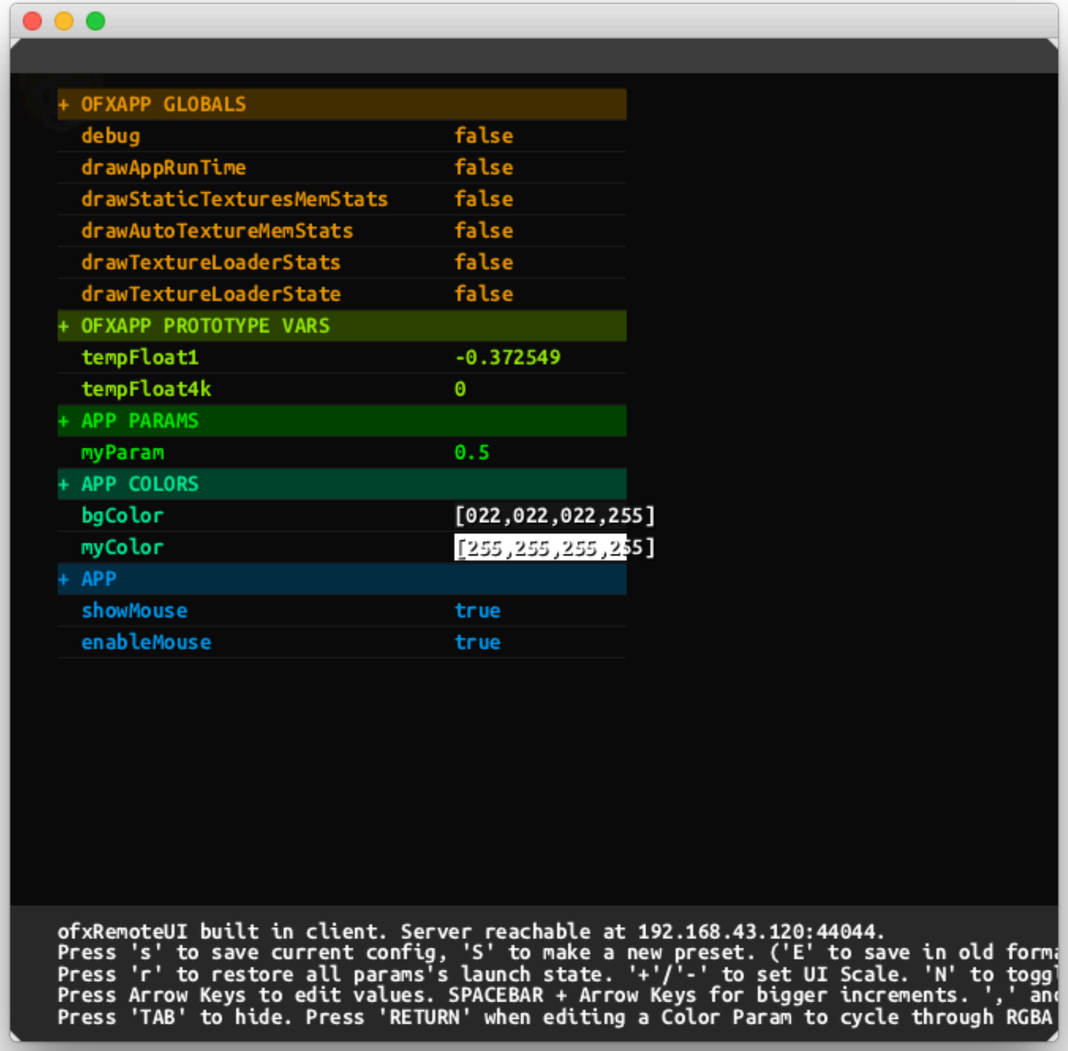
```
TS_START("myCustomDraw");
drawCustomThingies();
TS_STOP("myCustomDraw");
```

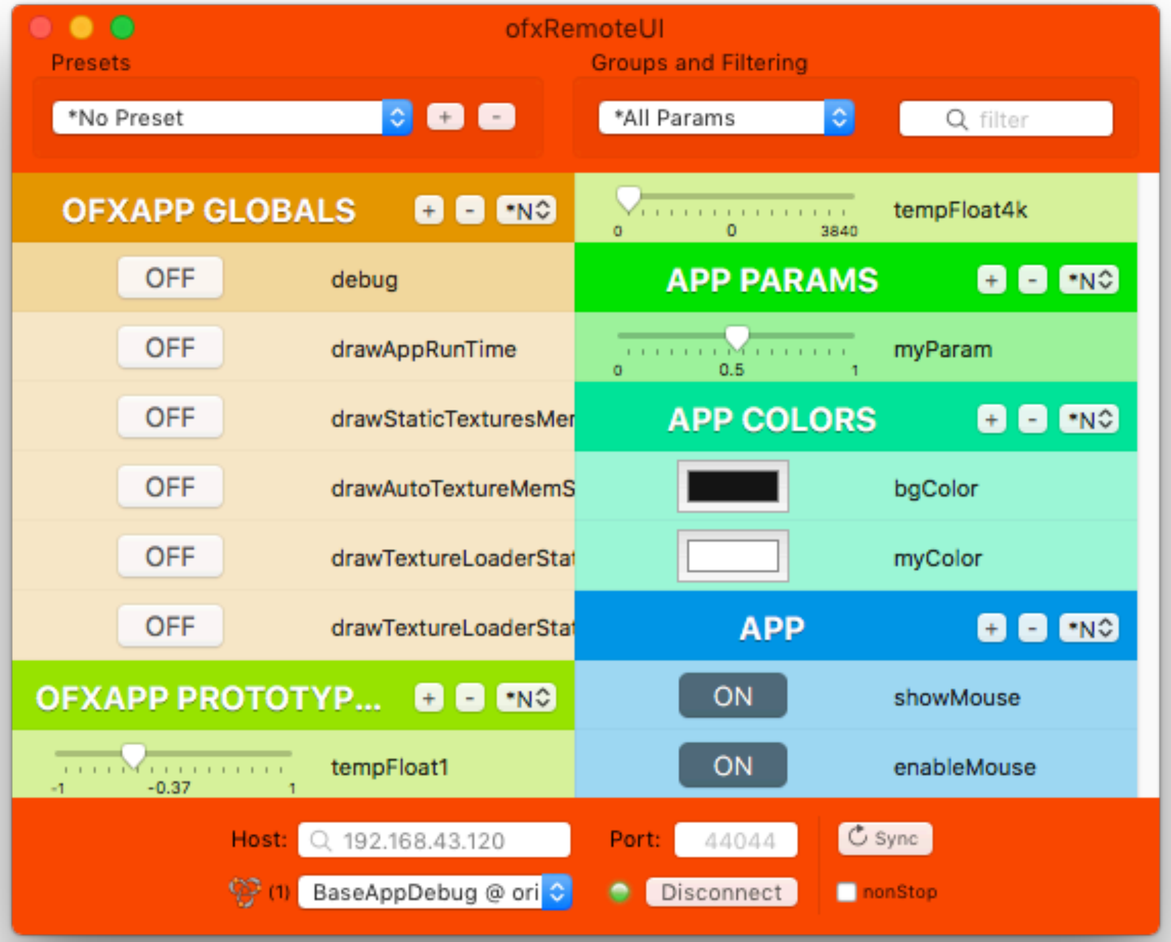
ofxApp :: Profiler

- Also measures OpenGL execution times

```
TSGL_START("banana");
drawCustomThingies();
TSGL_STOP("banana");
```

ofxApp :: Parameters





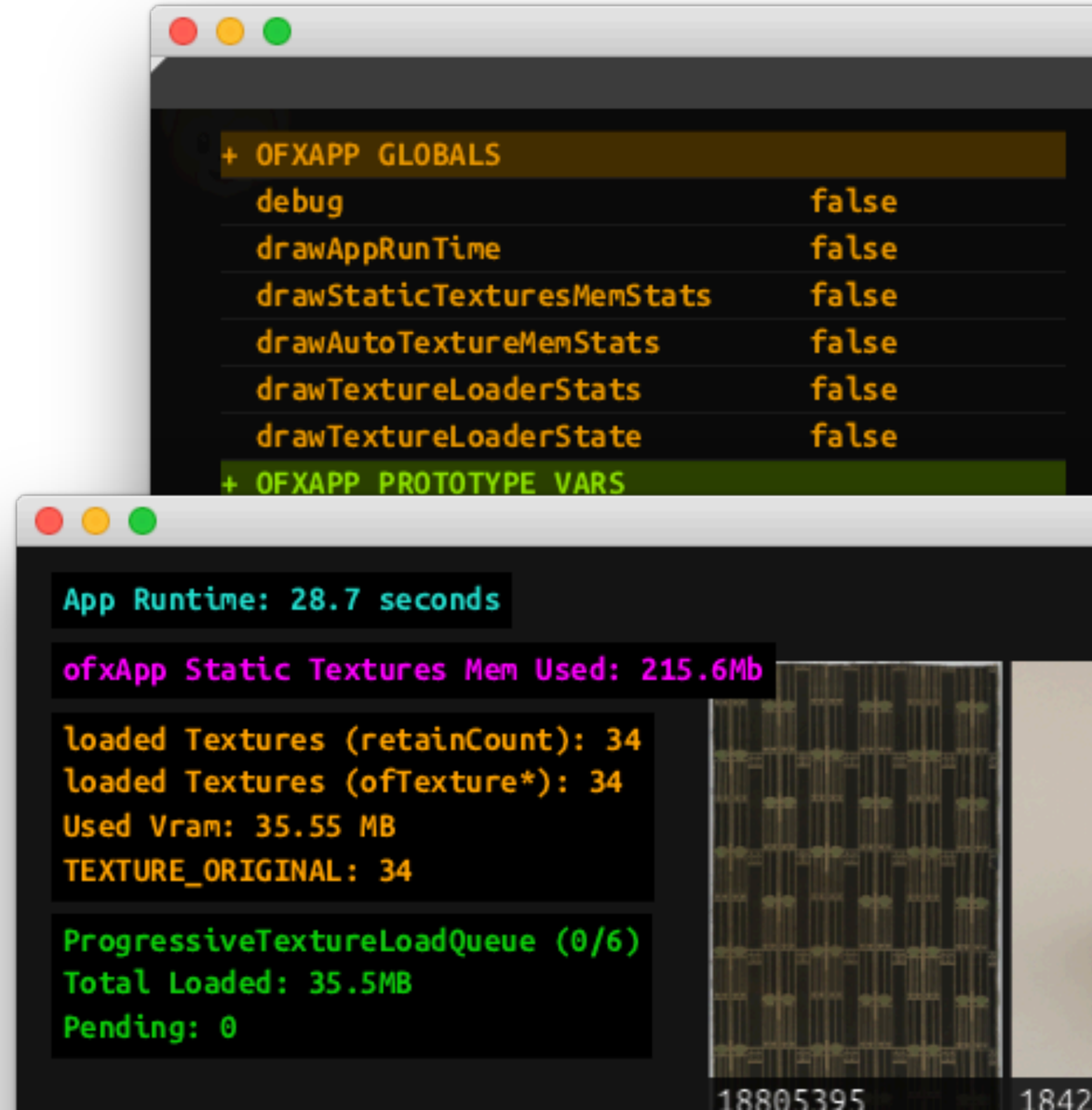
ofxApp :: Parameters

```
bool debug = false;
bool drawAppRunTime = false;
bool drawTextureLoaderStats  = false;
bool drawTextureLoaderState = false;
bool drawStaticTexturesMemStats = false;
bool drawAutoTextureMemStats = false;

float tempFloat1 = 0;
float tempFloat4k = 0;
```

```
RUI_NEW_GROUP("OFXAPP GLOBALS");
RUI_SHARE_PARAM(debug);
RUI_NEW_COLOR();
RUI_SHARE_PARAM(drawAppRunTime);
RUI_SHARE_PARAM(drawStaticTexturesMemStats);
RUI_SHARE_PARAM(drawAutoTextureMemStats);
RUI_SHARE_PARAM(drawTextureLoaderStats);
RUI_SHARE_PARAM(drawTextureLoaderState);

RUI_NEW_GROUP("OFXAPP PROTOTYPE VARS");
RUI_SHARE_PARAM(tempFloat1, -1, 1);
RUI_SHARE_PARAM(tempFloat4k, 0, 3840);
```

ofxApp :: Status Info

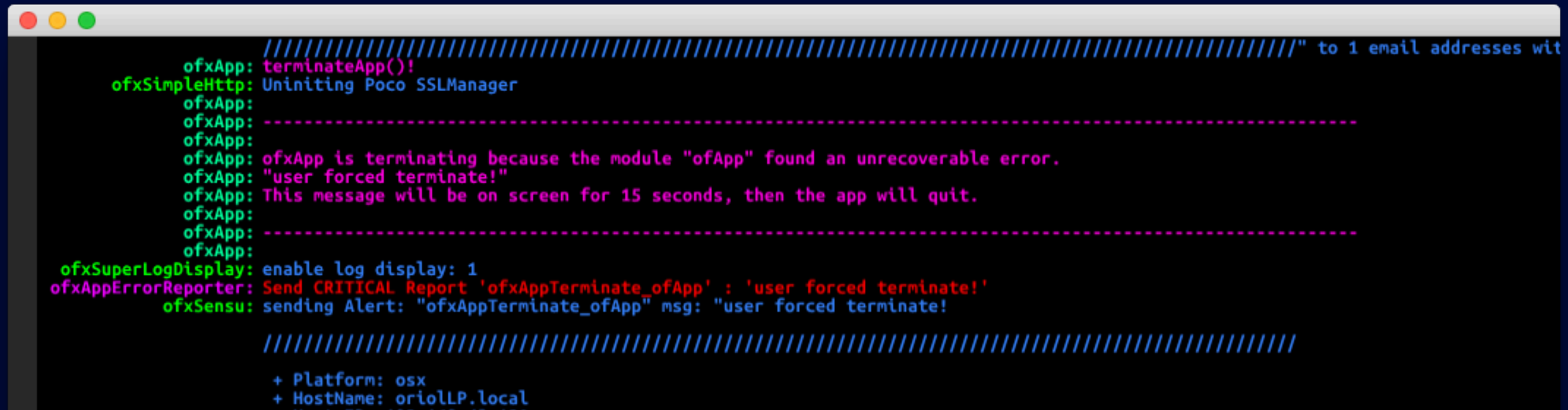
- VRAM Used in Static Textures
- VRAM Used in dynamic textures
- OpenGL error reports
- App Runtime



ofxApp :: Error Reporting

ofxSensu >> email alerts + error / recovery

```
OFXAPP_REPORT("myAlertID","something went wrong", 2);
OFXAPP_REPORT_FILE("myAlertID","something went wrong", 2, "path/to/my/File");
ofxApp::utils::terminateApp("ofApp", "user forced terminate!");
```



ofxApp :: config file

```
{
    "App":{
        "frameRate" : 60,
        "numAASamples" : 8,
        "showMouse" : true,
        "enableMouse" : true,
        "maxThreads" : 8,
        "window":{
            "windowMode" : 8, //see ofxScreenSetup::ScreenMode; windowed=8, fullOneMonitor=1, fullAllMonitors=0
            "customWidth": 800, //540
            "customHeight": 800,
            "customWindowPosition" : false,
            "customPositionX" : 1950,
            "customPositionY" : -450
        },
        "startupScreenViewport":{ "x":0.0, "y":0.0, "w":1.0, "h":1.0 }, //define what part of the window is used to draw loading s
        "renderSize":{ //get it with app.renderSize
            "width" : 1080,
            "height" : 1920
        },
        "mullions": {
            "numX" : 4,
            "numY" : 4,
            "visibleAtStartup" : false
        },
        "onErrorContactMessage": "call 911", //TODO!
        "TimeSampleOfxApp" : false
    },

    "StateMachine":{
        "onErrorRetryCount" : 0,
        "onErrorWaitTimeSec" : 10
    },
```

```
"Fonts":{
    "ofxApp":{ //required by ofxApp, dont remove the "monospaced" & "monospacedBold" sections!
        "monospaced":{
            "fontFile" : "fonts/UbuntuMono-R.ttf",
            "atlasSize" : 512,
            "lineHeight" : 1.4,
            "mipmaps" : false,
            "mipmapPadding" : 0,
            "uiScale" : 1.0
        },
        "monospacedBold":{
            "fontFile" : "fonts/UbuntuMono-B.ttf",
            "atlasSize" : 512,
            "lineHeight" : 1.4,
            "mipmaps" : false,
            "mipmapPadding" : 0,
            "uiScale" : 1.0
        }
    },

    "user":{ //place your custom fonts here
        "NoManSky":{
            "fontFile" : "fonts/geonms-webfont.ttf",
            "atlasSize" : 512,
            "lineHeight" : 1.3,
            "mipmaps" : false,
            "mipmapPadding" : 0,
            "uiScale" : 1.0
        }
    }
},
```

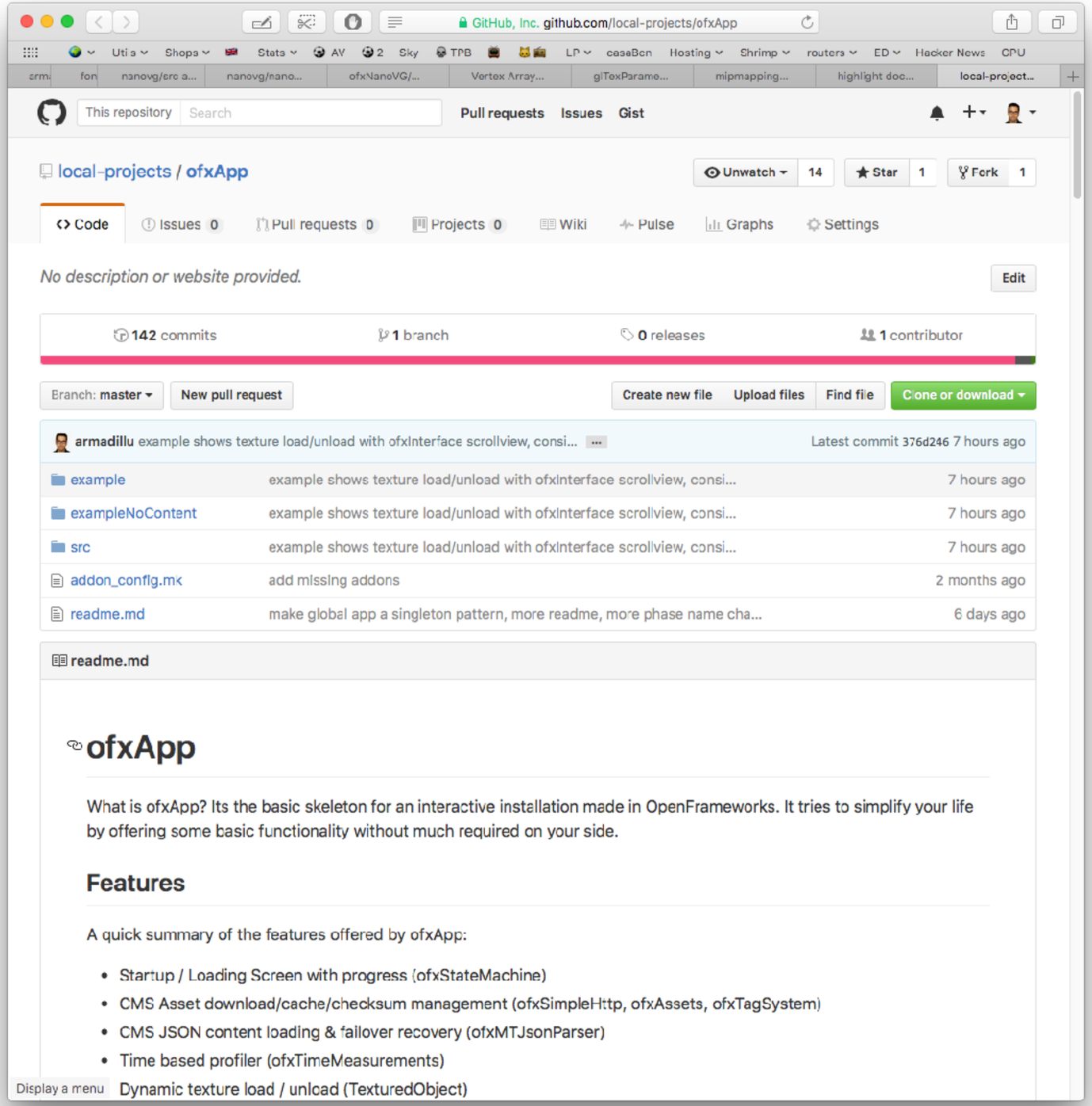
```
"StaticAssets":{
        "textures" : "images" //this is where the static assets live; under "data"
    },

    "RemoteUI":{
        "enabled" : true,
        "columnWidth" : 400,
        "uiScale" : 1.0,
        "useFontStash" : true,
        "fontSize" : 15,
        "fontFile" : "fonts/UbuntuMono-B.ttf",
        "saveSettingsOnExit" : true,
        "showUiDuringEdits" : false,
        "automaticBackupsOnSave" : false,
        "drawOnScreenNotifications" : true,
        "notificationsScreenTime" : 5.0,
        "logNotificationsScreenTime" : 10.0,
        "paramWatches" : {
            //"debug" : true
            //"myColor" : false
        }
    },

    "TimeMeasurements":{
        "enabled" : true,
        "uiScale" : 1.0,
        "threadTimeDecay" : 0.985,
        "frameRate" : 60,
        "fontSize" : 13,
        "fontFile" : "fonts/UbuntuMono-R.ttf",
        "useFontStash" : true,
        "msPrecision" : 1,
        "plotResolution" : 0.33,
        "plotH" : 60,
        "removeExpiredThreads" : true,
        "removeExpiredTimings" : false,
        "widgetLocation" : 3,
        "percentageAsGraph" : true
    },
```

```
  "TextureLoader": {
        "maxNumberSimulataneousLoads" : 3,
        "textureLodBias" : -0.3,
        "maxTimeSpentLoadingPerFrameMs" : 4.0,//ms
        "scanlinesPerLoop" : 128,
        "maxLoadRequestsPerFrame" : 64
    },

    "Logging":{
        "logLevel" : 1, //0..5 (verbose, notice, warning, error, fatal, silent)
        "toScreen": true,
        "toFile" : true,
        "toConsole" : true,
        "deleteOldLogs" : true,
        "logExpirationInDays" : 24,
        "useFontStash" : true,
        "fontSize" : 14,
        "uiScale": 1.0,
        "screenLogPanelWidth" : 0.95,
        "maxScreenLines" : 4000,
        "visibleAtStartup" : false,
        "syncronizedLogging" : false,
        "displayLogTimes" : true,
        "ThreadSafeLog" : {
            "alsoPrintToConsole" : true
        }
    },

    "ErrorReporting":{
        "enabled" : true,
        //"host" : "127.0.0.1",
        "host" : "192.168.103.10",
        "port" : 3030,
        "emails" : ["oriol@localprojects.com"]
    },
```

```
"GoogleAnalytics" : {
     "enabled" : true,
     "verbose" : true,
     "sendBenchmark" : true,
     "randomizedUUID" : true, //this might fake N different users, instead of same user each session
     "maxRequestsPerSession" : 250,
     "sendDataInterval" : 5 , //seconds
     "googleID" : "UA-51706745-1",
     "appName" : "AppName",
     "appVersion" : "v1",
     "appID" : "myAppID",
     "appInstallerID" : "myAppInstallerID",
     "shouldReportFramerate" : true,
     "framerateReportInterval" : 60.0 //seconds
 },

 "TUIO":{
     "enabled" : true,
     "port" : 3333
 },
```

```
"Downloads":{
      "proxy":{
          "useProxy" : false,
          "proxyHost": "",
          "proxyPort": 8080,
          "proxyUser" : "",
          "proxyPassword" : ""
      },
      "credentials":{
          "username": "",
          "password": ""
      },
      "customHeaders":{ //not implemented
          //"myHeaderName" : "myHeaderContent",
      },
      "verbose" : false,
      "maxConcurrentDownloads": 5,
      "userAgent" : "", //not implemented
      "timeOutSec" : 20,
      "speedLimitKb" : 0, //per download - 0 means no l
      "idleTimeAfterEachDownloadSec" : 0.0
 },
```

```
"Content":{
    "JsonSources":{
        "CH" : {
            "url" : "file://testJson/ch_small.json",
            //"url" : "http://uri.cat/LP/ch_small.json",
            "jsonDownloadDir": "CH_JsonDownloads",
            "assetsLocation": "CH_assets",  //all assets will be in that folder, with a sub-folder (named after the object ID) per each
            "shouldSkipObjectPolicyTests" : false  //set this to true to avoid the object cleanup according to the policies defined bel
        },
        "CWRU" : {
            "url" : "file://testJson/cwru.json",
            //"url" : "http://uri.cat/LP/cwru.json",
            //"url" : "file://testJson/cwru_broken.json",
            "jsonDownloadDir": "CWRU_JsonDownloads",
            "assetsLocation": "CWRU_assets",  //all assets will be in that folder, with a sub-folder (named after the object ID) per ea
            "shouldSkipObjectPolicyTests" : false  //set this to true to avoid the object cleanup according to the policies defined bel
        }
    },

    "AssetDownloadPolicy":{ //asset should be downloaded if...
        "fileMissing" : true,
        "fileTooSmall" : true,
        "fileExistsAndNoSha1Provided" : true,
        "fileExistsAndProvidedSha1Missmatch" : true,
        "fileExistsAndProvidedSha1Match" : false //no need to re-download if file is on disk and sha1's match
    },

    "AssetUsagePolicy":{ //asset should be Used if...
        "fileMissing" : false,
        "fileTooSmall" : false,
        "fileExistsAndNoSha1Provided" : false,
        "fileExistsAndProvidedSha1Missmatch" : false,
        "fileExistsAndProvidedSha1Match" : true
    },

    "ObjectUsagePolicy":{ //a JSON object should only be used if...
        "allAssetsAreOK" : true, //if true, an object can only be used if ALL assets are OK
        "minNumberImgAssets" : 1, //ie. if there are < N image assets, object will be rejected
        "minNumberVideoAssets" : 0,
        "minNumberAudioAssets" : 0
    }
```


GitHub, Inc. github.com/local-projects/ofxApp
This repository
Search
Pull requests
Issues
Gist
local-projects / ofxApp
Unwatch 14
Star 1
Fork 1
Code
Issues 0
Pull requests 0
Projects 0
Wiki
Pulse
Graphs
Settings
No description or website provided.
Edit
142 commits
1 branch
0 releases
1 contributor
Branch: master
New pull request
Create new file
Upload files
Find file
Clone or download
armadillu example shows texture load/unload with ofxInterface scrollview, consi...
Latest commit 376d246 7 hours ago
example
example shows texture load/unload with ofxInterface scrollview, consi...
7 hours ago
exampleNoContent
example shows texture load/unload with ofxInterface scrollview, consi...
7 hours ago
src
example shows texture load/unload with ofxInterface scrollview, consi...
7 hours ago
addon_config.mk
add missing addons
2 months ago
readme.md
make global app a singleton pattern, more readme, more phase name cha...
6 days ago
readme.md
ofxApp
What is ofxApp? Its the basic skeleton for an interactive installation made in OpenFrameworks. It tries to simplify your life by offering some basic functionality without much required on your side.
Features
A quick summary of the features offered by ofxApp:
Startup / Loading Screen with progress (ofxStateMachine)
CMS Asset download/cache/checksum management (ofxSimpleHttp, ofxAssets, ofxTagSystem)
CMS JSON content loading & failover recovery (ofxMTJsonParser)
Time based profiler (ofxTimeMeasurements)
Dynamic texture load / unload (TexturedObject)
Display a menu