

# Unity vs Native

by Paulius LIEKIS



press [space] to enter interactive mode







Maximize on Play Stats Gizmos



2076 2329

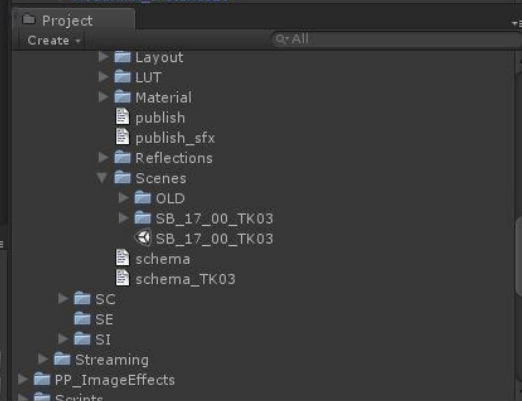
706 1020

28 63

Prev Next

Reload

RoadFlatA\_Instance40  
▶ RoadFlatA\_Instance41  
▶ RoadFlatA\_Instance42  
▶ RoadFlatA\_Instance43  
▶ RoadFlatA\_Instance44  
▶ RoadFlatA\_Instance45  
▶ RoadFlatA\_Instance46  
▶ RoadFlatA\_Instance47  
▶ RoadFlatA\_Instance48  
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▶ RoadFlatA\_Instance56  
▶ RoadFlatA\_Instance57  
▶ RoadFlatA\_Instance58  
▶ RoadHilla\_Instance  
▶ RoadHilla\_Instance1  
▶ RoadHilla\_Instance2  
▶ RoadHilla\_Instance3  
▶ RoadHilla\_Instance4  
▶ RoadHilla\_Instance5  
▶ RoadHilla\_Instance6  
▶ RoadHilla\_Instance7  
▶ RoadHilla\_Instance8  
▶ RoadHilla\_Instance9  
▶ RoadHilla\_Instance18  
▶ RoadHilla\_Instance23  
▶ RoadHilla\_Instance24  
▶ RoadHilla\_Instance25  
▶ RoadHilla\_Instance26



Product Name: Butterfli

Default Icon: None (Texture2D)

Per-Platform Settings

Settings for Web Player:

**Resolution and Presentation**

**Resolution**

Default Screen Width\*: 1920

Default Screen Height\*: 1024

Run In Background\*: ☒

**WebPlayer Template**

Black Background Default No Context Menu

\* Shared setting between multiple platforms.

**Icon**

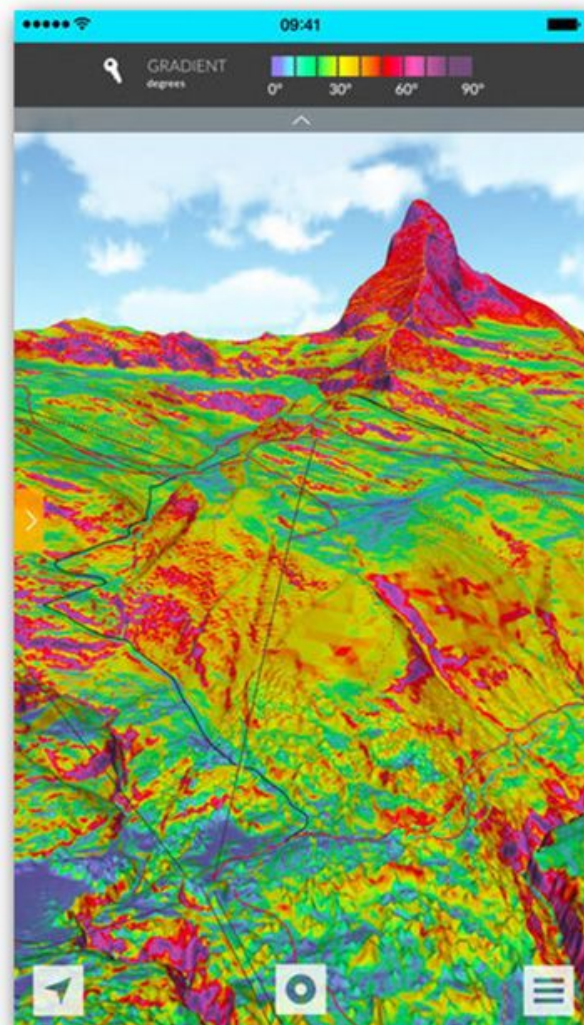
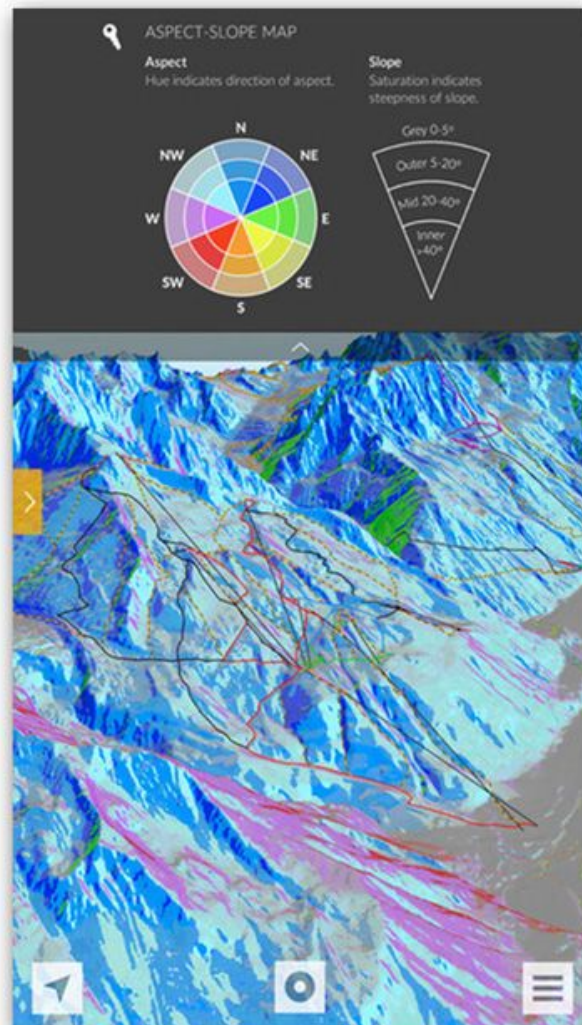
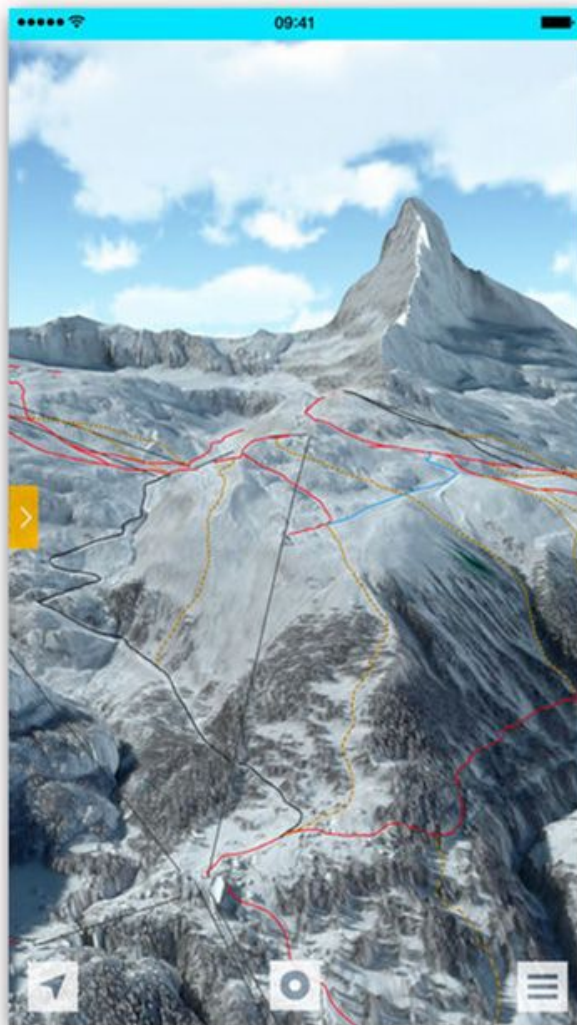
**Splash Image**

**Other Settings**

Allocated: 1.42 GB









# 3D maps

*how hard can it be?*

# *local areas*

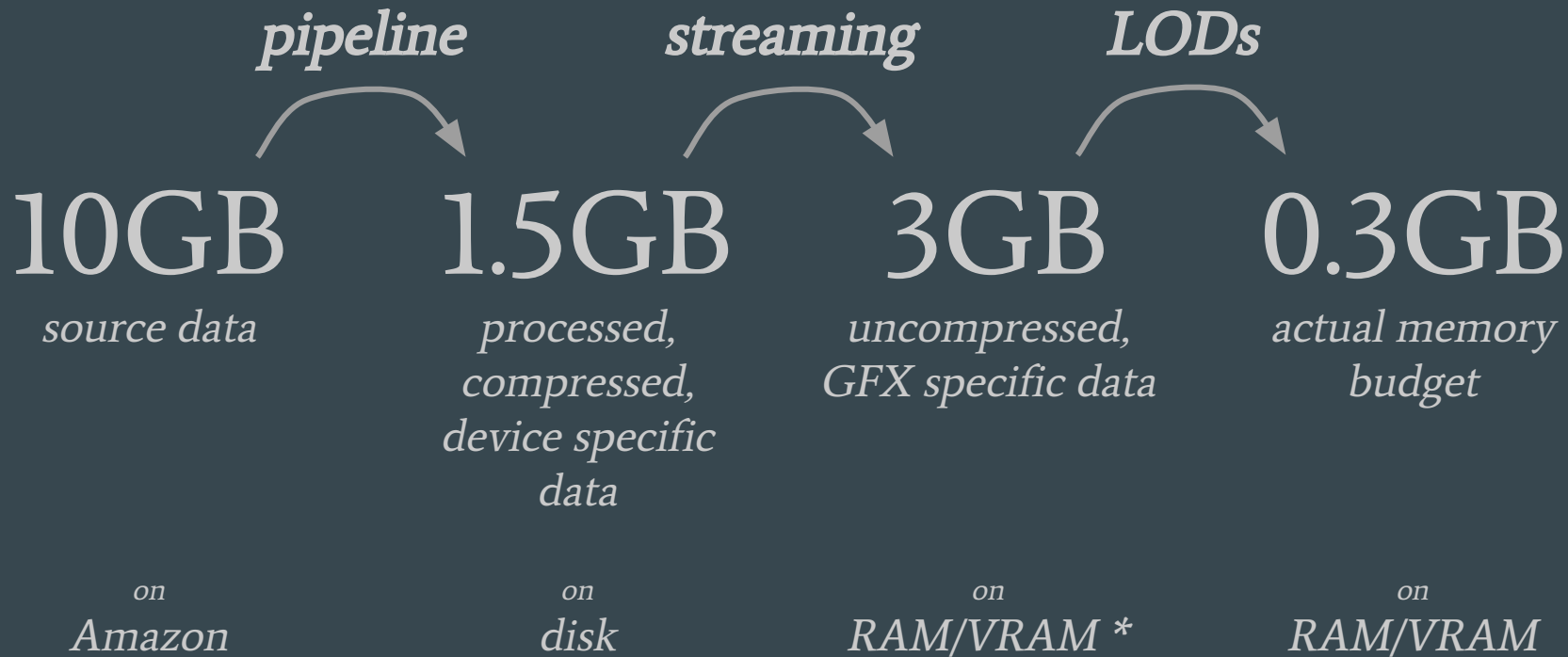
10GB

*source data*

0.3GB

*actual memory  
budget*





\* imaginary data when fully loaded

~~local areas~~  
*global map*

~~10GB~~  
*source data*  
**100TB**

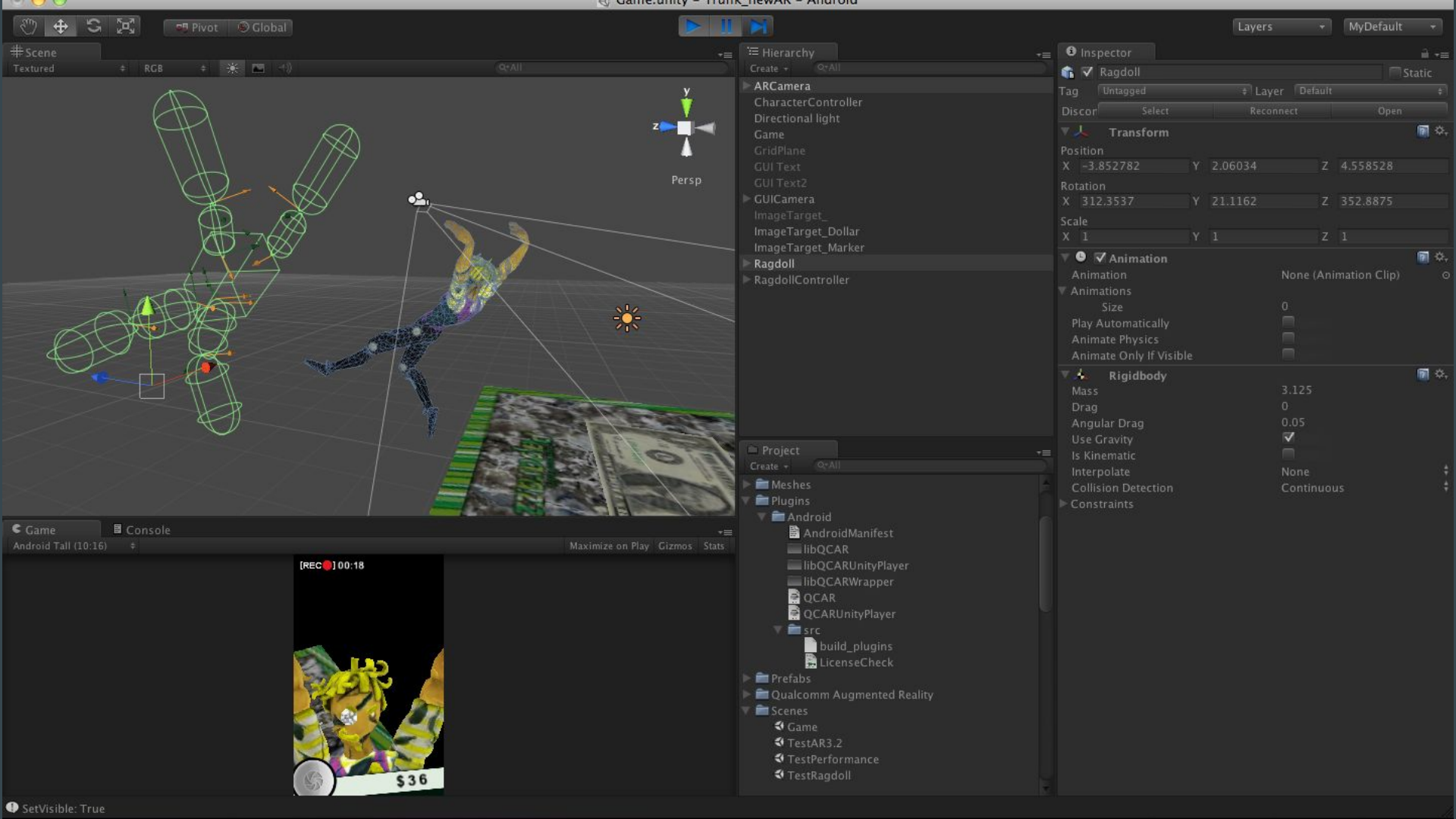
0.3GB  
*actual memory  
budget*



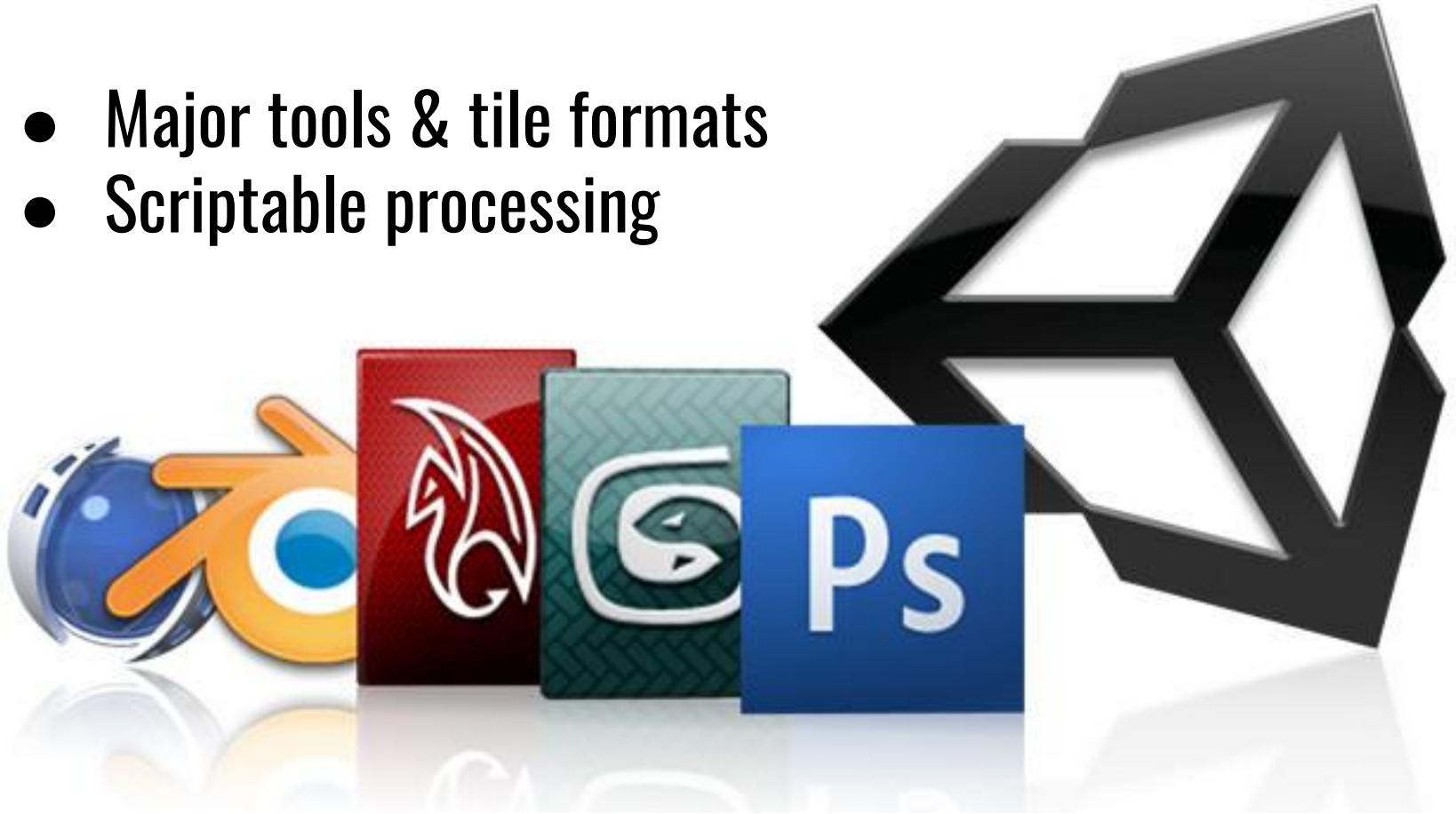


# play in simulator

*(short iteration cycles)*



- Major tools & tile formats
- Scriptable processing







*Ctrl+B*

=

*iOS, Android, Windows, OSX, etc*





*Editor Scripts, Lighting, Terrains, Audio, Rendering, Physics, Programming, Networking, Asset Server, Surface shaders, Occlusion culling, Batching, SSAO, Lightmapping, Vegetation system, Tree creator, Cloth, Cars, Audio filters, Asset Store, Debugging, Triggers, Prefabs and so on*

**WHY?**



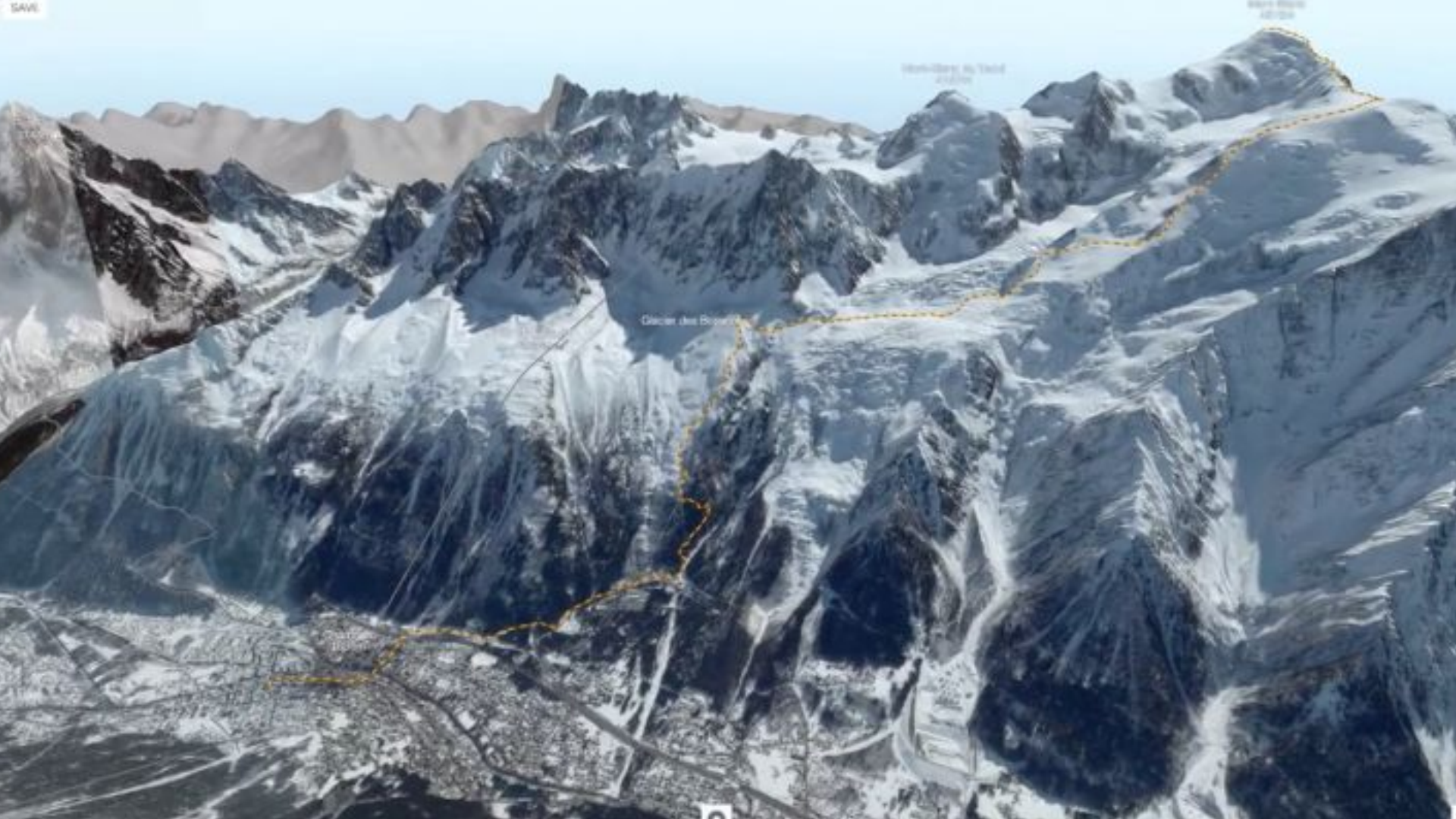
## ...because:

- Memory management issues (have little control about that)
- Memory marshaling (copying large assets like meshes from Mono to C++)
- Impossible to build a native SDK (application life-time issues)
- UI is hard to build (everything is very 3D and float oriented, i.e. hard to make pixel-perfect)
- Native things do not come for free (for example swipe delete)
- You can not break app into separate views (auto-rotate one and restrict to portrait other)
- Larger “empty” app (i.e. larger app/SDK)
- We don't need most of these features

## ...because NOT:

- Fully custom engine from scratch?
- How to solve cross platform development (for Engine & UI)?  
(Web, iOS, Android, Windows, OSX)
- More QA. More duplicated QA automation?
- Write visual debug tools yourself...
- Hire new developers

Is the grass greener?

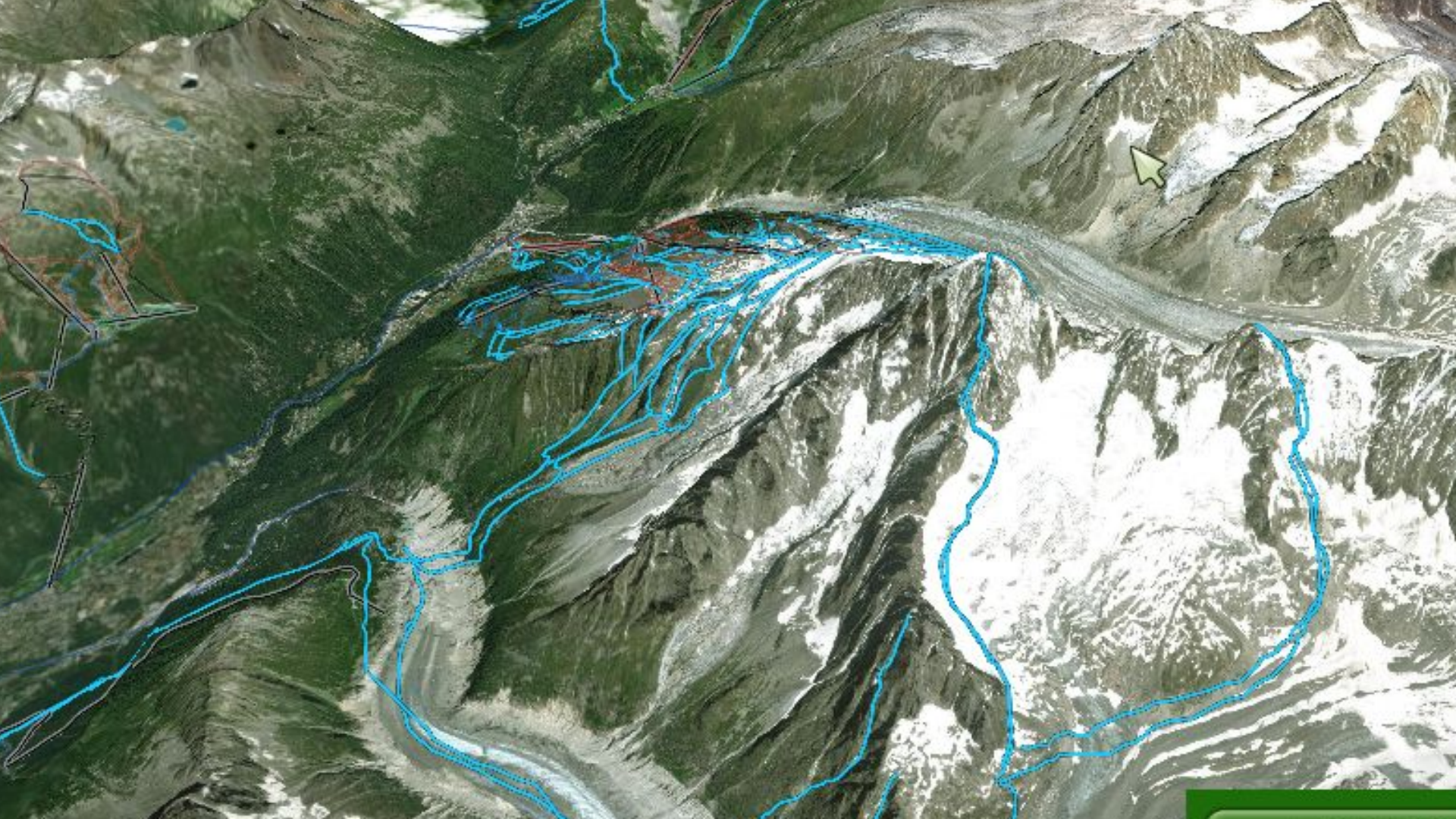


Horn of the Devil  
4000m

Glen of the Devil

Peak of the Devil  
4200m







# Engine

*Ogre3D / C++*



*bindings:*

*ObjectC*

*Java*

*React/javascript*

# UI

*React Native*



# Engine

*ThreeJs / javascript*



*bindings:  
javascript*

# UI

*React*



# Issues...so far:

- Unfamiliar 3D engines (and their bugs)
- A lot of hard work (especially in platform differences, libraries, etc)
- C++ is hard (and I used to be a fan!!! You have to do everything yourself!)
- Developing UI is still not as fast as you want :)
- Write your own visual debuggers (it's back to console logging :)
- Bindings between different languages
- Native things probably still don't come for free (for example swipe delete in React)

# Engine

~~ThreeJS / javascript~~  
**WebAssembly**



*bindings:*  
*javascript*

# UI

*React*







# Q?

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