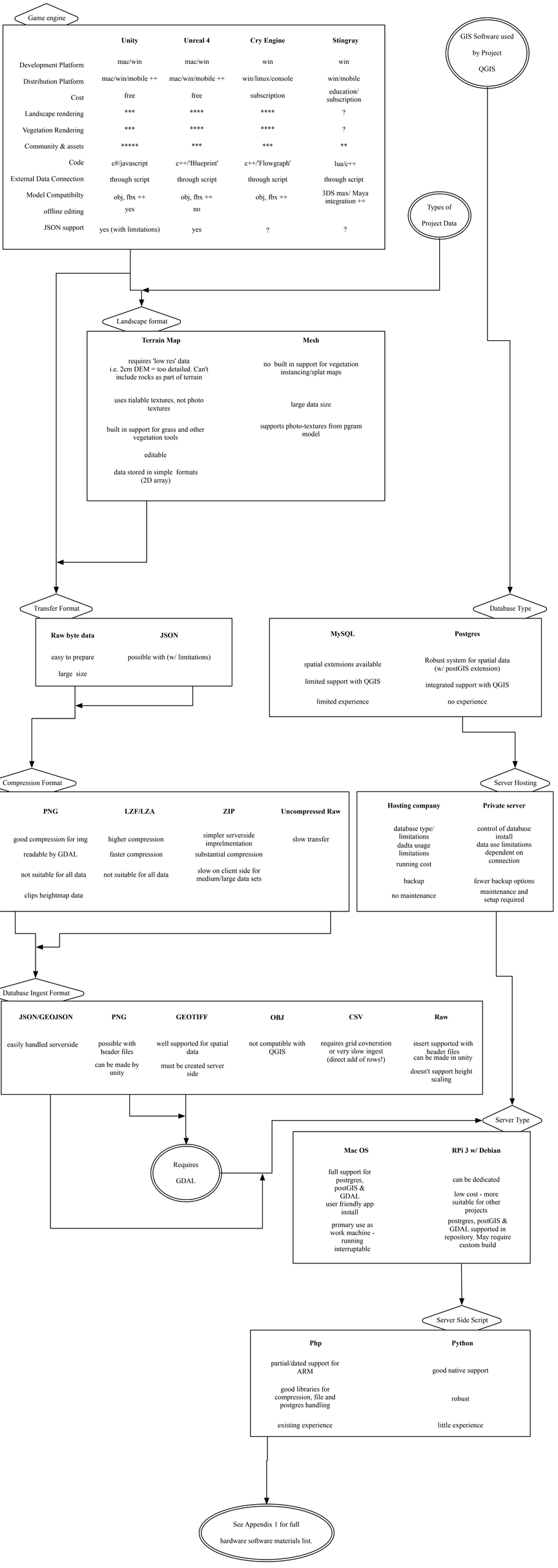
Game engine
Unity
Unreal 4
Cry Engine
Stingray
Development Platform
mac/win
mac/win
win
win
Distribution Platform
mac/win/mobile ++
mac/win/mobile ++
win/linux/console
win/mobile
Cost
free
free
subscription
education/ subscription
Landscape rendering
***
****
****
?
Vegetation Rendering
***
****
****
?
Community & assets
*****
***
***
**
Code
c#/javascript
c++/'Blueprint'
c++/'Flowgraph'
lua/c++
External Data Connection
through script
through script
through script
through script
Model Compatibilty
obj, fbx ++
obj, fbx ++
obj, fbx ++
3DS max/ Maya integration ++
offline editing
yes
no
JSON support
yes (with limitations)
yes
?
?
GIS Software used by Project
QGIS
Types of Project Data
Landscape format
Terrain Map
Mesh
requires 'low res' data i.e. 2cm DEM = too detailed. Can't include rocks as part of terrain
no built in support for vegetation instancing/splat maps
uses tialable textures, not photo textures
large data size
built in support for grass and other vegetation tools
supports photo-textures from pgram model
editable
data stored in simple formats (2D array)
Transfer Format
Raw byte data
JSON
easy to prepare
large size
possible with (w/ limitations)
Database Type
MySQL
Postgres
spatial extensions available
limited support with QGIS
limited experience
Robust system for spatial data (w/ postGIS extension)
integrated support with QGIS
no experience
Compression Format
PNG
LZF/LZA
ZIP
Uncompressed Raw
good compression for img
readable by GDAL
not suitable for all data
clips heightmap data
higher compression
faster compression
not suitable for all data
simpler serverside imprelmentation
substantial compression
slow on client side for medium/large data sets
slow transfer
Server Hosting
Hosting company
Private server
database type/ limitations
dadta usage limitations
running cost
backup
no maintenance
control of database install
data use limitations dependent on connection
fewer backup options
maintenance and setup required
Database Ingest Format
JSON/GEOJSON
PNG
GEOTIFF
OBJ
CSV
Raw
easily handled serverside
possible with header files
can be made by unity
well supported for spatial data
must be created server side
not compatible with QGIS
requires grid covnerstion or very slow ingest (direct add of rows!)
insert supported with header files
can be made in unity
doesn't support height scaling
Server Type
Requires GDAL
Mac OS
RPi 3 w/ Debian
full support for postrgres, postGIS & GDAL
user friendly app install
primary use as work machine - running interruptable
can be dedicated
low cost - more suitable for other projects
postrgres, postGIS & GDAL supported in repository. May require custom build
Server Side Script
Php
Python
partial/dated support for ARM
good libraries for compression, file and postgres handling
existing experience
good native support
robust
little experience
See Appendix 1 for full hardware software materials list.