

ShotGrid를 사용한 Netflix 드라마 VFX 워크플로우 - 웨스트 월드

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Intro



스위트홈 Sweet Home

NETFLIX Originals
감독 : 이응복
Director : Lee Ung Bok
방영 : 2020.12
Release : Dec.2020

서복 Seo Bok

Korean Film / CJ
감독 : 이용주
Director : Lee Yong Joo
개봉 : 2021.4
Release : April.2021

스타트업 Start-Up

tvN Series
감독 : 오충환
Director : Oh ChoongHwan
개봉 : 2020 예정
Release : 2020

이태원 클라쓰 ITAEWON Class

JTBC Series
감독 : 김성윤
Director : Kim Sung Yoon
방영 : 2020.1
Release : Jan.2020

Westworld Pipeline Needs

1. DCC

- Maya , Nuke , Katana 등 부서별 태스크별로 사용되는 여러가지 DCC를 동시에 지원하는 플랫폼

2. Review

- 데스크탑, 모바일, 웹 어디든 동일한 사용자 경험 제공이 가능한 플랫폼

3. Development

- 소규모 개발 인력으로 개발 및 유지보수를 위한 API를 제공하는 플랫폼



+



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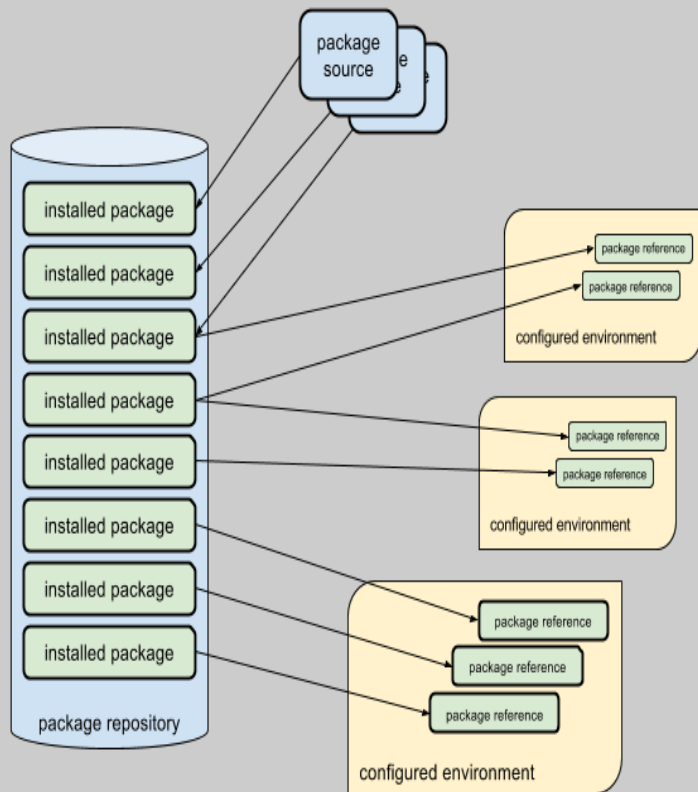


Resolve it with rez

REZ

웨스트월드 패키지 매니징 시스템

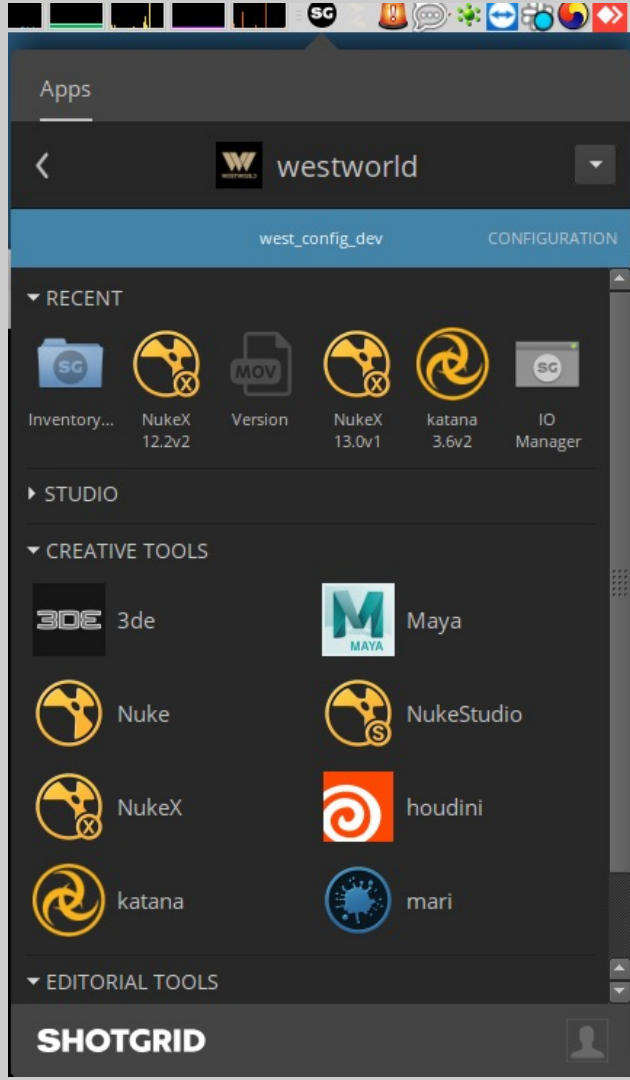
- 오픈소스 크로스 플랫폼 패키지 관리 소프트웨어
- 패키지 종속성 및 중복 문제 해결
- 중앙 저장소를 이용한 패키지 관리
- 빠른 독립 실행 환경 제공
- Command line Tool 제공
- Python API 제공



ShotGrid Desktop

웨스트월드 아티스트 환경의 중심

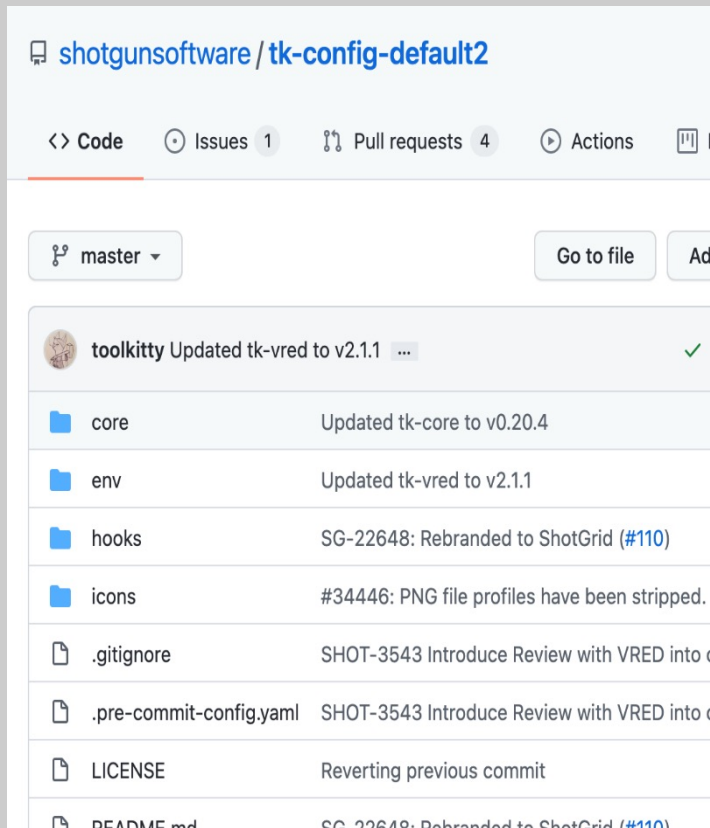
- 프로젝트 단위 사용자 환경 제공
- DCC 및 Inhouse Tool 실행
- DCC별 동일한 사용자 경험 제공
- Custom Engine 및 App을 통한 확장
- 크로스 플랫폼 지원



Tk-Config-default2

웨스트월드 샷그리드 통합의 중심

- 템플릿 기능을 이용한 유연한 설정 및 확장
- Hook 모듈을 통한 의존성 없는 기능 확장
- Config Entity를 활용한 독립적인 개발 환경 구축
- Git 연동을 통한 버전 관리
- tank Command를 이용한 업데이트



Launch DCC

Engine

Dcc 엔진 Rez 통합 (3DE4)

- `{config_root_path}/env/includes/engine_locations.yml`

```
29 #3de
30 engines.tk-3de4.location:
31     type: path
32     linux_path: Studio Storage Path /tk-3de4
33     windows_path: Studio Storage Path \tk-3de4
34
```

- `{engine_root_path}/startup.py`

```
43 def scan_software(self):
44     """
45     Scan the filesystem for natron executables.
46
47     :return: A list of :class:`SoftwareVersion` objects.
48     """
49
50     try:
51         import rez as _
52     except ImportError:
```

Software Entity

Rez Environment List Entity

☐	Software Name ^	rez	win_rez
	 Nuke 12.2v2	nuke-12.2.2,ldpk-2.4.0,rsmb,protobuf,alexa_con...	
▼	westworld (21)		
	 Clarisse 4.0.10	clarisse-4.0.10	
	 Clarisse 4.0.5	clarisse-4.0.5	
☐	 Clarisse 4.0.8	clarisse-4.0.8 	
	 Houdini 17.5.173	houdini-17.5.173,ffmpeg,htoa-4.0.2	
	 Houdini18.5.351	houdini-18.5.351,ffmpeg,htoa-5.5.0.1	
	 Houdini 18.5.462	houdini-18.5.462,ffmpeg,htoa-5.6.0.2,ocio_config	
	 Katana 2.6v4	katana-2.6v4,renderman-21.8,usd-19.03,tractor,...	
	 Katana 3.1v2	katana-3.1v2,renderman-22.4,usd-19.03,ktoa,tr...	
	 Katana 3.2v1	katana-3.2v1,usd-19.05,tractor,renderman-22.6,...	
	 Mari 4.5v1	mari-4.5v1,mari_ext-4.0.0,renderman-23.4	
	 Mari 4.6v4	mari-4.6v4,mari_ext-5.0.4,renderman-23.4	
	 Maya 2019	maya-2019.0.0,ww_maya_shelf,usd-19.05,shape...	maya-2019,usd-19,nodeAuth,ScenegraphXML,ww_may
	 Maya 2019.2	maya-2019.0.2,ww_maya_shelf,usd-19.05,shape...	maya-2019,usd-19,nodeAuth,ScenegraphXML,ww_may

Hook For Launch

Launch DCC Hook 지정

- `{config_root_path}/env/includes/settings/tk-multit-launchapp.yml`

```
20 settings.tk-multi-launchapp:
21     use_software_entity: true
22     hook_before_register_command: "{config}/tk-multi-launchapp/before_register_command.py"
23     location: "@apps.tk-multi-launchapp.location"
```



```
20 settings.tk-multi-launchapp:
21     use_software_entity: true
22     hook_before_register_command: "{config}/tk-multi-launchapp/before_register_command.py"
23     hook_app_launch: "{config}/app_launch.py"
24     location: "@apps.tk-multi-launchapp.location"
```

Hook For Launch

Launch DCC Hook 스크립트 작성

- `{config_root_path}/hooks/app_launch.py`

```
39 class AppLaunch(tank.Hook):
40
41
42     def execute(self, app_path, app_args, version, engine_name, **kwargs):
43
44
45         if engine_name == "tk-photoshopcc":
46             cmd = "start /B \"%App%\" \"%s\" %s" % (app_path, app_args)
47             exit_code = os.system(cmd)
48             return {"command": cmd,
49                   "return_code": exit_code
50
51             }
52
53
54     app_name = ENGINES[engine_name]
55     context = self.tank.context_from_path(self.tank.project_path)
```

파일(F) 편집(E) 보기(V) 검색(S) 터미널(T) 도움말(H)

requested packages:

```
3de-4.6.0
ldpk-2.3.0
~platform==linux      (implicit)
~arch==x86_64         (implicit)
~os==CentOS-7.5.1804  (implicit)
```

resolved packages:

```
3de-4.6.0      /westworld/inhouse/tool/rez-packages/3de/4.6.0/platform-linux/arch-x86_64
arch-x86_64    /westworld/inhouse/tool/rez-packages/arch/x86_64
ldpk-2.3.0     /westworld/inhouse/tool/rez-packages/ldpk/2.3.0/platform-linux/arch-x86_64
platform-linux /westworld/inhouse/tool/rez-packages/platform/linux
```

resolve details:

```
load time: 0.00 secs
solve time: 0.00 secs
packages queried: 4
from cache: False
```

3DEqualizer4 Release 6, [View A] - (c) Science-D-Visions

SG File Open DEV

Shots

My Tasks

Shots

My Tasks Only

+ New Task

Search Shots

▶ A001
▶ ALEXA
▶ B001
▶ EP03
▶ S001

Filter by Pipeline Step

✗ Concept
✗ management
✗ Previz
✗ ani
comp
Concept
crowd
env
fur
fursim
fx
leen

Select All

Select None

< Track >

Fast

File Open...
File Save...
Load...
Open Log Folder
Reload and Restart
Toggle Debug Logging
Work Area Info...

frames Calc Python Config CustomScripts Adjustment HUNT Internal fov Shotgun WASH Internal fov WW



westworld



west_config_dev

CONFIGURATION

RECENT



3de 4.6.0



Inventory...



NukeX
12.2v2



Version



NukeX
13.0v1



katana
3.6v2

STUDIO

CREATIVE TOOLS



3de



Maya

Publish / Loader

Publish File Type

웨스트월드 Publish File Types

Published File Type List -- *shared*

Modified   

  Add Published Fil...  Sort  Group  Fields  More 

 Search Published File Types...  Filter 

 <u>Maya Scene</u>	 <u>Alembic Cache</u>	 <u>Folder</u>	 <u>Katana File</u>	 <u>Usd File</u>	 <u>Rendered Imag</u>	 <u>Movie</u>	 <u>Component</u>
 <u>Assembly</u>	 <u>Component US</u>	 <u>Assembly USD</u>	 <u>scenegrphXM</u>	 <u>Camera USD</u>	 <u>Image</u>	 <u>Set USD</u>	 <u>Set ABC</u>
 <u>Xml File</u>	 <u>Abc File</u>	 <u>Ztl File</u>	 <u>Obj File</u>	 <u>Plate</u>	 <u>Source</u>	 <u>Nuke Script</u>	 <u>Tif File</u>

Hook For Publish

Publish Hook 지정

- `{config_root_path}/env/includes/settings/tk-multi-publish2.yml`

```
159 # ---- Maya
160
161 # asset step
162 settings.tk-multi-publish2.maya.asset_step:
163     collector: "{self}/collector.py:{config}/tk-multi-publish2/maya/collector_asset.py"
164     collector_settings:
165         Work Template: maya_asset_work
166     publish_plugins:
167     - name: Publish to Shotgun
168       hook: "{self}/publish_file.py"
169
170     - name: Publish to Shotgun
171       hook: "{self}/publish_file.py:{config}/tk-multi-publish2/maya/asset/publish_alembic.py"
172       settings:
173         Publish Template: asset_component_alembic
174     - name: Publish to Shotgun For Mari
175       hook: "{self}/publish_file.py:{config}/tk-multi-publish2/maya/asset/publish_alembic_for_mari.py"
```

Hook For Publish

Publish Hook 스크립트 작성

- [{config_root_path}/hooks/tk-multi-publish2/maya/collector_asset.py](#)

```
437     def collect_assembly(self, parent_item):
438
439         check_component = cmds.ls(parent_item.context.entity['name'])
440         check_usd_ref = cmds.ls(type='pxrUsdReferenceAssembly')
441
442         if not check_component or not check_usd_ref:
443             return
444
```

- [{config_root_path}/hooks/tk-multi-publish2/maya/asset/publish_alembic.py](#)

```
257     def publish(self, settings, item):
258
259         publisher = self.parent
260         publish_path = item.properties["path"]
261         publish_folder = os.path.dirname(publish_path)
262         self.parent.ensure_folder_exists(publish_folder)
263         alembic_args = [
264             # write uv's (only the current uv set gets written)
```

Hook For Loader

Loader Hook 지정 & Hook Script 작성

- `{config_root_path}/env/includes/settings/tk-multi-loader2.yml`

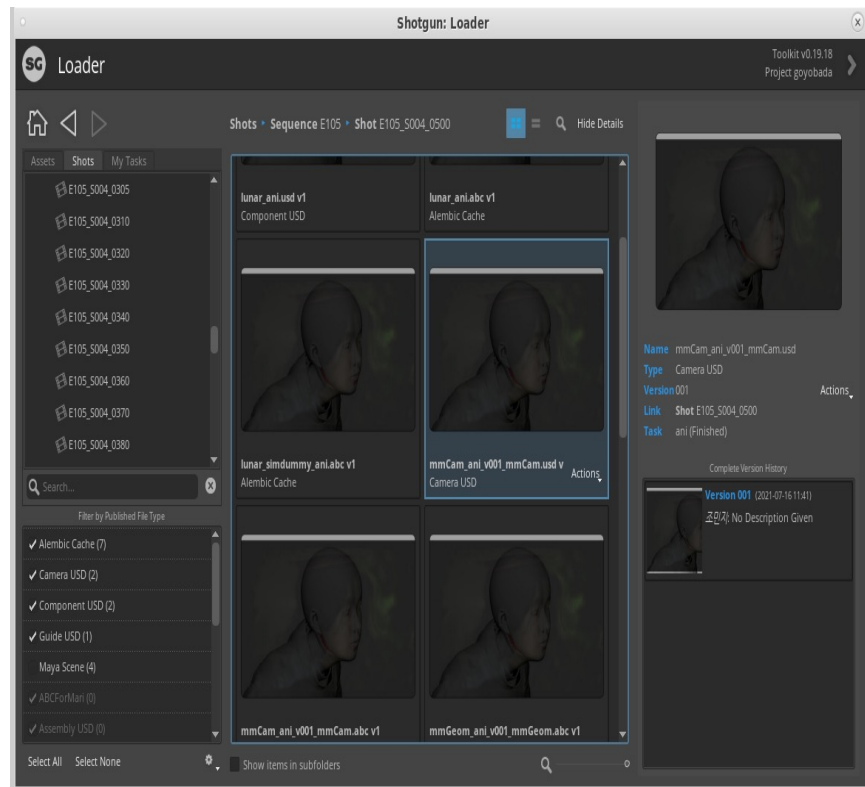
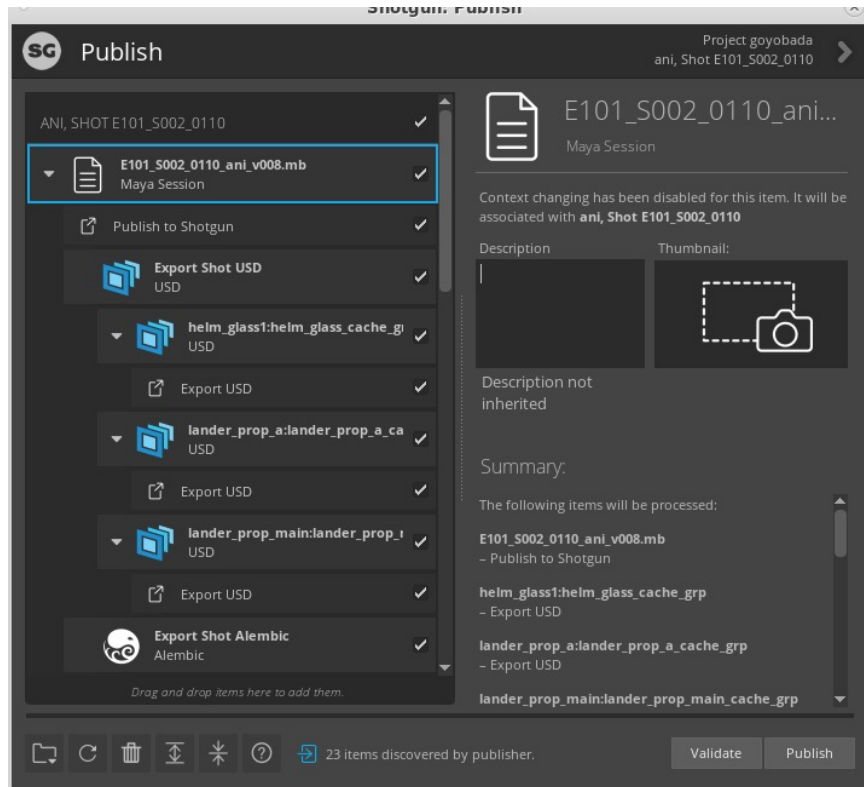
```
115 # maya
116 settings.tk-multi-loader2.maya:
117     actions_hook: '{self}/tk-maya_actions.py:{config}/tk-multi-loader2/tk-maya_actions.py'
118     action_mappings:
119         Alembic Cache: [reference, import, merge, viewer]
120         ABCExport: [reference, import, merge, viewer]
```

- `{config_root_path}/hooks/tk-multi-loader2/tk-{engine}_actions.py`

```
12 class KatanaActions(HookBaseClass):
13
14     def generate_actions(self, sg_publish_data, actions, ui_area):
15
16         app = self.parent
17         app.log_debug("Generate actions called for UI element %s. "
18                     "Actions: %s. Publish Data: %s" % (ui_area, actions, sg_publish_data))
19
20
```

Publish / Loader

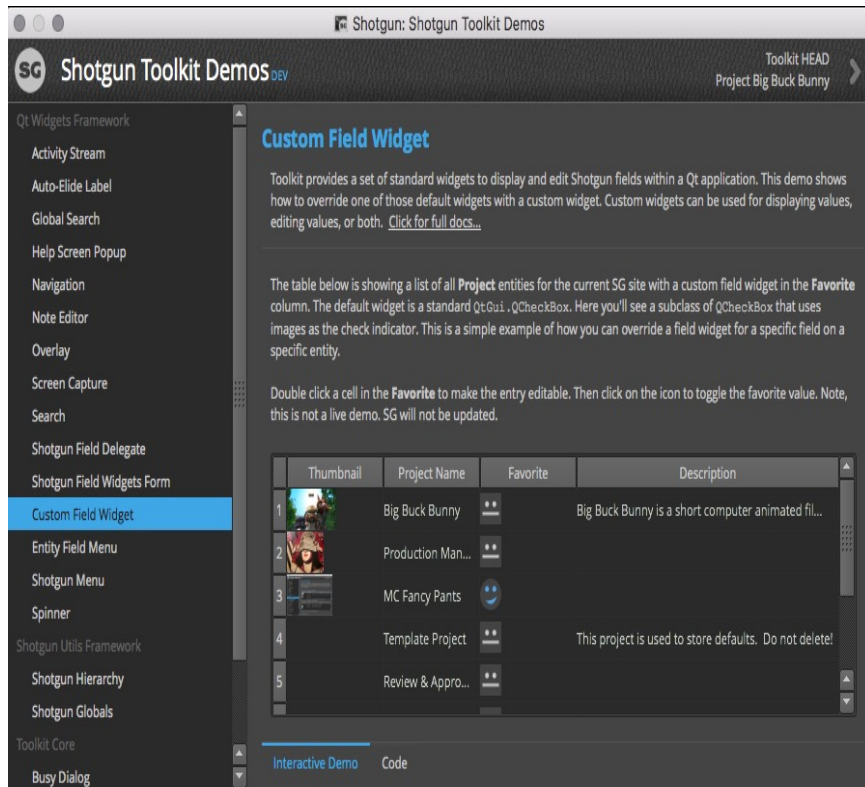
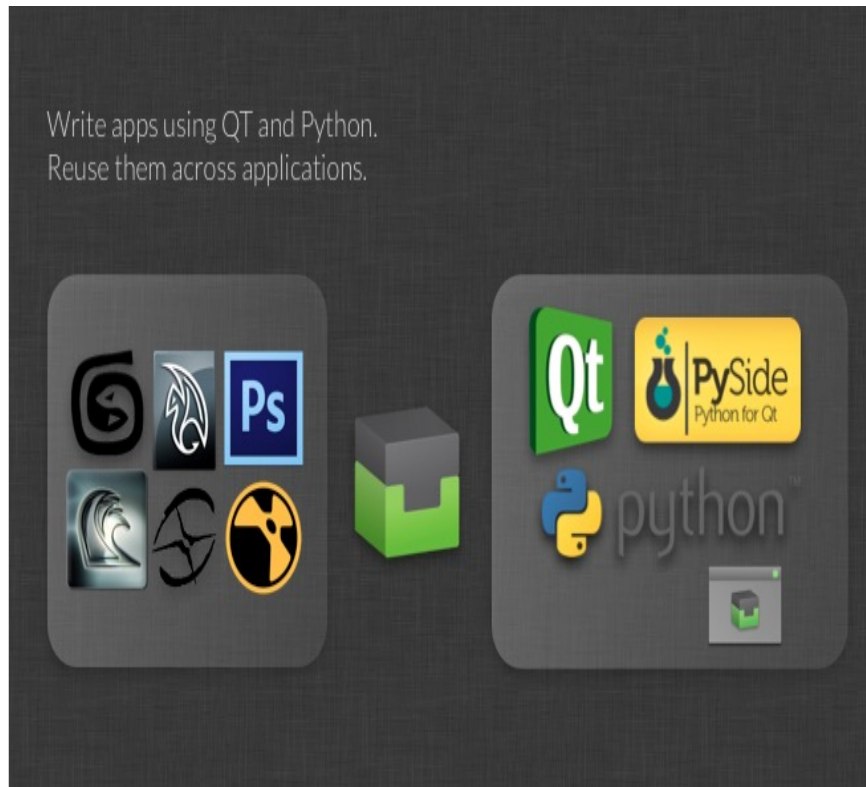
웨스트월드 Publish / Loader 예시



Review

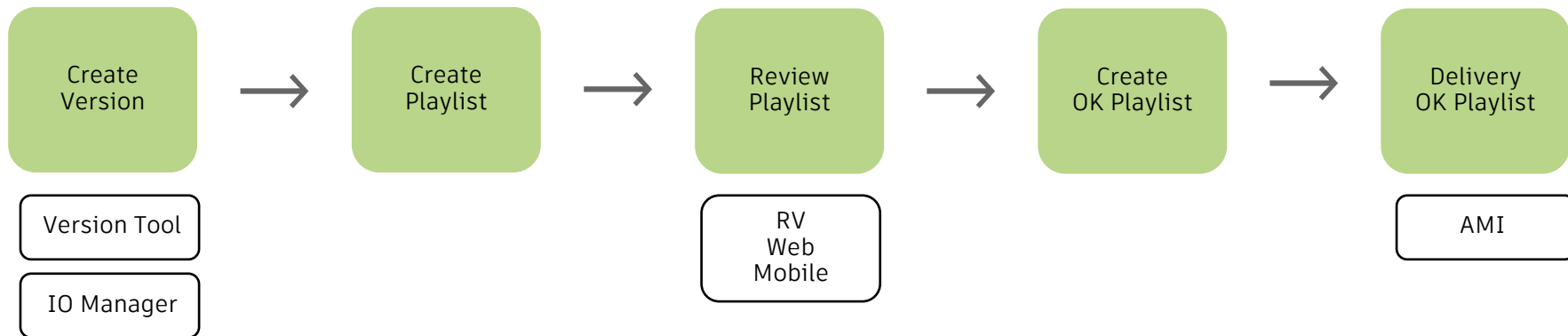
ShotGrid Toolkit

Shotgrid Toolkit 활용하면 쉽고 빠르게 Inhouse Tool 개발이 가능



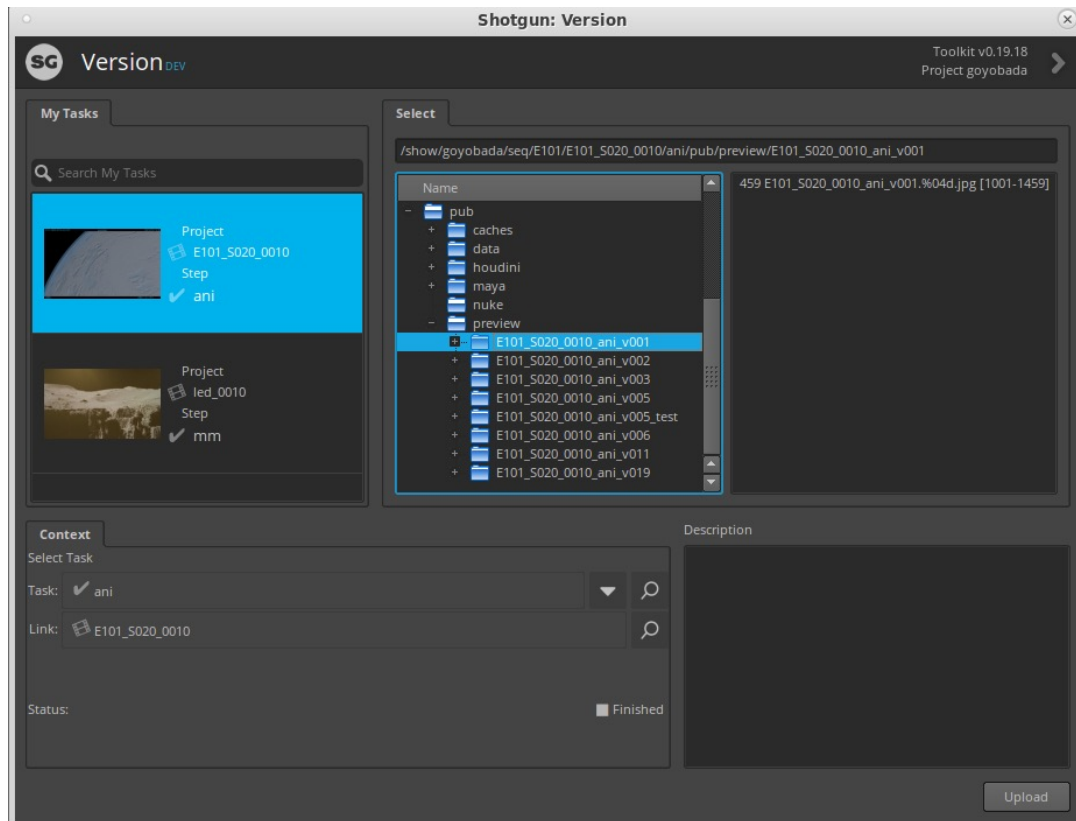
Version

Westworld Review Pipeline



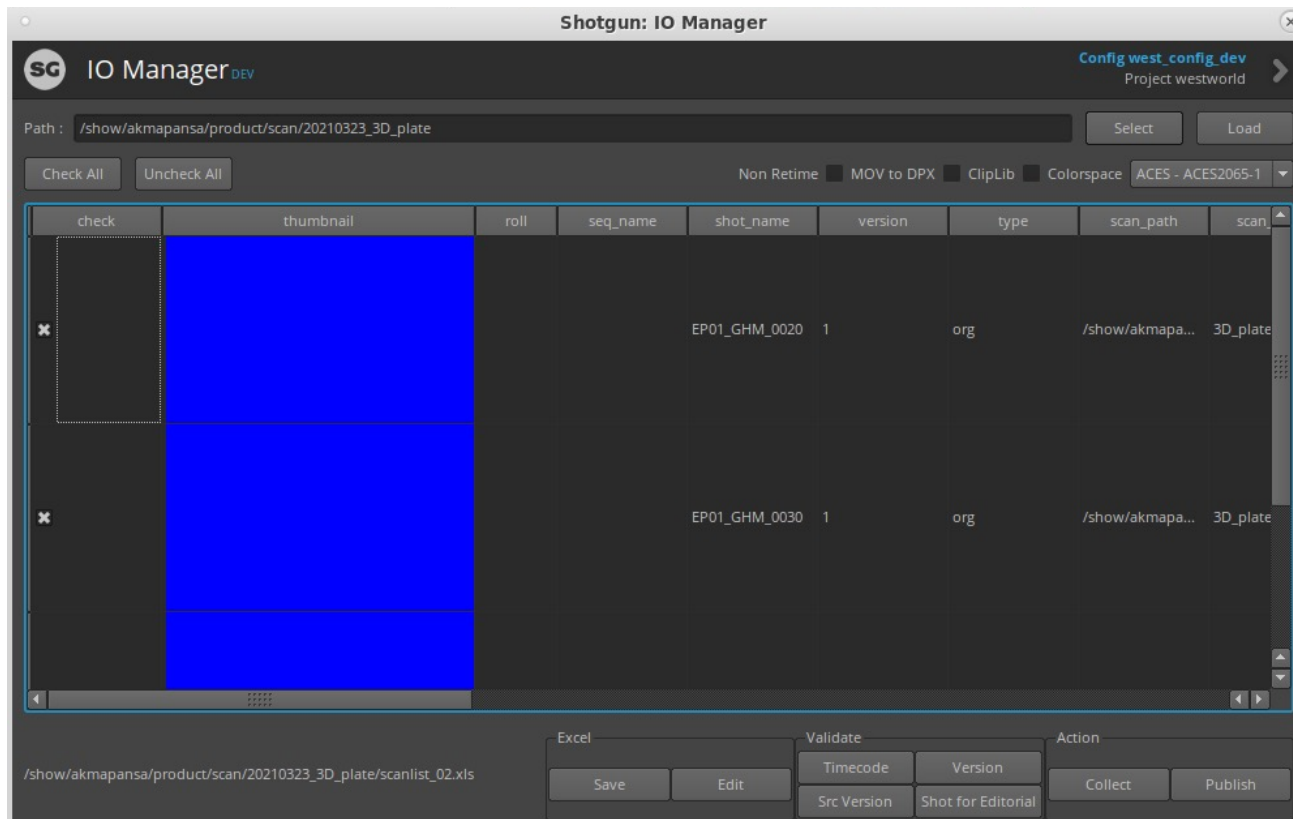
Create Version Tool

Westworld Version

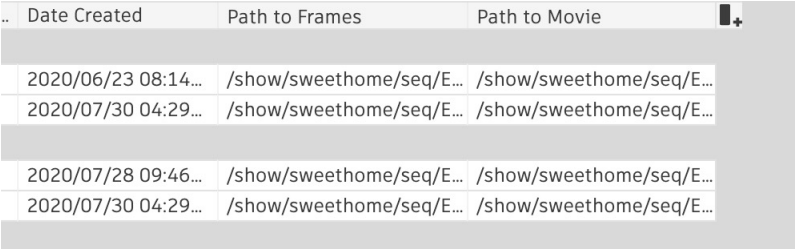


Create Version Tool

Westworld IO Manager

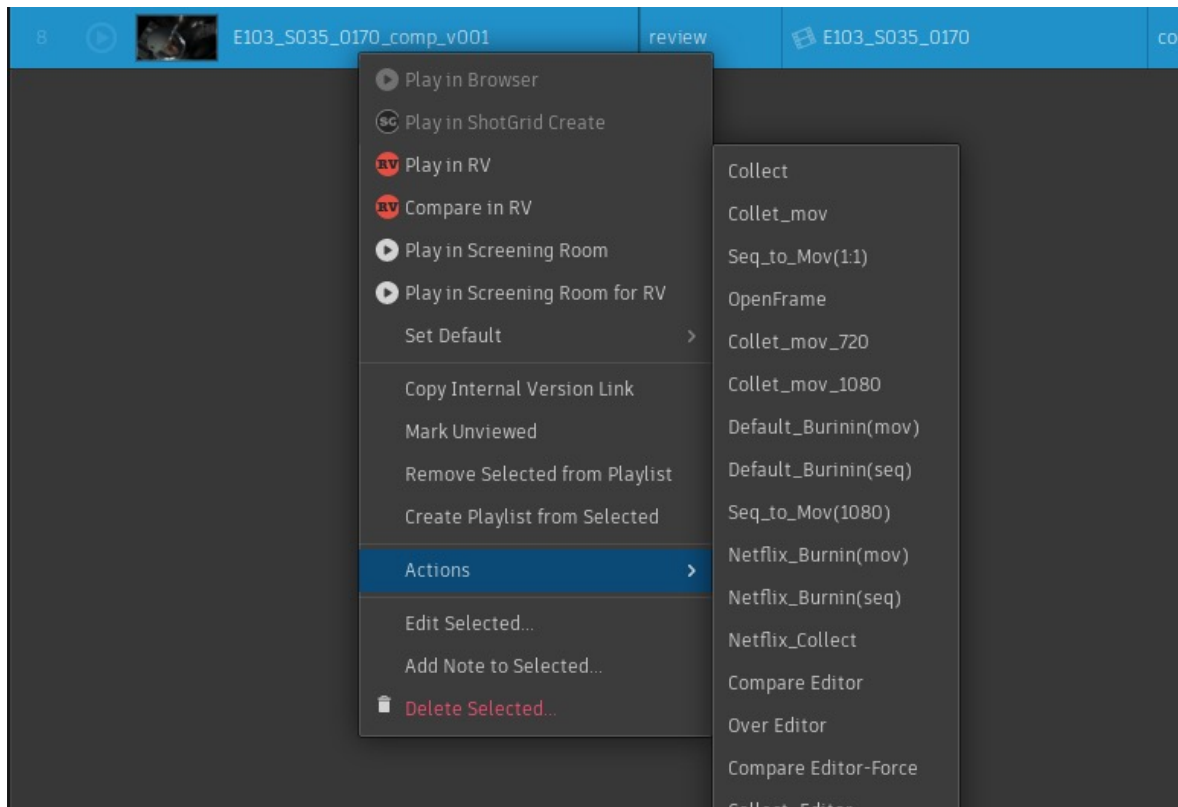


RV를 활용한 Version 리뷰



Version + AMI

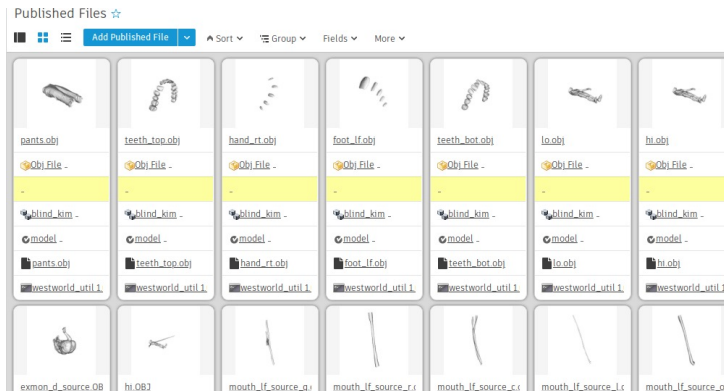
AMI를 활용한 버전 엔티티 액션 추가



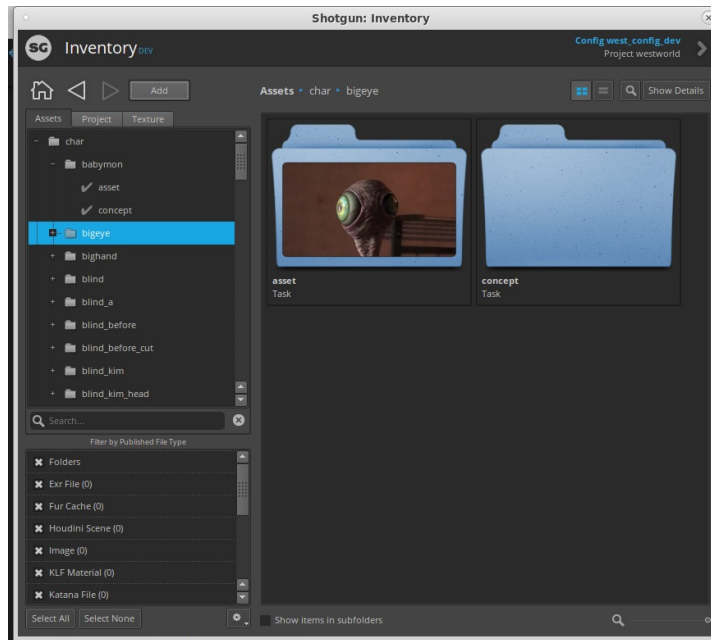
Etc.

Asset Library

Inventory



<어셋 라이브러리 프로젝트>



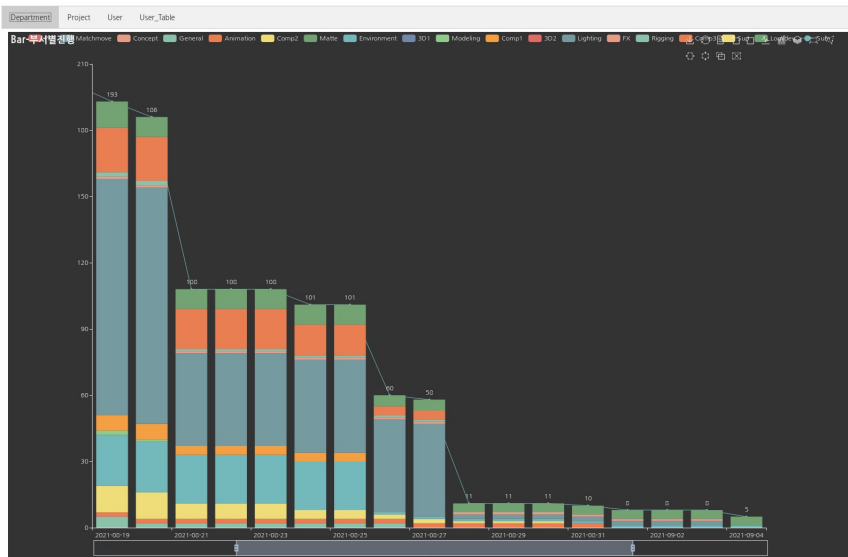
<어셋 라이브러리 어플리케이션>

Shotgrid Visualize

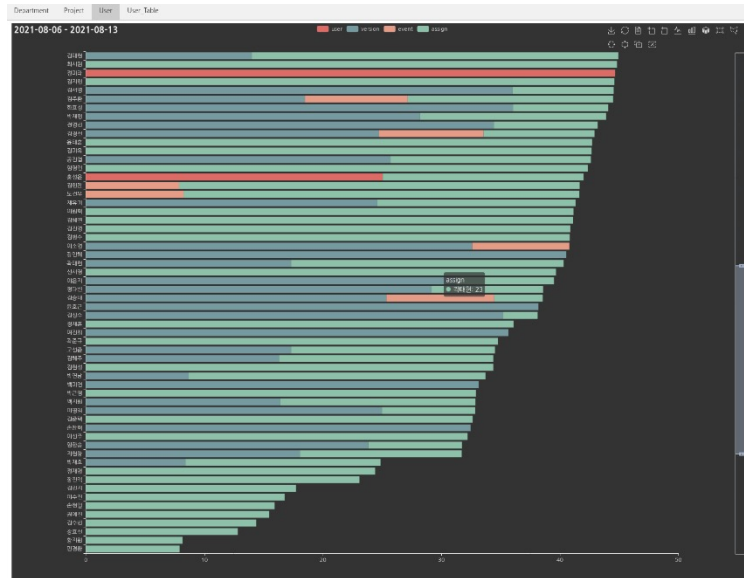


ShotGrid is Backend

Shotgrid 데이터 분석을 위한 웹개발



<Duedate Task>



< Weekly User Timelog >

<https://github.com/demon7x/tk-default-config-ww>

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