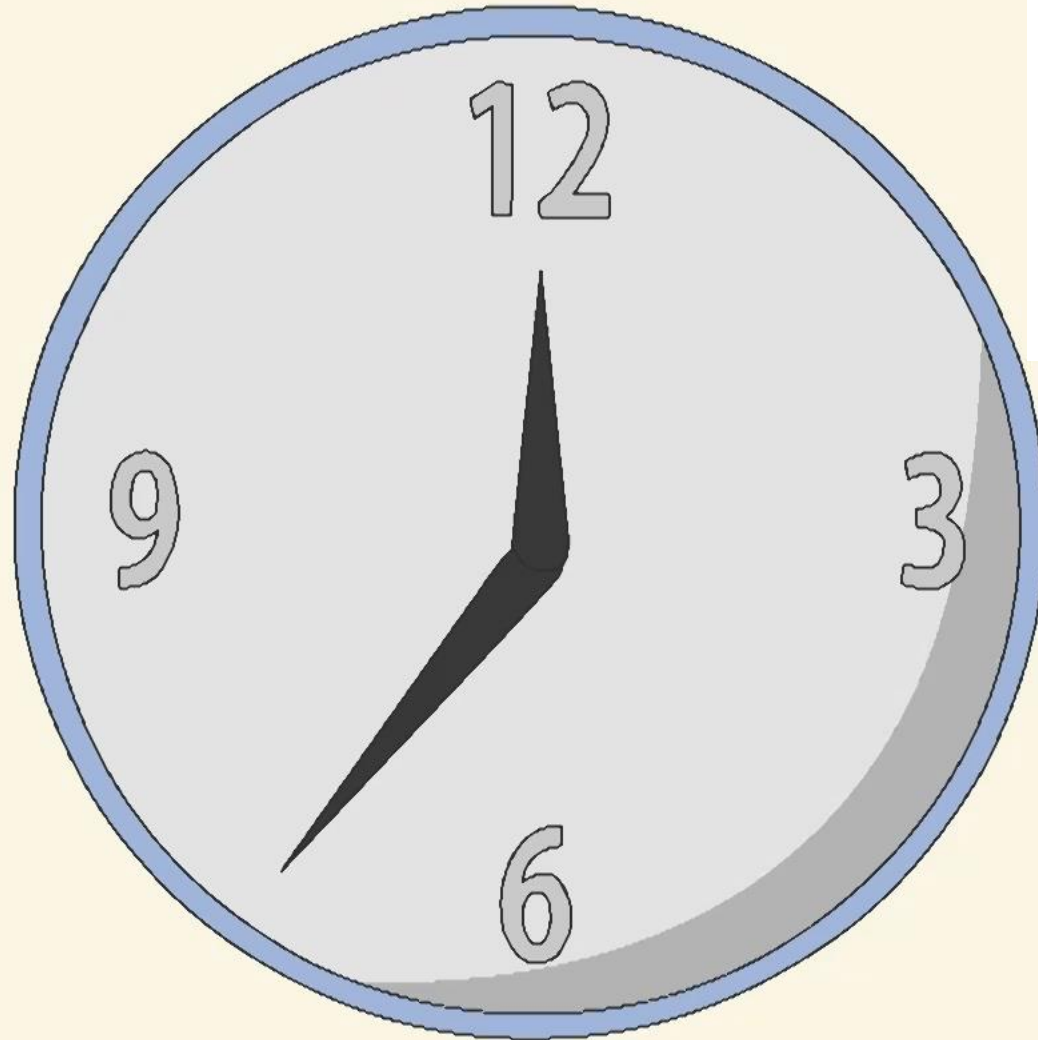




Overview of the Japanese Anime Production Workflow

Akinobu Maejima
OLM Digital, Inc.



プロット

起

12PM.仕事休憩を取るオルマ君。本を読む。

承

本の世界に入ってしまう。鎧兜を着ている。

転

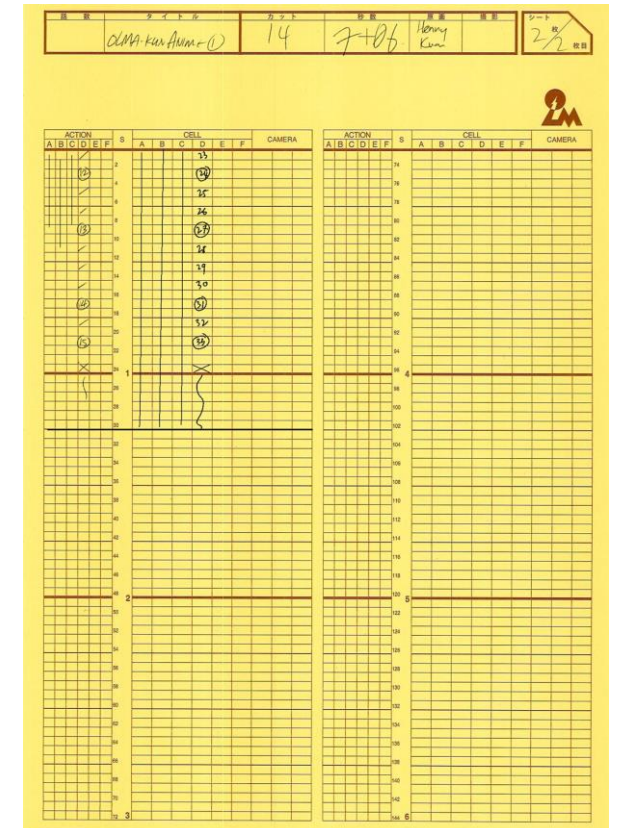
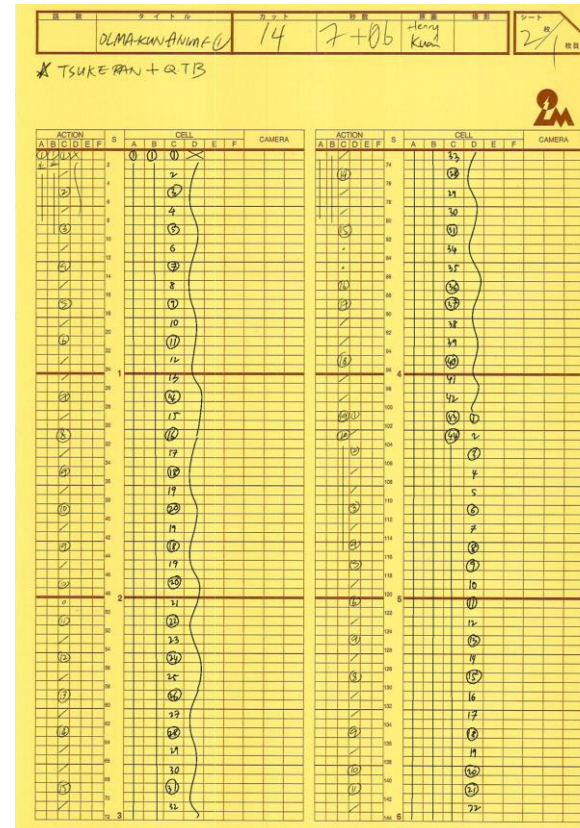
デッドラインドラゴンと戦うことになり立ち向かう。

結

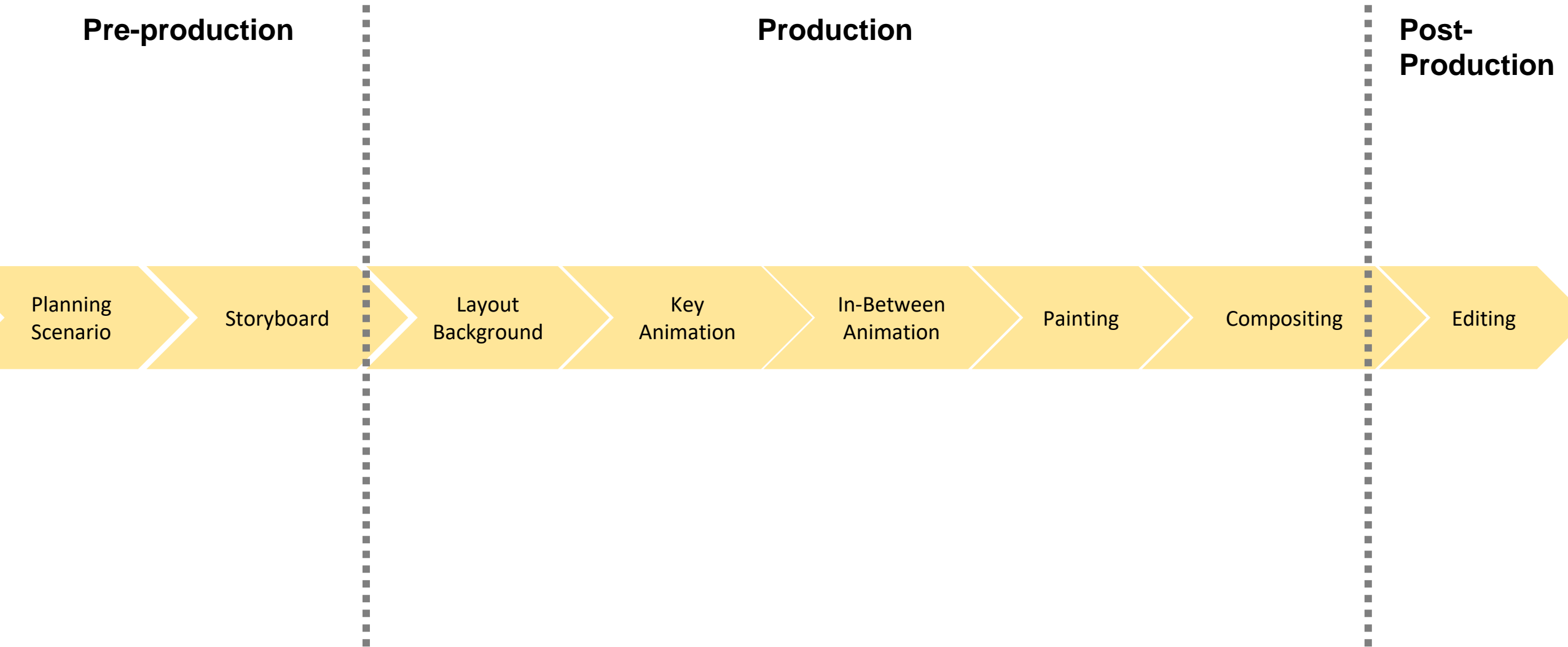
夢から覚める。寝過ごして締め切りギリギリになっていた。

Traditional workflow: All in Analog

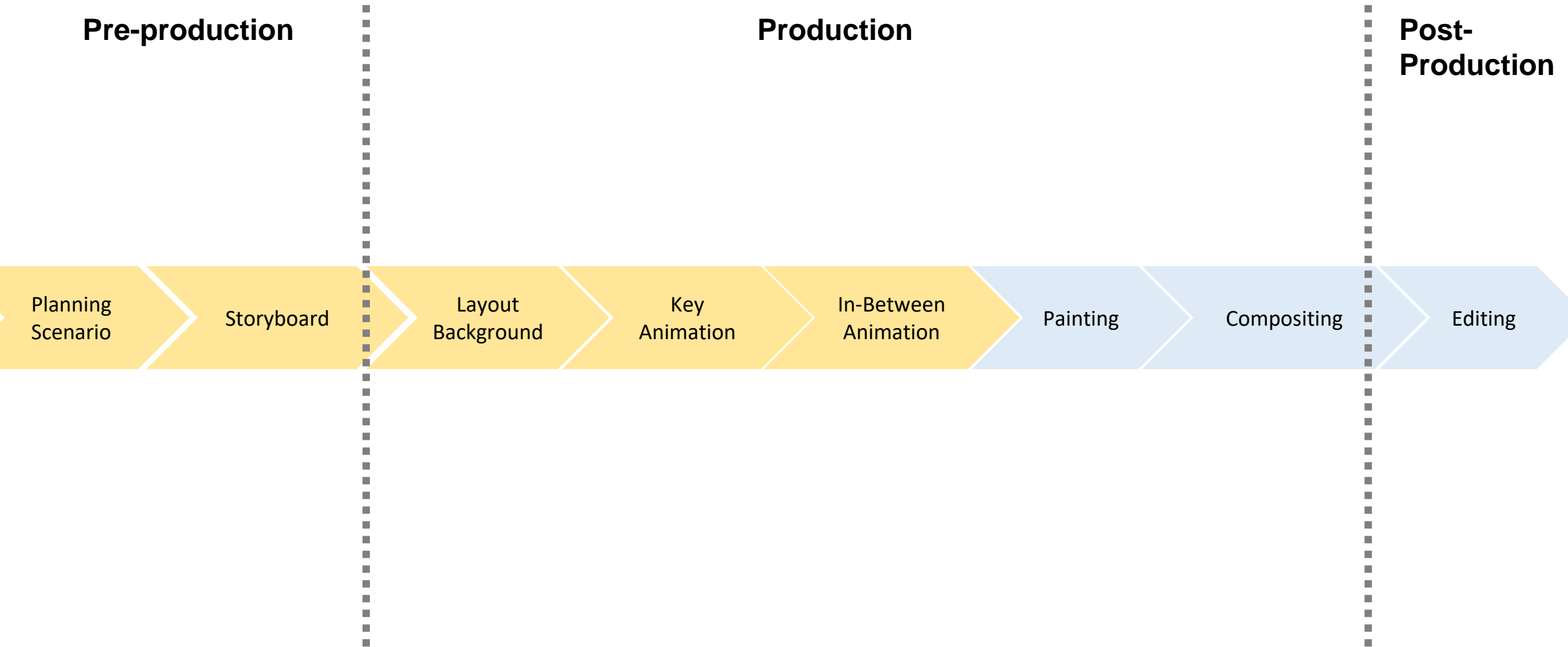
- Standard of production set 60 year ago
 - Atom Boy (Osamu Tezuka)
 - Short time, efficient production
 - Flat colors
 - Uniform color lines
 - On 2s – on 3s
- Still using paper
 - Time sheets
 - Shot envelopes
 - Layout/Key animation
- 2D hand drawing is freedom!



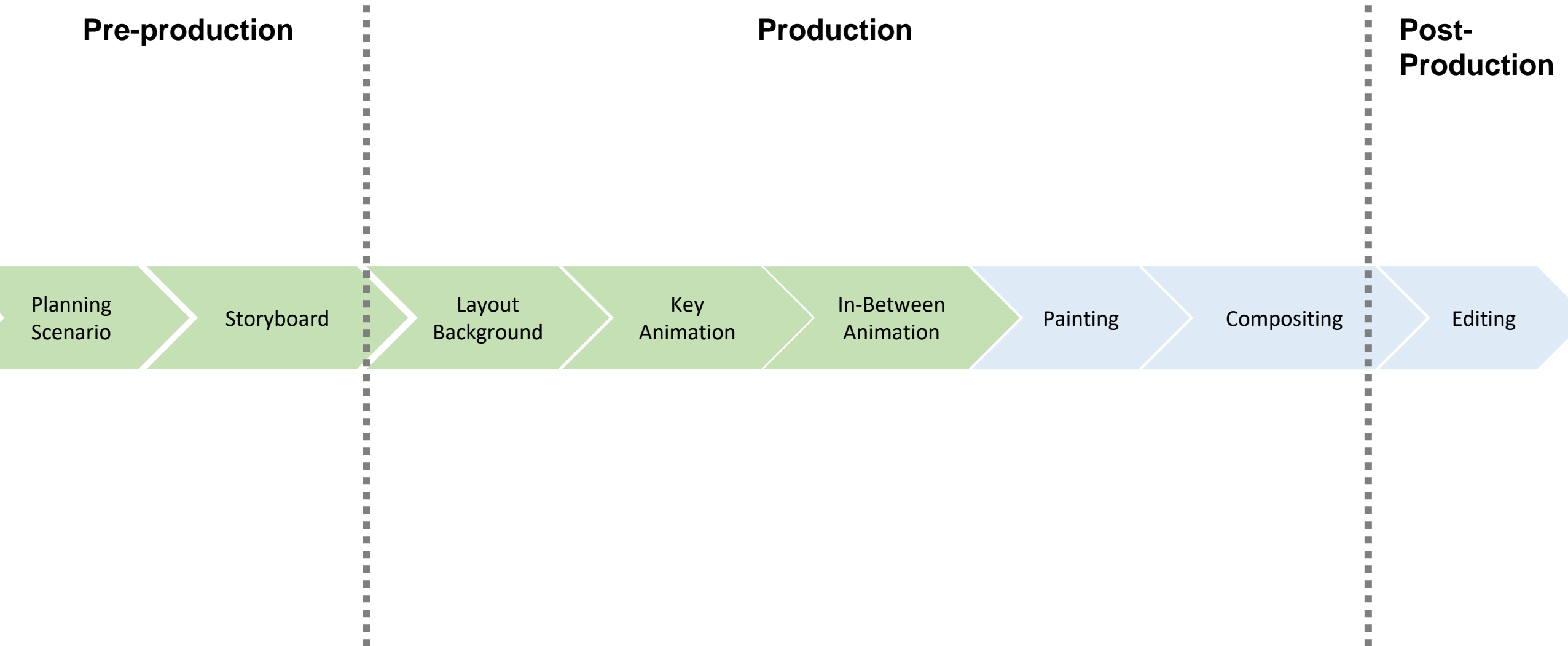
Traditional workflow: All in Analog



Traditional workflow: Hybrid of Analog and Digital



Current workflow: Hybrid of Analog and Digital



Layout

Layout & Background

Key Animation

In-Between Animation

Painting

Compositing

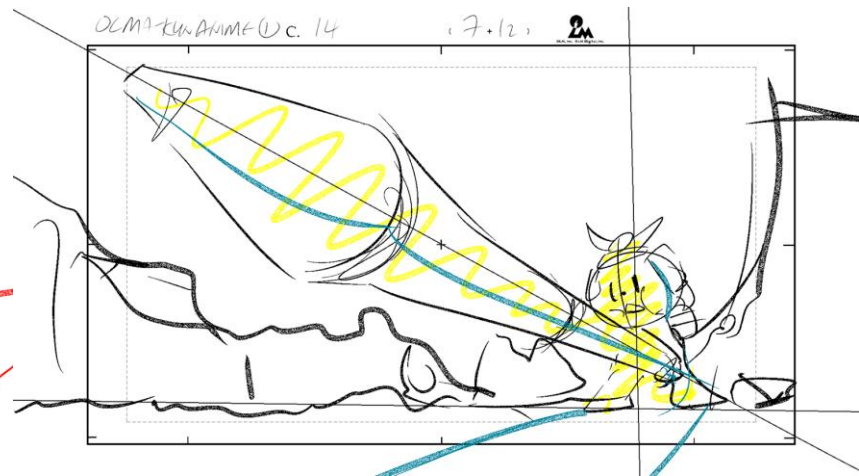
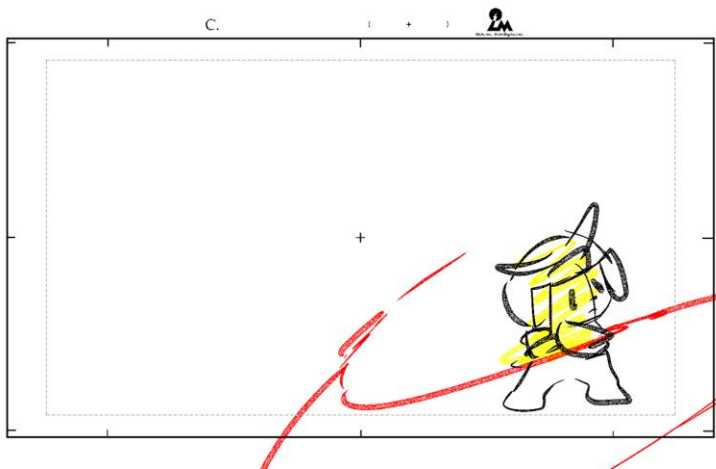
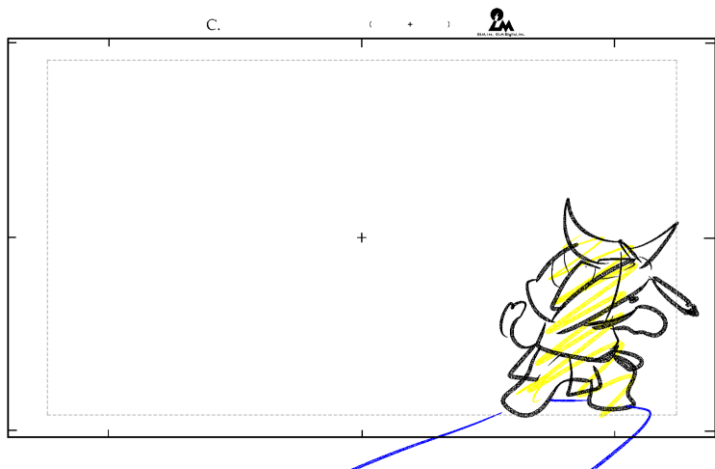
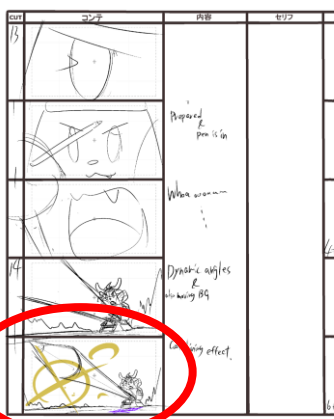
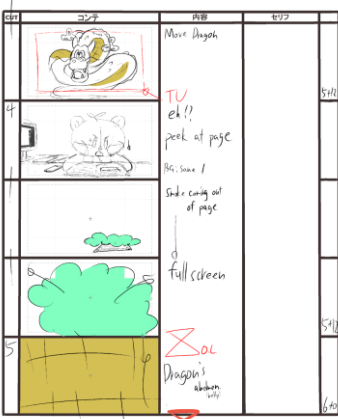
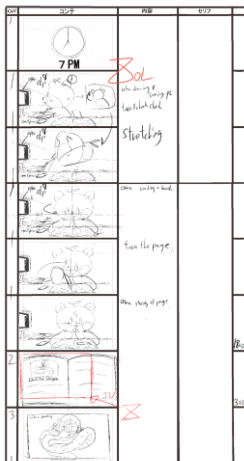
Olmakun Anime1



演出・編集 (櫻沢)
原画 (Henry)
動画・仕上 (有志)
動画検査 (Mao)
色彩設計 (ミッシェル・ナナ)
セル検査 (ミッシェル)
制作進行 (堀村)

29cut131+00k

storyboard



Background

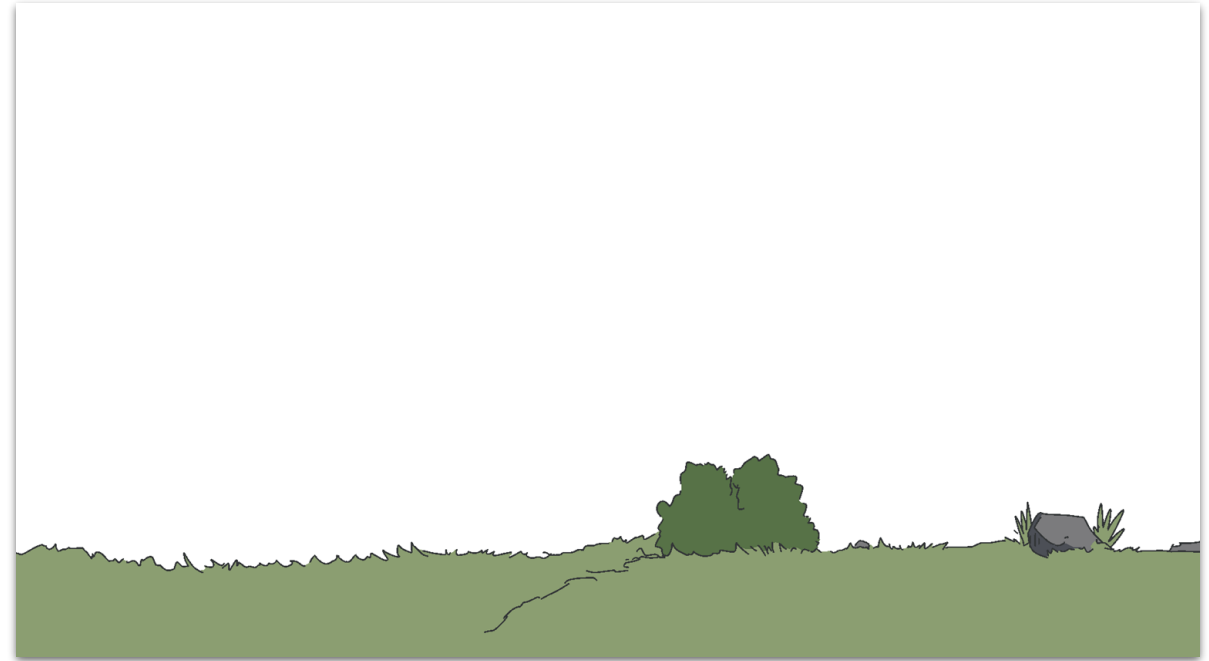
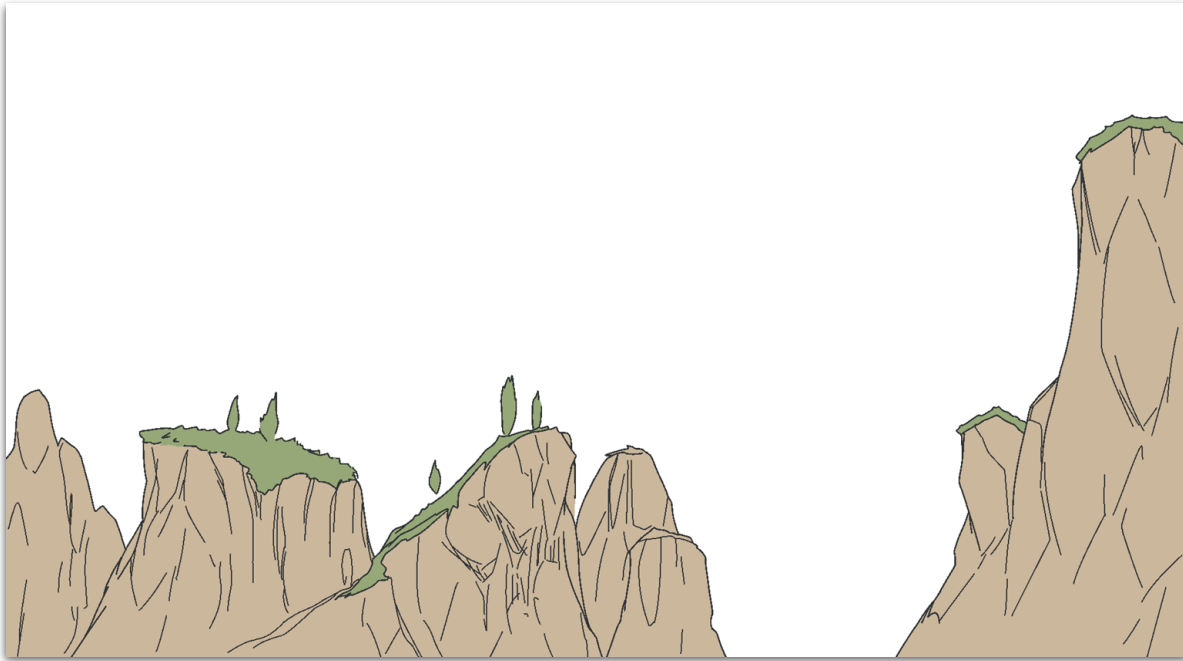
Layout & Background

Key Animation

In-Between Animation

Painting

Compositing



Key Animation: rough sketching

Layout & Background

Key Animation

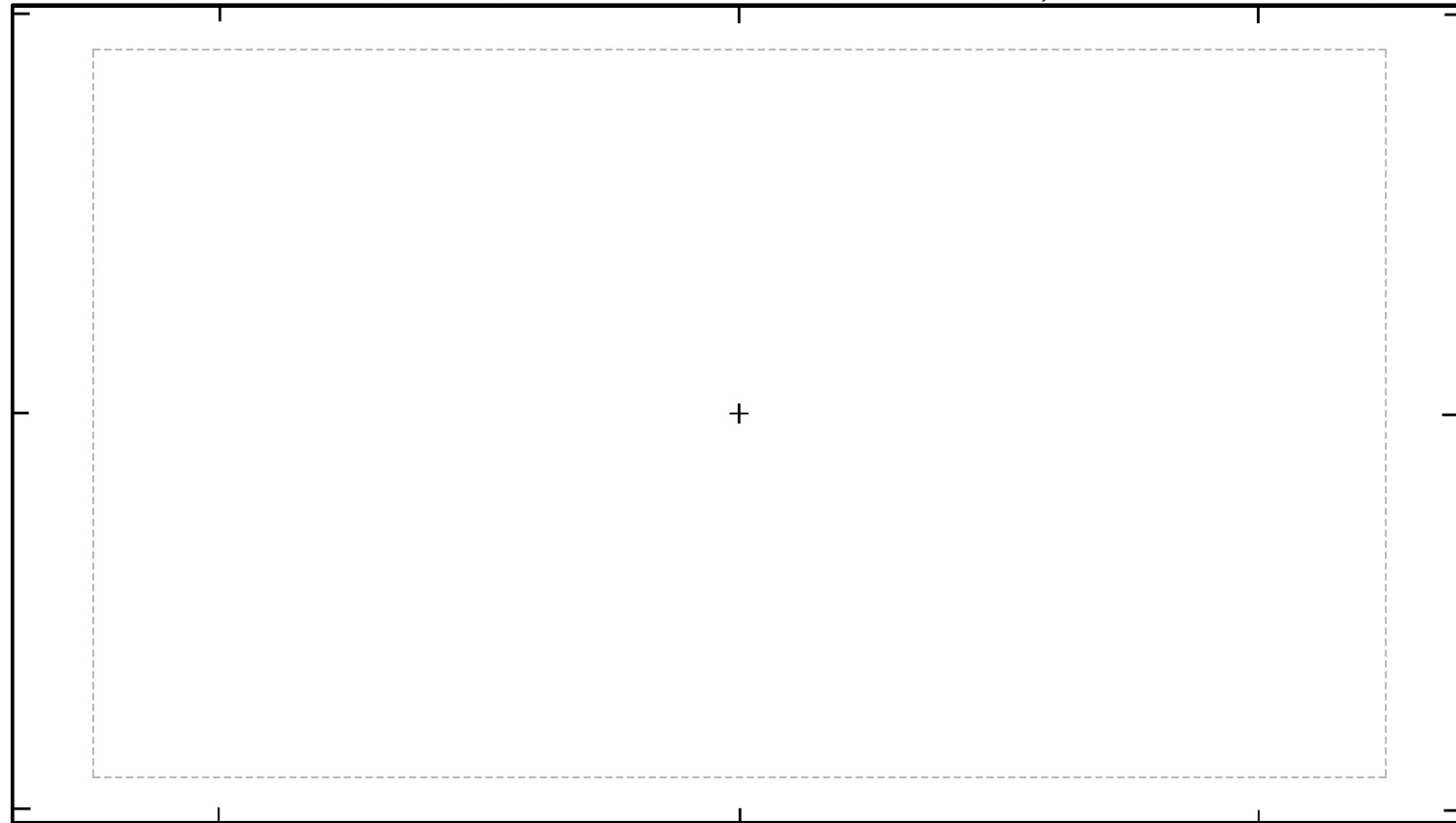
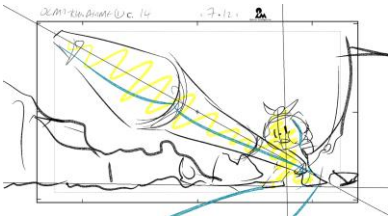
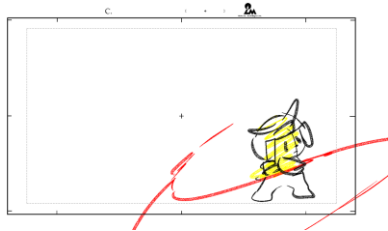
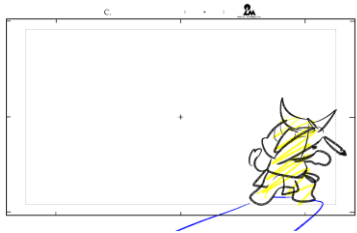
In-Between Animation

Painting

Compositing

OLMA KUN ANIME ① c. 14

(7 + 12)



Key Animation: cleanup

Layout & Background

Key Animation

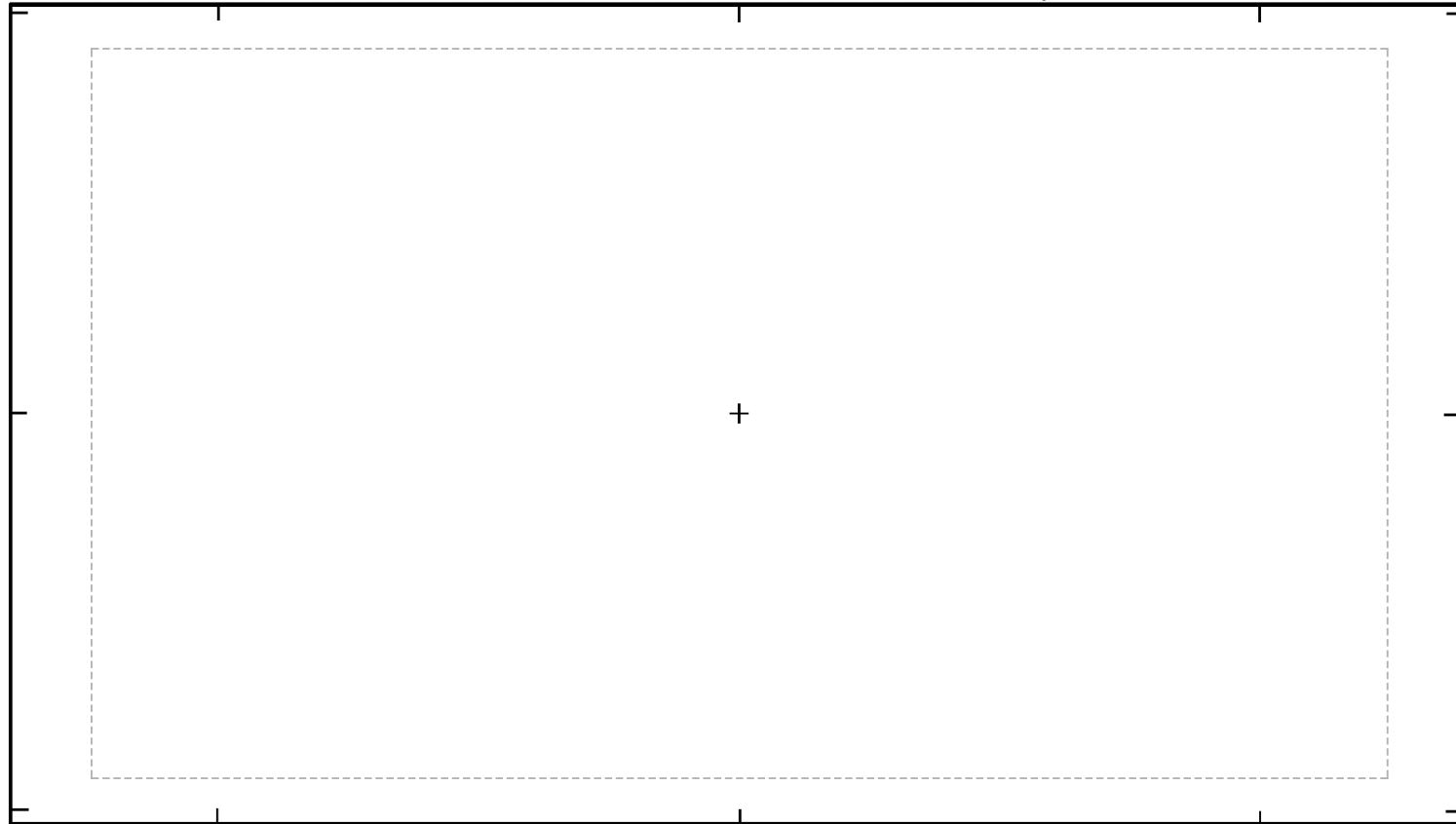
In-Between Animation

Painting

Compositing

OLMA KUN ANIME (1) c. 14

(7 + 12)



In-Between Animation

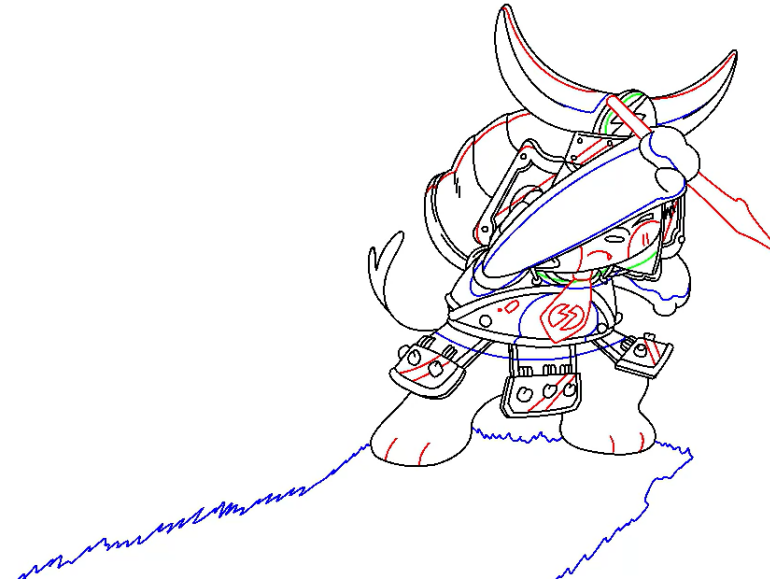
Layout & Background

Key Animation

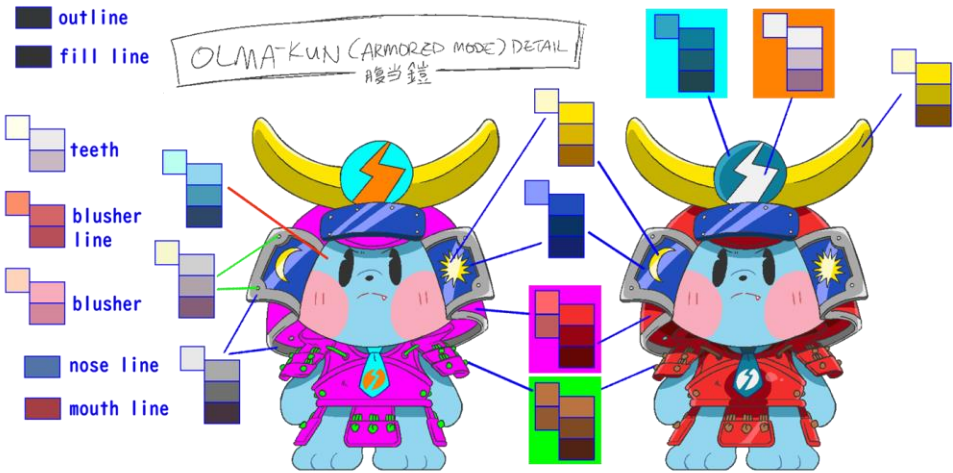
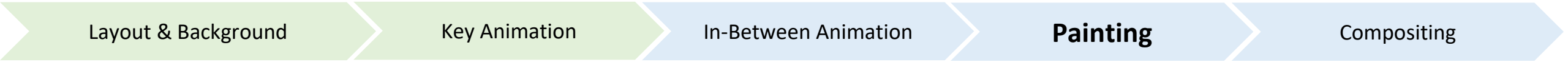
In-Between Animation

Painting

Compositing



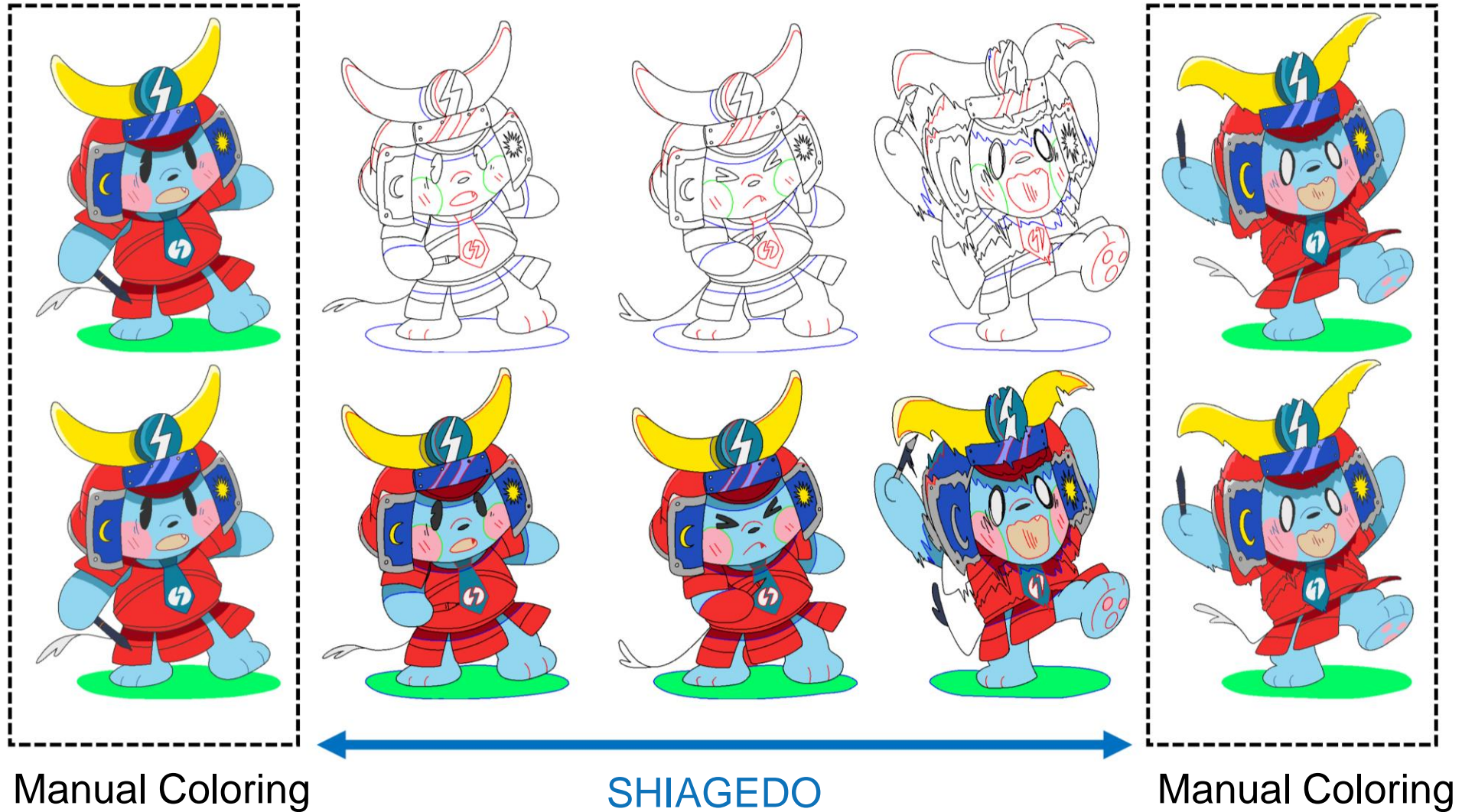
Painting



Color model



Support tool for Painting



Maejima, et al. "Continual few-shot patch-based learning for anime-style colorization."
Computational Visual Media 10.4 (2024): 705-723.

Compositing

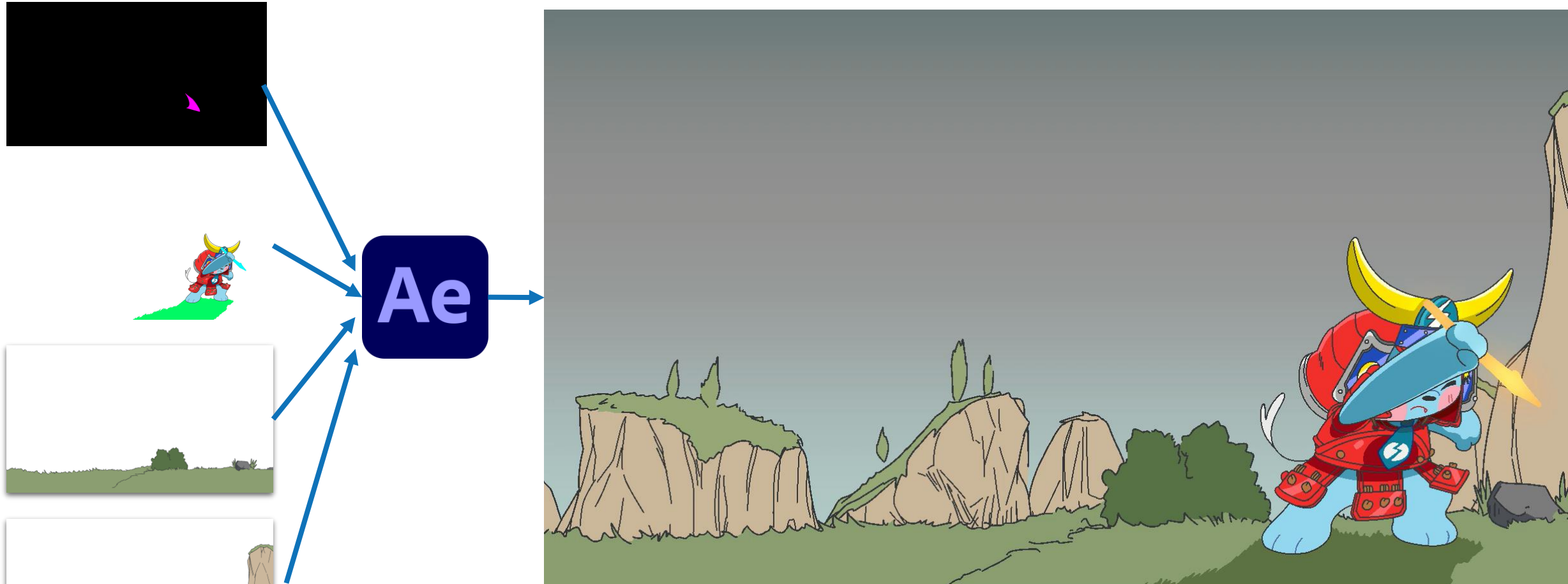
Layout & Background

Key Animation

In-Between Animation

Painting

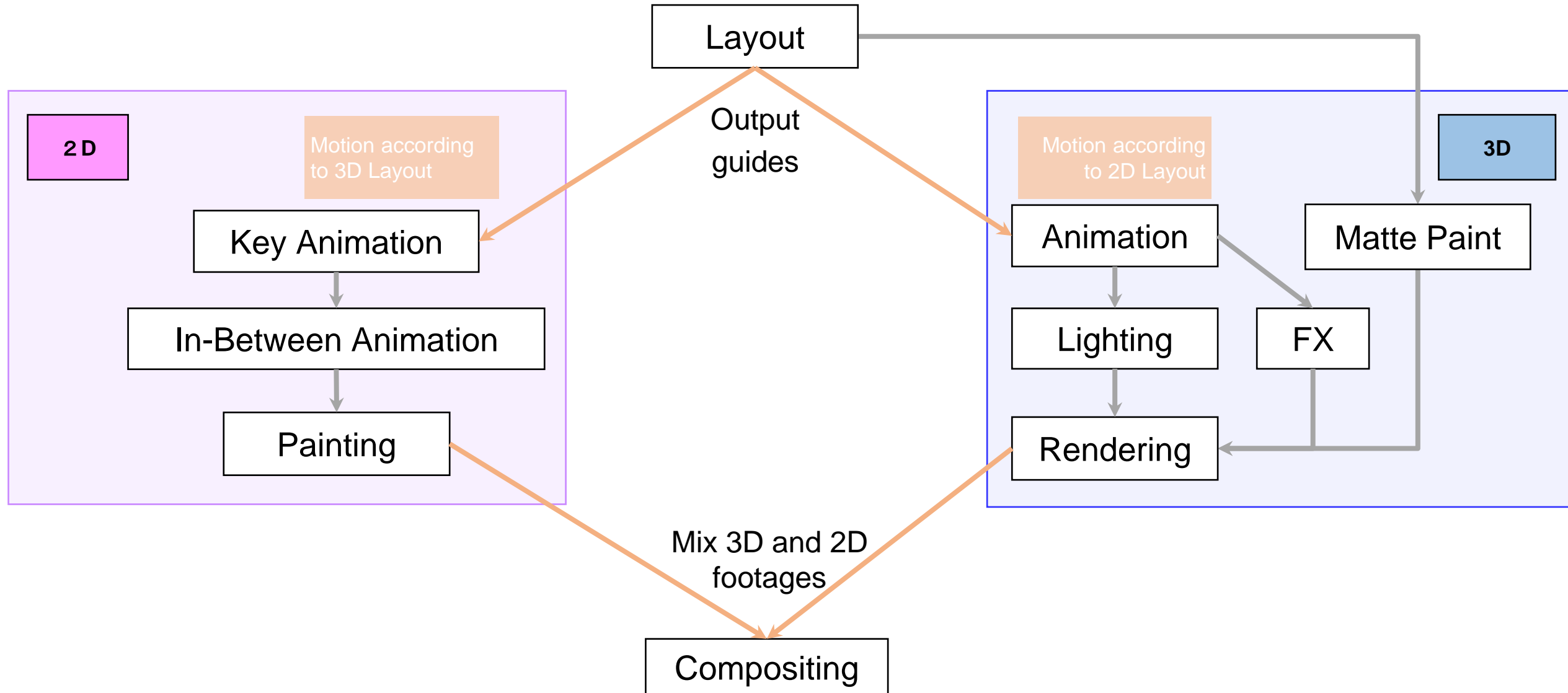
Compositing



Support tools for compositing

<https://www.olm.co.jp/rd/categories/opentools>

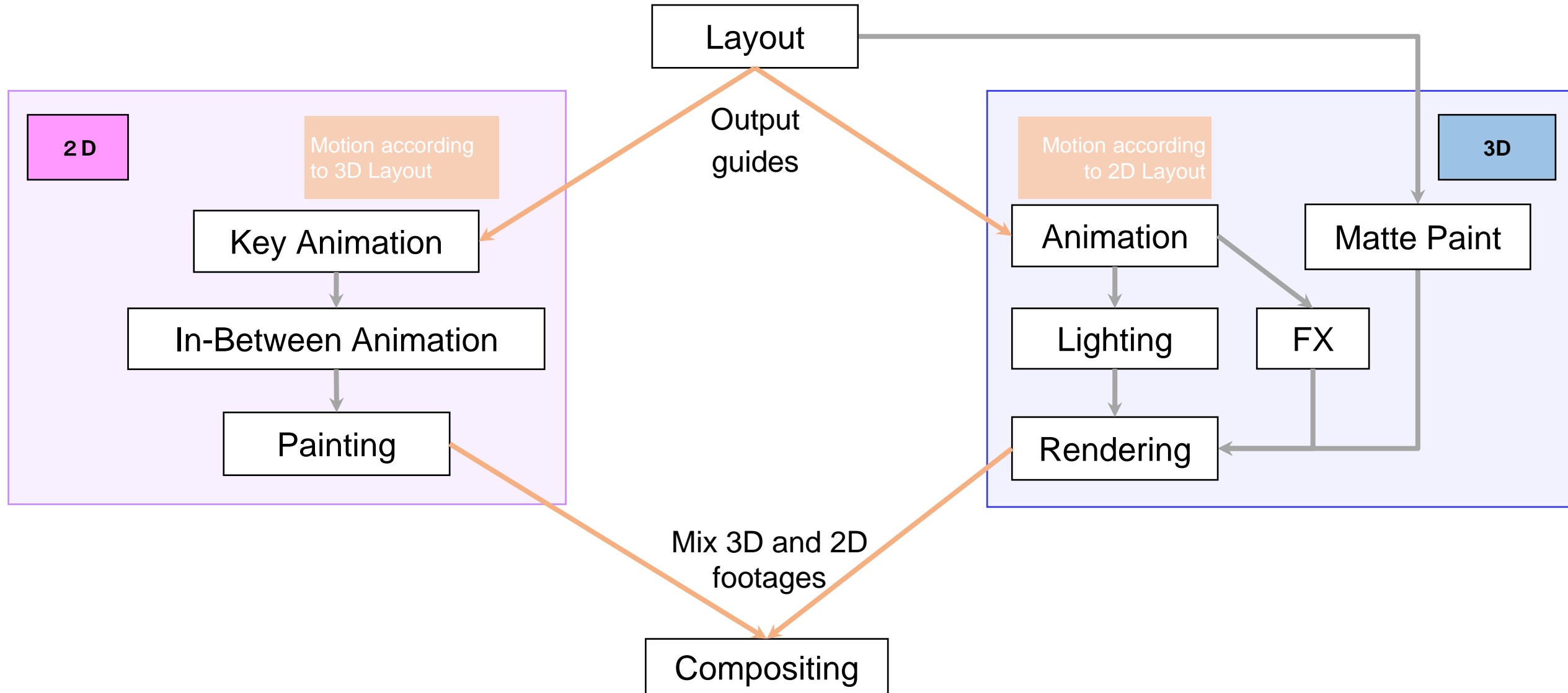
Hybrid workflow of 2D and 3DCG



Example of the advantage of using 3DCG

<https://www.youtube.com/watch?v=2gzXmsj3VTo>

Hybrid workflow of 2D and 3DCG



Supporting tool for archiving cel-look 3DCG

<https://www.olm.co.jp/rd/categories/opentools>

Conclusion

- Introduction of traditional production workflow for Japanese Anime
- Future
 - Move to fully digital workflow
 - With AI-based support tools



<https://www.olm.co.jp/rd/categories/opentools>