

## Games Technology for a Modern Pipeline

Video game production costs continue to increase exponentially year over year. To remain competitive, studios must focus on developing the game, rather than spending resources on building the tools needed to develop the game. New modern workflows can also significantly increase productivity and help to reduce development costs.

### Weaknesses of a Traditional Game Development Workflow



With traditional game development workflows (depicted above) there is no connection between authored data and runtime data, so:

- Exporting and baking is one-way, lossy and slow
- Results can only be validated at the very end
- Creative changes or bug fixes require guesswork about what went wrong and starting over by re-exporting from the beginning
- Iteration is very slow

### Modern Workflows Speed up Iteration and Enable Collaboration

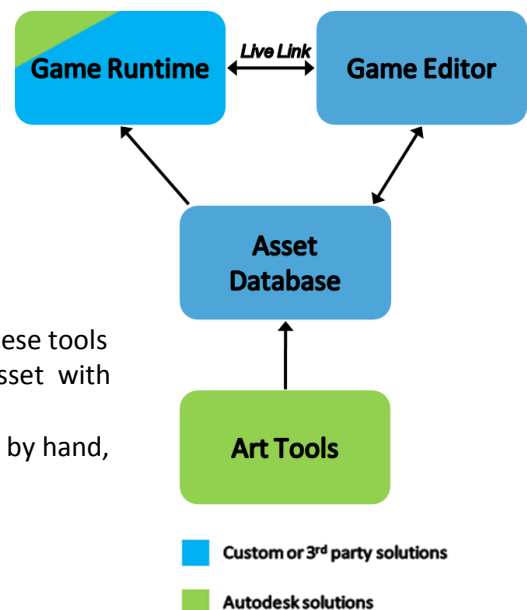
Some leading game developers are replacing traditional workflows with the modern closed loop pipelines.

With these modern workflows:

- A live link between the level editor and the game engine unifies runtime and authored data and allows for instant feedback
- The backflow of data from runtime reduces guesswork
- The asset database allows for a collaborative workflow.

The problems are that:

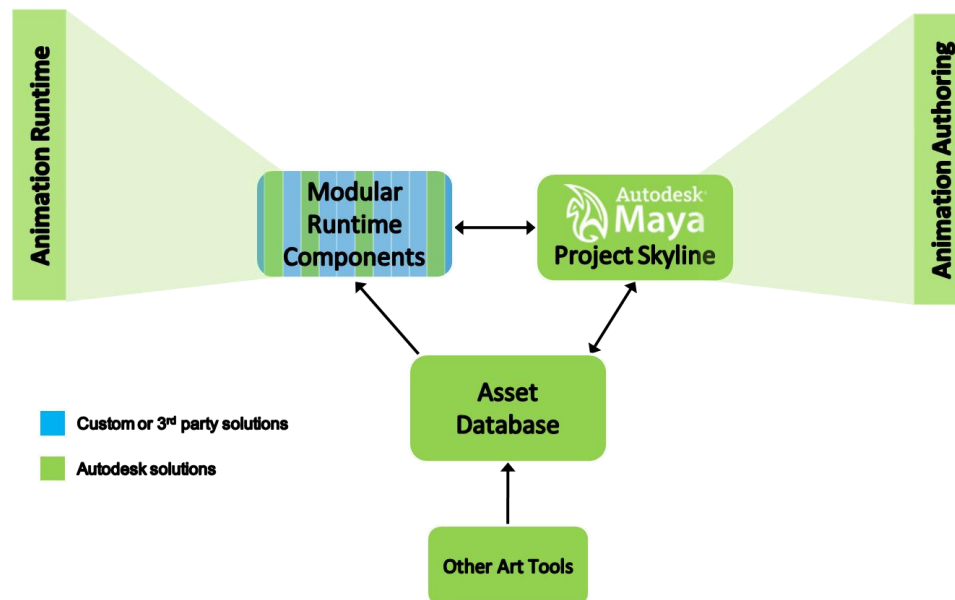
- The cost of developing this infrastructure is enormous
- Art creation tools are not a part of the loop, so edits in these tools are made in isolation and artists can only guess how an asset will behave at runtime.
- Each middleware module must be individually integrated by hand, which makes the use of middleware expensive.



## Autodesk's Vision: Make Modern Workflows More Efficient with Live Content Authoring

Autodesk's vision is to make game development more efficient by adding live content authoring to today's modern workflows. This will:

- Reduce iteration time by allowing artists to see and interact with content immediately within the game engine
- Empower artists to identify, diagnose and fix problems without programmer intervention; allowing programmers to focus on building features rather than debugging code and fixing problems
- Help developers to product better games by bringing the creative team closer to the final product and allowing for more creative experimentation throughout the development process



At GDC, Autodesk will publicly unveil a **future technology** preview of Project Skyline — a set of game content authoring tools which will enable teams to create high quality character animations faster.

With Project Skyline, game teams will be able to focus on building high quality character animations for games, resulting in better productivity and job satisfaction.

- **Live linking:** Character animators can see and play with their characters in a game engine while they work in the familiar Autodesk Maya software environment. What previously might have taken up to weeks before artists could validate their work now happens immediately.
- **Visual programming:** Using a node-based visual programming environment, technical artists and directors can quickly build and edit custom interactions without coding. Live linking make it easier to debug complex animation setups, which can be edited quickly without coding. Programmers can build custom nodes that can be used by the team to achieve specific results.
- **Middleware integration:** Programmers no longer need to worry about writing low level animation code and data translators. Project Skyline comes with an animation engine that can be integrated into your game engine with minimal effort.

Watch demonstrations of Project Skyline from the GDC show floor at

<http://area.autodesk.com/gdc>