# Upcoming Apparatus Features

These are features planned for Apparatus, our most beloved data-driven ECS framework for Unreal Engine.

- A new concept of a simpler USTRUCT-based detail type called **trait**. Custom low-level cache-friendly **chunk** memory management without garbage collection. A more narrow approach, doesn't support multi-details, inheritance, UObject references, should be used in performance-critical mechanisms. (early- or mid-May)
- Official cross-platform **benchmarking** and performance comparison tool. (late May – early June)
- High-count **crowd-simulating sample** to demonstrate the performance capabilities of the tech.
- More **documentation, articles, tutorials, samples** to cover different usage scenarios and help the user to bootstrap their projects the Apparatus way.
- Provide for some **thread-safety** techniques. Perhaps, define some scopes for belts/chunks to operate on them in parallel.
- Optimized **built-in details** (and traits) for collision-detection, user input and some other common logic.
- A simple **client/server game sample** to demonstrate the framework usage in a network scenario.
- Experiment with **immediate mode rendering** to bypass the Unreal's world actors completely.

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