Principal Engine Programmer

Reports To

Lead Programmer

Responsibilities

- Develop core engine systems and tools, and provide support to the users of the engine technology;

- Analyse and determine if current engine functionality meets the project's requirements

- Work as a key part of an agile development team, and assist the lead with planning and review of architecture and features and mentoring less experienced programmers;

- Take ownership for key parts of the project and bring innovative solutions to feature requests, taking into account performance, maintainability, and appropriate resource usage;

- Help drive the definition and adoption of coding practices;

- Collaborate with stakeholders to gather and analyse technical constraints and establish solutions;

- Research and experiment with unconventional techniques and new approaches to contribute to technology advances for the project;

- Contribute to and on occasion lead cross-studio collaboration communications in conjunction with the Lead Programmer;

- Establish and maintain contact with their counterparts within the studio and group, share knowledge and best practices, and put those learnings to use on all projects within the studio;

- Have considerable knowledge within their field, and innovate within that field to help advance the state of the art;

- Identify their own challenges, and push for them within their project;

- Maintain a strategic long term view, looking toward challenges and opportunities that the project or studio could experience in the future, and strive for technological advancement through strategic recommendations;

- Understand and align with broader cross-project needs and larger technology goals for the project and engine pipeline;

Skills and Knowledge

- Knowledge of refactoring C++ code to work on co-processors is desirable, especially in bespoke devices;
- Knowledge of streamlining development for non-programming developers, especially for consoles;
- Excellent C/C++ programming skills, with excellent knowledge of object oriented development including design patterns and UML and a solid grasp of the latest developments in C++ and software development;
- Extensive experience working with a large game codebase and a grasp of software complexity theories;
- Deep understanding of software performance considerations, with ability to design and implement well performant systems/features;
- Extensive knowledge of common algorithms, data structures and patterns, and their application;
- Proven ability to analyse unfamiliar code of significant complexity to understand, extend, refactor and optimise an existing module;
- Proven ability to debug defects of considerable complexity, including memory related issues, multi-threading, and assembly level debugging;
- In-depth knowledge of different software development methods such as Test Driven Development, Unit Testing, Agile etc.;
- Understanding of the constraints and technical requirements for console platform development within their area;
- Ability to mentor and motivate others.

Relevant Experience

- Bachelor's degree in computer science or computer engineering or equivalent experience;
- Significant commercial software development experience with involvement in several published games in a relevant programming capacity;
- Experience with profiling tools;
- Experience working at low-level with at least one modern console platform;
- Experience of working with external platform SDKs, APIs and middleware;

JOB DESCRIPTION	Principal Engine Programmer
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