Sidd Gupta

Software Developer
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Skills

Languages: TypeScript, JavaScript, HTML5, CSS, SASS, SQL, C, C++, C#, Lua, XML, JSON

Tools/Frameworks: React, Redux Toolkit, Webpack, Angular, Yarn, i18next, Jest, VS Code, Visual Studio, GitHub, TeamCity, Figma, ConfigCat, Jira, Docker, Kubernetes, AWS, Microsoft Azure

Work Experience

MakeMusic, Inc

Adapted to major technology pivots while focusing on improving software architecture and processes, enabling the team's ability to deliver better products.

Software Engineer – Finale, Compose, and Sight Reading Studio Apr 2021 – Aug 2024

- Led cross-functional teams in the role of Engineering Manager, implementing features like Custom Ensembles, Ensemble Mode, and various panel improvements.
- Evaluated the scope, risk, and feasibility of new features in collaboration with the Product Manager to ensure successful implementation.
- Collaborated with the Product Designer to develop and integrate effective, accessible, and user-friendly **UI solutions**.
- Architected app wide systems such as a localization framework, a user notification system using snackbars, and an error handling system for unrecoverable failures.
- Updated Compose and Sight Reading Studio from Ember.js to **React** with **Redux Toolkit.**
- Defined and revised **REST API**s for integrating with MusicArchitect, our in-house music notation engine, quickly adapting to new challenges and streamlining workflows.
- Refined a 30+ year-old **C++** codebase for Finale through the removal of obsolete code.
- Owned and documented the process for product updates which was managed via **AWS**, coordinating with 3rd party vendors to ensure timely global releases.

Energy & Geoscience Institute

Sole developer responsible for processing massive amounts of raw data and delivered digestible results that enabled institute-critical research by petroleum geologists.

Lead Software Developer – iCORDS and EGIConnect Nov 2019 – Oct 2020

- Updated internal infrastructure to better survive catastrophic failures by replacing a monolithic on-prem server with a **Docker** + **Kubernetes** based solution to enhance reliability.
- Assessed the OSDU platform, a data sharing platform built specifically for the energy sector, and adapted iCORDS functionality into it.
- Translated **SQL** functionality to **Typescript/Angular2** for a new database-less, **JSON file-based** system hosted in **AWS.**

Software Developer – iCORDS May 2016 – Nov 2019

- Responsible for importing, curating, and exporting data from 30,000+ offshore wells with 2500+ data types via **SQL** scripts.
- Researched and wrote **SQL** routines for maintenance and performance optimization for a **Microsoft Azure SQL Database**
- Utilized end user feedback to identify and implement features and fixes, in **C#** and **JavaScript/AngularJS**.

Tiered World Studios

Built web apps to aid low-income Hispanic families make educated lifestyle choices.

Lead Engineer – Untitled Recipe Game and Padre a Padre Sep 2015 – May 2016

- Created app framework using **C#** in the **Unity** engine for an unreleased **mobile AR** recipe game.

- Developed and iterated on **web app** infrastructure for Padre a Padre.
- Collaborated on design challenges and risk mitigation strategies with interdisciplinary teams.

Retro Yeti Games

Using new, cutting edge game engine tech, developed a game from prototype to full release on Steam.

Lead Engineer – 404Sight May 2014 – May 2015

- One of the first winners of Unreal Development Grant, in 2015
- Optimized final product with a total reduced game size of **90%** and large increase in performance within **Unreal Engine 4** using various workflow improvements.
- Integrated **Valve Steamworks SDK** with Unreal Engine 4.
- Led a team of engineers through the use of consistent code workflows and reviews.
- Worked with creative leadership and producers to determine priorities and tasks.

Gameplay Engineer – 404Sight Jan 2014 – May 2014

- Helped establish pipeline/workflow for the team on **Unreal Engine 4** release day, and engaged with the community during the first year of the engine's availability.
- Collaborated with creative leads to implement and iterate core features including: character movement, time tracking, checkpoints, level loading, health, and user experience.
- Implemented data analytics system to allow design to analyze issues or improvements to user experience.

Therapeutic Games and Apps Lab

Collaborated on small cross-functional teams to quickly deliver complete experiences for clients.

Gameplay Engineer – Arches Health Insurance (Save Your Bacon) and HSIR (researchr) May 2014 – Dec 2014

- Iterated on design of **web app**, and implemented core UI and RNG based features.
- Developed UI systems to gather demographic information using **HTML** and **JavaScript.**
- Created profile pages and search functionality for a social networking system aimed at medical professionals.

Projects

3D Game Engine Aug 2013 – May 2015

Fully functional 3D Game Engine made in **C++** with the following features:

- Implemented collision detection and resolution, using Axis-Aligned Bounding Boxes. Along with gravity, it allowed for physics-based movement.
- Implemented 3D rendering via **DirectX 9**.
- Engineered a robust memory manager that efficiently handled the creation and deletion of dynamic objects, eliminating memory leaks
- Created an asset pipeline to allow materials, meshes, and shaders to be loaded in as needed.
- Customized asset pipeline to allow creation/editing of assets and modify settings outside the engine via **Lua** integration.
- Programmed messaging and debugging systems to communicate between objects and easier access to debug information
- Incorporated **RakNet** for networking support between multiple instances of the game.
- Integrated **Fmod** for ambient and directional sound.

AI Behaviors Aug 2014 – Dec 2014

Learned and implemented various **AI** algorithms in **Unity**:

- **Reynold's steering behaviors**, for autonomous movement.
- A **minimax algorithm** using AI, for a game of Tic-tac-toe.
- A capture the flag game using **finite state machines** and **behavior trees** to coordinate actions between a human player and 5 AI players.
- A point collecting AI bot that gets better by utilizing a **genetic algorithm**.

Education

University of Utah Aug 2013 – May 2015

Master of Science in Computing – Entertainment Arts and Engineering