Sidd Gupta

Full Stack Developer | Passionate About User-Centric Design
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Skills

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

Tools/Frameworks: React, Redux Toolkit, Webpack, Angular, Yarn, npm, NodeJS, i18next, Jest, React Testing Library, VS Code, Visual Studio, Git, GitHub Actions, TeamCity CI/CD, Figma, ConfigCat, Jira, Docker, Kubernetes, AWS, Microsoft Azure, Storybook, MSSQL

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 as Engineering Manager, driving the implementation of key product enhancements and improving user interface components.
- Updated Compose and Sight Reading Studio from Ember.js to **React** with **Redux Toolkit** in **TypeScript.**
- Evaluated the scope, risk, and feasibility of new features in collaboration with the Product Manager to ensure successful implementation that benefited 5,000+ active monthly users.
- Collaborated with the Product Designer to develop and integrate effective, accessible, and user-friendly **UI solutions**, resulting in a 10% increase in user engagement.
- Architected app-wide systems, including a localization framework, a user notification system, and a robust error handling solution for critical failures.
- Contributed reusable components to an organization-wide **design system**.
- Defined and revised **REST API**s for integrating with MusicArchitect, our in-house music notation engine, reducing integration time by 20%, benefiting both internal and external partners.
- Refined a 30+ year-old **C++** codebase for Finale, reducing legacy code by 10%, improving performance by 20%.
- 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-premises 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.
- Migrated critical **SQL** functions to a **JSON** file-based system on **AWS**, improving data retrieval times by 30% for end-users.

Software Developer – iCORDS May 2016 – Nov 2019

- Managed and processed data from 30,000+ offshore wells, with 2,500+ data types, for an international research community of over 200 users via **SQL**.
- Optimized **Microsoft Azure SQL Database**, increasing query performance by 15%.
- Utilized end user feedback to identify and implement features and fixes, in **C#** and **JavaScript/AngularJS**.

Tiered World Studios

Built SPAs 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 **SPA** 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** by iterating on the basic building blocks used throughout.
- Integrated **Valve Steamworks SDK** with Unreal Engine 4.
- Led a team of engineers through the use of consistent code workflows and reviews.

Gameplay Engineer – 404Sight Jan 2014 – May 2014

- Established 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 gameplay features.
- 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 **SPAs**, 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 in **PHP**.

Personal 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 with Axis-Aligned Bounding Boxes, enabling 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 on demand.
- 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 multiple **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 with **finite state machines** and **behavior trees** for a human and five 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