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Vichakshana Arangala

SKILLS

Unity Development, Unreal Development, MERN, React-Native, Flutter & Dart.

Proficient in C, C++, C#, Java and JavaScript.

I have worked on a number of Projects using these languages.

Competent in HTML and CSS. I have worked on several web-based projects over the years and I know my way around a basic HTML page or CSS Stylesheet.

Familiar with a multitude of IDEs and Game Engines such as NetBeans, Visual Studio, Visual Studio Code, Android Studio, Unity3D and Unreal Engine.

Have a slight amount of experience when it comes to Python, Perl and R.

PROJECTS & EXPERIENCE

Prodigi Interactive, Malabe – *Intern/Junior Software Developer*

MAY 2018 – DECEMBER 2018

- Worked on multiple applications for Dialog's education platform.
- The projects were made with the Unity Engine and written in C#.
- The projects were for Android devices and every element of the application was designed from the ground up.

Developed multiple inventory management systems for University projects

- The systems were basic inventory management system which stored, retrieved and removed text and images from SQL databases.
- All the systems had proper validation for things such as email, NIC and Passport.

Developed multiple websites for University projects

- One website had a basic chat and emoji feature which allowed users to register, view active users and interact with them.
- The website(s) stored all user details on an SQL database.
- The website(s) had proper security during login and validation during registration.

Developed a GPS based appointment system as the final year project

- The application was developed using Java in Android Studio.

- Firebase was used to store user information.
- GeoFire was used to store GPS coordinates and make necessary calculations.
- The app allowed two individuals to plan and meet in location suitable for their tasks. It was aimed at Rugby players to help them find coaches and training grounds, but the App was designed in a modular manner so that it could be reused for other purposes.

Developed an E-Commerce Website using MERN

- The website in question can be reached at: https://shopitvchuck.herokuapp.com
- The website allows users to register with an email/password and a profile picture
- The website has a separate administration dashboard that allows the admin to manage stocks and inventory, and update the order status
- Regular customers are able to add items to their cart and place orders.
- Stripe was integrated into the website for payments.

Completed a Flutter & Dart Bootcamp via Udemy

- While I have not completed any major project using Flutter & Dart, I have a rudimentary understanding of the language and can begin working on projects using them at a moment's notice.

Completed a React-Native course through Udemy

- The course in question covered the fundamentals of React-Native, allowing the creation of scalable and reusable components for tabs, lists, buttons and search bars.
- The course covered the use of the Camera Module, Animations, Google Maps Integration and Mobile Payments with Stripe.
- The course covered the use of custom themes to create reusable colours, font sizes and icons to be used across multiple screens.
- I plan on expanding upon my React-Native knowledge through a second course that covers components such as Gestures, Animation Styling, One Time Password Authentication, Twilio Integration, Client-Side One Time Passwords, Social Media Authentication, Offline Data Persistence and Push Notifications.

Completed an Unreal Engine Development course through Udemy

- The course in question (Conducted by Stephen Ulibarri) covered the creation of a shooter game complete with AAA quality gameplay mechanics. Among other things, the course covered the following:
    - Extensive use of Animation Blueprints (and Anim Instances, their C++ parents)
    - 1D and 2D Blendspaces
    - Aim Offsets
    - Inverse Kinematics
    - Blending animations per bone, by bool, and by enum - play one animation with one part of the body (running or crouching) while simultaneously playing another animation with another part of the body (reload, aim, or weapon fire)
    - HUD animations
    - Enemy AI
    - Line Traces
    - Retargeting Animations
    - Post-process effects
    - Data tables, in Blueprints and C++
    - Curves to control:
        - Item movement during pickup
        - Color and brightness pulse for material effects
    - Material creation, including:

        - Post-process materials
        - Dynamic material instances
        - Setting material properties from C++
        - Driving material properties with curves
        - Material functions
        - Blending materials together
        - Outline effects
        - Glow/pulse effects
        - Color and brightness pulse for material effects

    - Widget components, showing:
        - Character speed
        - Weapon fire
        - Aiming
        - Jumping

    - Dynamic crosshairs that spread in reaction to:
        - Character speed
        - Weapon fire
        - Aiming
        - Jumping

Developed a third-person shooter using Unity

- The game allowed players to use and switch between a wide array of weapon.
- Players can navigate obstacles, duck, take cover and climb stairs.
- NavMesh Agents were utilized to allow enemies to navigate complex environments along a patrol route.
- The enemies would patrol their routes while scanning for the player.
- If the player is detected, the enemies would engage the player in combat.
- Video samples of this project, as well as other minor projects, can be found at: https://drive.google.com/drive/u/0/folders/1VPjL-WWG59KOCslOMKrIuVmxkOjzbdEw

Developed an arcade-style Beat-Em-Up akin to Streets of Rage and Double Dragon using Unity

- This project achieved the “2.5D” or “fake 3D” effect seen in old school side-scrolling arcade Beat-Em-Up Games.
- Collision with the environment and enemies is smooth.
- Platforming elements are possible within the current iteration of the system, but needs improvements and fine-tuning
- Enemy AI with NavMesh agents and ‘Scanners’ are able to patrol within a preset path while avoiding obstacles. If they detect the player, they will calculate a

path to face the player from front or behind, and engage the player in hand-to-hand combat. This system still needs improvements.

- There are plans to improve upon the conventional Beat-Em-Up formula with this project by adding a Stealth system (Hence the scanner) which will utilize Ladders, Manholes and Ventilation Shafts, and a combat system that involves counter-attacks, akin to that seen in the Batman Arkham Games.

EDUCATION

SLIIT, Malabe – *BSc in Information Technology* JANUARY

2015 - OCTOBER 2019.