Lea Melendez

Phone: (845) 772-0232 | Email: lrm4475@rit.edu | Portfolio Website: https://lrm4475.github.io

Summary

- Four (4) years of experience in programming with C#, C++, and Javascript.
- Four (4) years of leadership and project management experience.
- Four (4) years of game design experience including documentation, rapid prototyping, and agile development.
- Three (3) years of game development experience utilizing Visual Studio, Unity, and Unreal Engine.
- Three (3) years of experience with UI/UX design often using game engines, Adobe XD, and Adobe Illustrator
- One (1) year of experience with Java.

Education

Rochester Institute of Technology, Rochester, NY
Bachelor of Science cum laude, Game Design and Development (2021)

- ***Interactive Games and Media (IGM) Student Ambassador, Leadership Position (Unpaid Leadership Role)***
    - Leadership opportunity to represent the School of IGM at RIT.
    - Attended campus Open Houses, offered tours of our facilities, and organized campus events.
    - Attended lunches with faculty candidates.
    - Connected with prospective students and their families by answering questions about our programs and offering advice on being a successful RIT student.
    - Developed an expanded knowledge of RIT & IGM while making unique connections with faculty.
    - Available to playtest games for the campus and students.
    - Recruited new student ambassadors and helped conduct student ambassador interviews.

- ***Cybersecurity Competition Visualization Independent Study (Unpaid Position) -*** Intended to provide a visual interface that communicates updates/key events in cybersecurity hackathons that would otherwise only be communicated through verbal announcements. This aims to help the general audience and company recruiters in attendance more efficiently follow competitions.
    - **Tools:** Unity, C#, Aesprite, Adobe Photoshop
    - Worked with the director of the School of IGM, David Schwartz, and two other students on a university-sponsored cybersecurity visualization project.
    - Storyboarded and developed animations in Aesprite and Photoshop to connect to programmed cues that update real-time according to progress during cybersecurity competitions and hackathons.

    - Utilized C# in Visual Studio to create Unity scripts that align competition progress to the designated animations in order to allow a more immersive experience for audiences.

- **Priceless (Game Jam Project) -** An endless runner which highlights the importance of kindness. You play as a businessman running through the decades of his life; choosing between collecting coins or stopping to help NPC characters. Your choices dictate how many people are there for you at the end of your life and the currency is ultimately useless.
    - **Tools:** Unity, C#, GitHub, Aesprite
    - Worked on a team of 5. Acted as Lead Artist and Support Programmer.
    - Created for the 2018 iThrive “Find The Kind” Game Jam (Winner: 1st Place and Best Narrative).
    - Wrote the narrative for the game.
    - Designed/Created all characters and their animations (Aesprite), implemented assets in Unity.
    - Utilized GitHub for source control.
    - Used C# in Visual Studio to create Unity scripts to implement parallax for background assets created by our secondary artist.

- **Perlin Noise Generator/Flocking Algorithm (Academic Project)**
    - **Tools:** Unity, C#, Visual Studio, GitHub
    - Worked alone.
    - Created a C# script in Visual Studio for Unity to procedurally generate random landscape terrain texture algorithmically. Intended to increase realism for game experiences.
    - Implemented a flocking algorithm in a C# script for Unity to generate Game Components that flock akin to birds or fish and wander around the level.
    - Utilized GitHub for source control.

- **Humans vs Zombie Hordes Game Prototype (Academic Project)**
    - **Tools:** Unity, C#, Visual Studio, Unity Asset Store
    - Worked alone.
    - Created Unity scripts in C# (using Visual Studio) to generate Game Components that are assigned the role of Human or Zombie. Zombies flock together and seek out the closest human within a radius. Humans randomly wander and flee once a zombie is within a certain distance.
    - Utilized vector math to calculate walk force and direction.
    - Utilized a free asset pack on the Unity Asset Store for the characters.

- **Naruto-themed Adventure (Academic Project) -** An open-world style map that a player can wander around. Designed to be a recreation of Naruto’s Village of the Hidden Leaf.
    - **Tools:** Unity, C#, Visual Studio, Autodesk Maya, Substance Painter, GitHub

    - Worked on a team of 3. 3D Modeler and Character Rigger.
    - Utilized GitHub for source control.
    - Created 3D model of Naruto, scrolls, and vegetation in Maya.
    - Created UV maps for Naruto and fully rigged his 3D model in Maya.
    - Imported files into Substance Painter to fully texture the 3D models.
    - Created character movement script in Unity.

- **Studio Ghibli Movie Database (Academic Project) -** Utilizing two API's, we created a site that acts as both a database for all Studio Ghibli movies (Ghibli API) as well as displays which movies are available for streaming in certain regions (Utelly API).
    - **Tools:** HTML, CSS, Javascript, Brackets IDE, Flex, Ghibli API, Utelly API, RIT's Banjo Web Server
    - Worked on a team of 2. Acted as Graphic Designer and Web Developer.
    - Utilized the IDE in Brackets to develop the site in HTML and CSS, as well as to live-preview the site in development.
    - Utilized Javascript to create various functions that would gather and organize the necessary data from the Ghibli API.

- **Zork-inspired Text Adventure (Academic Project) -** Inspired by Dante Alighieri's story of *The Inferno*, this text adventure takes place within the various circles of Hell. With rooms to explore and dangers lurking around every corner, the player must solve puzzles and evade danger to get out alive!
    - **Tools:** Visual Studio, C#, GitHub
    - Worked alone.
    - Utilized GitHub for source control.
    - Using the principles of object-oriented programming, I utilized C# in Visual Studio to create various classes with many functions which work together to create a text adventure with substantial depth and distinctions in levels (the circles of Hell).

- **Fish Dating Simulator (Academic Project) -** Inspired by the various comedic dating simulators of the time (Hatoful Boyfriend, I Love You, Colonel Sanders! A Finger-Lickin' Good Dating Simulator), my team and I settled on creating a dating simulator centered around aquatic animals.
    - **Tools:** Visual Studio, C#, Adobe Photoshop, GitHub
    - Worked on a team of 3. Acted as Project Manager and Lead Programmer.
    - Utilized GitHub for source control.
    - Designed game's UI, HUD, and backgrounds in Adobe Photoshop.
    - Implemented the framework necessary to switch between different game scenes.
    - Created general character class which all game characters inherit from.

- **urWeather Web App (Academic Project) -** An aesthetic weather app that saves your username and previously searched locations while displaying icons coordinating to real-time weather in those locations.

    - **Tools:** Brackets, OpenWeather API, HTML, CSS, Javascript, JSON, Node.js, Heroku, CircleCI
    - Worked alone.
    - Utilized Heroku for cloud storage of the web application.
    - Utilized CircleCI for continuous integration of the site.
    - Utilized Node.js to facilitate Javascript development.
    - Created all necessary functionality using the API in conjunction with JSON in Brackets.

- **Pathfinding Algorithms (Academic Project)**
    - **Tools:** Visual Studio, C#
    - Worked alone.
    - Implemented A* and Dijkstra's pathfinding algorithms in Visual Studio using C# to deeply understand both and their possible uses.

- **Game Engine Implementations (Academic Project) - 3D Primitives, In-Engine Camera, Separate Axis Theorem -**
    - **Tools:** Visual Studio, C#
    - Worked alone.
    - Working in the skeleton of a game engine created specifically for the class by our professor, I was tasked with implementing various functionalities.
    - Created 3D primitives (cube, sphere, torus) by plotting individual vertices in space and creating algorithms to draw planes in a counter-clockwise direction (to avoid inverted faces) between groups of vertices.
    - Implemented a camera in 3D space.
    - Fully implemented the Separate Axis Theorem technique for convex shape and 3D object rotation collision problems which would be difficult to check for using a standard box or sphere collision.

- **Unrivaled Visual Novel (Academic Project) -** Set in a cyberpunk dystopia in the distant future, you play as a fully-human female wrestler trying to make a name for herself in a world of cybernetically enhanced human athletes. Will you come out on top or get crushed by advancement?
    - **Tools:** Unity, Visual Studio, C#, Microsoft Office
    - Worked on a team of 5. Acted as Project Manager, Lead Artist, and Support Programmer.
    - Delegated team roles, created and enforced progress milestones for all team members, facilitated communication and teamwork between all team members. (Used Microsoft Office for these responsibilities.)
    - Designed all characters and created their necessary assets (2D portraits and expressions) in Adobe Photoshop.
    - Utilized Visual Studio, C#, and Unity to connect all player assets with the proper in-game cues.

- **Technical Art Exploration (Academic Project)**
    - **Tools:** Unreal Engine 4
    - Worked alone.
    - Re-created lighting from iconic movie scenes by utilizing UE4 light sources, creating new emissive materials, and utilizing post-processing volumes.
    - Experimented with material optimization by distance-checks, different resolutions, and tweaking material settings.

Hofstra University, Hempstead, NY
Freshman Year, Computer Science (2016)

Experience

Rowdy Rascals Indie Development, Remote (March 2021 - Present)
Game Developer, Part-Time **under an NDA**

- **Tools:** Unreal Engine 4, Blueprints, C++, Perforce
- Utilizes Perforce for source control.
- Builds captivating multiplayer minigames in Unreal Engine 4 utilizing blueprints, C++, and provided assets.
- Concepts and develops ideas for engaging minigames which keep the player in a state of flow.
- Rapid prototyping of game levels and any new features implemented into the game.
- Extensive playtesting of all game levels, fixing any realized bugs.
- **Rowdy Minigame #1:**
    - Sole developer on this game.
    - Used UE4's behavior trees to implement an actor which operates with its own AI to randomly wander until triggered by a player, where it will then chase them down at an increased speed.
    - Used UE4's Gameplay Ability System to grant the player certain minigame-specific abilities to trap other players.
    - Implemented all necessary game functionality using blueprints.
    - Implemented all minigame-specific UI.
- **Rowdy Minigame #2:**
    - Sole developer on this game.
    - Used UE4's Gameplay Ability System to grant the player the ability to grab a projectile and throw it at other players, causing damage.
    - Implemented all necessary game functionality using blueprints.
    - Implemented all minigame-specific UI.
- **Rowdy Minigame #3:**
    - Sole developer on this game.
    - Create a tile board with a randomly generated "correct" path of tiles shown shortly before the player must remember it and traverse the board to the other side.

    - Used UE4's Gameplay Ability System to grant the player the ability to grab a projectile and throw it at other players. This projectile will suck players towards it. Utilized vector math to calculate a pull and player resistance forces.
    - Implemented all necessary game functionality using blueprints.
    - Implemented all minigame-specific UI.

Family and Children's Aid, Danbury, CT (August 2021 - Present)
Graphic Designer/Campaign Design Consultant, Freelance

- **Tools:** Adobe Photoshop, Adobe Illustrator, Adobe Animate, Adobe Premiere
- Creates custom promotional material for various seasonal events using Adobe Photoshop and Illustrator.
- Creates motion graphics utilizing Adobe Animate, Adobe Illustrator, and Adobe Premiere.
- Conceptualizes and prepares storyboards for advertisement campaigns.
- Composes vector artwork to allow vast rescaling without a loss in image clarity.
- Proposes improvements to company material/website UI/UX.

iD Tech, New Paltz, NY (May 2019 - March 2021)
Summer Instructor/Online Instructor, Full-Time

- **Tools:** Unreal Engine 4, Unity, Autodesk Maya, Scratch, Java, Adobe Animate, Adobe Photoshop, Adobe Premiere, Streamlabs OBS, Minecraft, C++, C#, Javascript, HTML, CSS
- Developed structured week-long course plans with engaging exercises and final projects.
- Instructed courses to students aged 7-18 including but not limited to:
    - Level Design in Unreal Engine
    - Introduction to Programming with Scratch
    - Modding Minecraft with Java
    - 3D Modeling in Autodesk Maya
    - Animation in Adobe Animate
    - Drawing/Painting in Adobe Photoshop
- Inspired students to delve into new technological fields through summer-camp activities, such as playing child-appropriate video games and conducting collaborative analog activities.

IT Personnel, Full-Time

- On-call for helpdesk tickets concerning troubleshooting course-related issues for instructors and/or their students.
- Responsible for troubleshooting hardware and software issues preventing students' progress in a course.
- Demonstrated and recorded course lessons for instructor reference, posted on a private iD Tech website for faculty use.

Rochester Institute of Technology, Rochester, NY (May 2019 - March 2021)
Interactive Games and Media (IGM) Lab Assistant, Part-Time

- **Tools:** Unity, Unreal Engine 4, C#, C++, Visual Studio, Autodesk Maya, HTML, CSS, Javascript
- Offered tutoring services to students on all mandatory Game Design/Development courses taught at RIT.
- Demonstrated in-depth knowledge of object-oriented programming and game design principles.
- Managed equipment inventory in RIT campus labs for the IGM and Cybersecurity departments.
- Some examples of tutored subjects:
    - Data Structures
    - Algorithms
    - Classes and methods
    - Object-oriented programming
    - Web Development (HTML, CSS, Javascript)
    - 3D Modeling
    - Game Graphics Programming

Skills

Languages: C#, C++, HTML, CSS, Javascript, JSON, XML, PHP, Java, Python

Tools: Unreal Engine 4, Unity, Visual Studio, Brackets, RPGMaker, Git, Perforce, Blender, Autodesk Maya, Substance Painter, Adobe Photoshop, Adobe XD, Adobe Illustrator, Adobe Animate, Aseprite, Streamlabs OBS, Microsoft Office

Operating Systems: Windows, macOS