MIKEL MATTICOLI - CURRICULUM VITAE

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TECHNICAL SKILLS

Languages 🌐
Native: English, Spanish
Proficient: French

Project Management 📝
Methodologies: Agile, Scrum, SDLC
Soft Skills: Professional Writing, Business Communication, Experience Design, Client Management, Troubleshooting
Tools: JIRA, Confluence, Notion, Trello

Systems Administration / DevOps 🖥️
Linux: Ubuntu, Debian, RHEL, bash, Ansible, cron, systemd, pam
Windows: Powershell, batch, AD/LDAP
MacOS: XCode, Homebrew
Cloud: GCP, Azure, AWS, On-Premise
CI/CD: GitHub Actions, Jenkins

Software Development 💾
Version Control: Advanced Git, GitHub, GitHub Enterprise, Perforce, Plastic
Docker: Local Dev, PaaS, compose
Platforms: Web (Full Stack), Desktop, Android, iOS, AR/VR
Databases: SQL, Mongo, Firebase, GQL
Game Engines: Unity3D, Unreal Engine
Data Viz/Reporting: Jupyter, Bokeh
Languages: JS/HTML/CSS, Python, C#, Java, Go, Racket, Objective-C
Frameworks: React, Svelte, Express, Flask, Socket.IO, Parcel, WordPress
SSO: OAuth 2.0, OIDC, SAML, PRT

Multimedia/Production 🎥
Office: MS Office, G Suite, VBA/GScript
Video: Adobe Premier, After Effects
Audio: Reaper, Adobe Audition, Mixcraft
Image: Photoshop, GIMP, Inkscape
3D: Print/Laser Cut, Maya, Fusion360

CERTIFICATIONS

CITI Human Subjects Research Certification [CID: 33924155]

DEV204x: Programming with C#

OVERVIEW

I am a multi-disciplinary educator, engineer, designer, and producer with a passion for making things and helping others. I have spent 8+ years working across academia and industry, with practical experience in software engineering, project management, game dev, IT, and experience design.

EDUCATION

M.S. Interactive Media & Game Dev, Worcester Polytechnic Institute, 2022
Focus Areas: Project Management & Experience Design

B.S. Computer Science, B.S. Interactive Media & Game Dev, Worcester Polytechnic Institute, 2021, with High Distinction
Minor in Robotics Engineering, Minor in Media Art

TEACHING EXPERIENCE

Adjunct Instructor/Lecturer (IMGD) · Worcester Polytechnic Institute
Aug 2022 - Oct 2022
IMGD1001: The Game Development Process
➔ Conducted lectures and lab activities to teach a class of 25 university students about game development, emphasizing hands-on experience with design, production, programming, art, and audio
➔ Provided technical and instructional support to students using tools like Unity, GitHub, Raper, and Photoshop to create tightly scoped game projects
➔ Maintained high level of student engagement, providing individual support as needed to ensure all engaged students met the learning goals of the course

Teaching Assistant (Computer Science) · Worcester Polytechnic Institute
Aug 2021 - May 2022
CS4241 Webware: Computational Technology for Network Information Systems
➔ Provided instructional support and conducted technical workshops for undergraduate students learning modern web development technologies
➔ Supplied timely feedback and assessment of student work, including actionable qualitative feedback via 1-on-1 meetings
➔ Supported logistical needs of a hybrid (digital+physical) course format
CS/IMGD 4100: Artificial Intelligence for Interactive Media and Games
➔ Provided feedback and instructional support for graduate and undergraduate students learning about approaches and applications for Artificial Intelligence in games and other forms of interactive media
➔ Supported logistical needs of an ungraded course format, helping students to achieve course learning goals via individualized project work
➔ Developed digital brainstorming tools to support in-class activities
➔ Conducted technical workshops to support learning goals of the course

WORKSHOPS / PRESENTATIONS

Git Good: Intro to Version Control for Game Devs - IGDA WPI, 2022

Git Good: Intro to Version Control for Web Devs - WPI, 2022

Git Good: Intro to Version Control - Hack@WPI, 2019, 2020, 2021

EVENTS

IMGD Showfest 2021 - *Organizer*
PAX East 2020 - *Exhibitor (WPI Booth)*
WPI Minecraft Graduation '20 -*Organizer*
IMGD Showfest 2020 - *Virtual Event Tech*
Hack@WPI 2019-21 - *Organizer/Mentor*
HackForVenezuela 2018 - *Lead Organizer*
HackSBPL 2017 - *Founder/Lead Organizer*
HackSBHS 2016 - *Co-Founder/Organizer*

HIGHLIGHTED PROJECTS

Holiday Escape - WPI Escape Room 2021
Led a team of 16 in all aspects of design, construction, and execution of a week-long escape room installation.
https://escaperoom.wpi.edu

The Call of Karen (*System Eng. / Tech Art*)
Award-winning PC simulator game about a 1950's housewife fighting Cthulhu (over 120,000 downloads on Steam).
https://callofkaren.com

JHDB Global Contributor Portal
Accessible tool for the global jazz community to contribute historical artifacts to the Jazz History Database.
https://global.jazzhistorydatabase.com

Rigs of Color Website
Project showcase/online store featuring art assets and tools for improving representation in media/games.
https://rigsofcolor.com

IGDA WPI (*Co-Founder*)
WPI's chapter of the International Game Developer's Association, a professional community providing learning and networking opportunities in media/games
https://igda.wpi.edu/

See more cool projects on my website, these are just a few I enjoy talking about

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IMGD 3000: Technical Game Development I
➔ Provided instructional support and conducted technical workshops for undergraduate students learning about game engine development in C++
➔ Supplied timely feedback and assessment of student work, including actionable qualitative feedback via 1-on-1 meetings

IMGD 4000: Technical Game Development II
➔ Provided instructional support for undergraduate students learning about game engine development using Unreal Engine 4
➔ Conducted technical workshops on Unreal Engine, Perforce Helix Core, and other relevant technical concepts as-needed
➔ Provided students with technical and logistical support for team-based project work

Robotics Program Coach / Advisor · South Brunswick Public Schools
Jun 2019 - Aug 2021

➔ Provided instructional support and mentorship for South Brunswick High School's competitive robotics teams
➔ Worked with South Brunswick High School staff to coordinate finances and logistics for the teams
➔ Organized/hosted VEX Robotics Competition events as an event partner of the Robotics Education Competition Foundation

PROJECT ADVISING & SUPPORT

Provided advising, technical, and logistical support to WPI IQPs and MQPs in collaboration with the projects' respective faculty advisors

➔ **Django: Unplugged**
   Worcester Polytechnic Institute · May, 2023

➔ **2022: Beyond the Conferences**
   Worcester Polytechnic Institute · June 06, 2022
   https://digital.wpi.edu/show/dj52w813h

➔ **Jazz History Database Virtual Museum**
   Worcester Polytechnic Institute · April 12, 2022
   https://digital.wpi.edu/show/0p096b10z

➔ **The Quarantined PAX East Booth of 2020**
   Worcester Polytechnic Institute · May 05, 2020
   https://digital.wpi.edu/show/6969z346r

➔ **Reality Wizards- An AR Card Game**
   Worcester Polytechnic Institute · April 04, 2019
   https://digital.wpi.edu/show/g158bk90k

➔ **Babies & Basilisks: An Asymmetric VR Party Game**
   Worcester Polytechnic Institute · April 25, 2019
   https://digital.wpi.edu/show/vq27zq956

PUBLICATIONS & RESEARCH PROJECTS

Applying Experience Design Principles to Improve Student Experience in WPI's IMGD Program

→ Worcester Polytechnic Institute · August 17, 2022 · https://digital.wpi.edu/show/j098zf470
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Experience design is a core facet of WPI's Interactive Media & Game Development program. The elements that make up WPI's IMGD program — its community, its curriculum, the resources it provides — can be strengthened through deliberate application of experience design principles, improving the overall experience for its students, faculty, and staff. This project provides a case study for the application of experience design principles towards improving the experience of students in an academic program. It serves as a repeatable and extensible foundation for applying these principles towards improving the student experience through small and tightly scoped deliverables.

Yoake (Daybreak)

→ Worcester Polytechnic Institute · May 5, 2022 · https://digital.wpi.edu/show/d504rp67m
Co-Authors: Mariko Endo, Matthew Johannesen
-
Yoake / 夜明け ("Daybreak") is a 2.5D side-scrolling puzzle adventure game set in a dream-like world. The game follows the journey of Tsubomi, the younger of two siblings, as she navigates various logic puzzles in this dream environment with the help of her older sister Hana. Yoake addresses themes of loneliness, frustration, and grief through its puzzle mechanics and visual storytelling. My responsibilities included end-to-end sound design and implementation, including music, build pipeline automation, and contributions to the overall game design, technical implementation, and resulting paper.

Creation of a Financial Transparency Application for Student Government Association

→ Worcester Polytechnic Institute · May 6, 2021 · https://digital.wpi.edu/show/x920g067j
Co-Authors: Sam Tapley
-
The WPI Student Government Association maintains financial records for all student organizations on campus, including budget history, reallocation and funding requests, mandatory transfers, and financial board minutes. These are considered public records, but were previously only available upon request. This project provides members of the WPI community easy access to this data via an easy-to-use web application, a web adaptation of SGA's internal Treasury app. I was primarily responsible for the design and implementation of the front-end application, and corresponding contributions to the paper.

Buried Voices

→ Worcester Polytechnic Institute · May 6, 2021 · https://digital.wpi.edu/show/j3860998n
Collaborators: Issa Shulman, Diana Kumykova, Olivia Bogs, Emma Lowry
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Buried Voices is a 3D puzzle-platformer game that explores themes of historical revisionism and negationism through narrative-driven gameplay in a fantasy setting. The player controls Khura, a young Avanqi woman in search of her culture's past in a former Avanqi sacred building that has been colonized and converted into a Feorlen library. The player must explore the Library, solving puzzles and sneaking past the watchful eyes of the Library's Guardians to uncover the true history and voices of the Avanqi people. I was primarily responsible for technical implementation of core gameplay systems, and proportional contribution to the background research, game design, and resulting paper.

Jazz History Database Global Contributor Project

→ Worcester Polytechnic Institute · June 1, 2020 · https://digital.wpi.edu/show/wd375z735
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The JazzHistoryDatabase is a non-profit organization at WPI that archives recordings, photographs, and other jazz artifacts from around the world that might otherwise deteriorate. This archive was previously maintained by students and faculty who built the website by hand. I was the lead for the project, and primarily responsible for research, design and implementation of all technical systems. I additionally designed and conducted user research studies to evaluate the resulting tool's accessibility.

➔ **The Call of Karen**
Worcester Polytechnic Institute · May 1, 2020 · https://digital.wpi.edu/show/9g54xm15b
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The Call of Karen is a PC simulation comedy game about a 1950s suburban housewife whose home is invaded by Cthulhu. The player controls the titular housewife, Karen, who is trapped in an unhappy marriage taking care of an ungrateful child, and must keep up appearances in the face of a home gone mad. The project succeeded in its goal of creating a fun, funny, and full-fledged game released on major distribution platform Steam, featuring a compelling narrative that deconstructed the nostalgia associated with the 1950s by telling a story from the often neglected and demeaned perspective of a 1950s suburban housewife. I was responsible for the design and implementation of core gameplay systems, user interfaces, user testing, localization, and community management.

PROFESSIONAL EXPERIENCE

Technology Consultant · Bloomberg LP
Jun 2018 - Present, Contract
➔ Created and maintained Python Flask + React web app template with built-in SSO and API docs, reducing initial dev time for new projects by 40%
➔ Established docker-based local dev workflow to mirror production, reducing deployment overhead and streamlining on-boarding of new team members
➔ Built interactive reports to show real-time and aggregated power/network usage data for critical hardware and software systems
➔ Followed best practices for logging, CI/CD, and alarming to proactively identify and remediate potential client-affecting issues
➔ Led R&D team building prototype VR/AR apps for use in datacenter operations

Senior Engineer (Full Stack + DevOps) · Intentional Design Studio
Sep 2019 - Oct 2022, Contract
➔ Created custom CI/CD & PaaS solution, cutting deployment times by 80% with zero overhead cost
➔ Delivered 6 full-stack web apps and websites, from spec/design to maintenance phase, working solo or on teams of 3-6 devs , designers, & artists
➔ Collaborated with various IT teams to ensure 99% uptime for all applications
➔ Set up Perforce Helix Core server with LDAP and automated depot creation
➔ Balanced dev work with project management, ensuring on-time and in-budget completion with 100% client satisfaction
➔ Built cluster of 7 Ubuntu VMs from scratch, including automated package updates and service monitoring

Technical Director / Project Manager · Jazz History Database
Mar 2019 - Aug 2022, Part-Time
➔ Provided technical support and advisorship for student academic projects affiliated with the JHDB
➔ Designed, developed, and deployed custom content management app enabling non-technical correspondents around the world to contribute to the JHDB
➔ Provided training and QA for ongoing multimedia and web dev work
➔ Worked with non-technical stakeholders to identify key development needs
➔ Led teams of students maintaining custom software using Agile methodologies

Programmer / Technical Artist · Trumbus Games
Jan 2019 - Jan 2021, Part-Time
➔ Worked on a team of 4 to design, develop, and release a successful comedy PC simulation game about a 1950s housewife fighting meddling eldritch horrors
➔ Implemented event/state and game save systems in Unreal Engine C++
➔ Built level loading, localization, and gameplay systems using UE4 blueprint
➔ Designed UI/menus and implemented art assets and animation in-engine

Project Manager   ·   The Global Lab @ Worcester Polytechnic Institute

Sep 2018 - Dec 2020, Part-Time
- ➔ Worked with co-directors to establish production workflows and branding
- ➔ Provided technical training and consulting services to students and faculty
- ➔ Wrote and maintained intuitive and accessible documentation on media production software and equipment

Research Assistant (Bose AR)   ·   WPI IMGD

Sep 2018 - Dec 2020, Part-Time
- ➔ Created room-scale soundscape app using BoseAR SDK + ARCore in Unity
- ➔ Presented research outcomes to engineering team at Bose Headquarters

Datacenter Intern   ·   Bloomberg LP

Jun 2017 - Aug 2017, Internship
- ➔ Conducted data center maintenance and operations, including hardware troubleshooting, infrastructure planning, and system monitoring
- ➔ Developed internal web portal/API for monitoring datacenter power usage, as well as python scripts to automate repetitive maintenance tasks

Software Engineering Intern   ·   SelfMade Co.

Jun 2016 - Aug 2016, Internship
- ➔ Added several major features to an iMessage-like CRM web app
- ➔ Implemented Slack integration, canned response/autocomplete and mobile UI

iOS Development Intern   ·   UpSwerve Inc

Jun 2015 - Aug 2015, Internship
- ➔ Added video capture/sharing features and various bug fixes for Snapchat-like app Camera Club, including both client and server-side implementation

Freelance IT   ·   Self-Employed

Jul 2012 - Jun 2015
- ➔ Provided home office setup and PC troubleshooting/maintenance services to local clients
- ➔ Carried out software/hardware fixes and upgrades, troubleshooting, performance optimization, and network setup for personal and small business devices