Hi there, I am Thomas Hansknecht

Are you looking for a Software Developer?

How about a Web Designer?

Maybe, a User Interface Designer?

I am the person you are looking for

**Some of my Favorite Projects**

**Air Traffic Controller Application**

JFrame application that allows new user and ticket creation as well as management of user and ticket data which is stored in several databases.

Learn More

**Mario With A Gun**

A reimagining of the 1985 Super Mario Bros. The game incorporates guns and takes place in a nuclear apocalyptic setting.

Learn More

**Word Search Game**

Game where players create a board consisting of whatever letters the players want. Then, the program locates any word combinations possible on the board. The job of the players is to find all of the words on the board. The players can check if they are right or not by inputting the word they see in the entry box.

Learn More

**More About Air Traffic Controller Application**

* A fully interactive application that allows users to create and view their tickets
* The application stores and retrieves customers, tickets, and airports from different databases
* The databases were made simple and used consistent formatting
* Part of a Software Modeling and Design Semester Long Project
* Created as a shared GitHub Project
* Designed based on UML diagrams and GRASP design patterns created by a team

**What was Learned**

* Learned about creating menu objects and allowing interaction with them
* Used custom Scanner classes to manage the transfer of data between the program and the databases
* Created multiple threads to allow for asynchronous operations as well as unique visuals
* Managed the development process and instructed team members on solutions
* Handled and resolved merge conflicts between various git branches that were created
* Used extensive debugging and error checking to find and test for issues with the logic
* Used Exception Handling to prevent a user's invalid entries from corrupting the program
* Implemented action listeners so the user can interact with objects
* Made the experience unique to every user by gathering data on every customer
* Used parsers for assigning format to date objects

**More About Mario With A Gun**

* Project submitted for a hackathon competition
* Created with a group in Python using Pygame

**What was Learned**

* Used Sprite sheets to animate the player and enemies
* Learned more about Pygame and how you can use external platforms in conjunction with a programming language
* Learned how to create logic for movement of player and developed in game collision physics for background objects and enemies
* Worked with a team to complete the project
* There was a limited deadline, and the team was forced to make changes to cater to this deadline
* Implemented external custom resources such as soundtracks and visuals

**More About Word Search Game**

* This project is an extension to the Boggle Word Search game created for a Java II Class

**How the Project was Expanded and What was Learned**

* Learned how to create graphical interfaces using JFrames
* Used action listeners to make the program interactable
* Used Exception Handling to deal with invalid user entries
* Used visuals and sound effects to make the experience complete
* Made the values in the word search table customizable
* Allowed the user to choose different table sizes as well as use different Lexicon listings

**What was Learned in the Original Class Project**

* Used Lexicon dictionaries and stored the values into a Sorted Set of strings
* Used a depth first search algorithm to search for valid words on the generated board
* Used 2 dimensional arrays to create the board
* Used various functions for checking what neighbors existed near the current position
* Used a scoreboard to keep track of the users correct responses

**Let’s Connect With Each Other**

Top of Form

Your First name:  
  
Your Last name:  
  
Your Email Address:  
  
Ask Me Anything:

**If you want to learn more about me, projects I have worked on, or more forms of communication visit my other pages**

   The About Me page details my education, goals, and career paths I am looking towards. I also reveal why you should pick me for assistance. There you will also find my Résumé.

   More of my projects and the software contributions I have made are detailed under my Projects tab.

  Different ways of contacting me such as email and phone are exposed in my Contact Information page. The contact me form earlier on this page can also be found through Contact Information.

**Thank you for visiting my site. I hope we can communicate together soon.**

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**Why Choose Thomas Hansknecht?**

Let’s face it, developing software is difficult. Software products require passionate and hardworking individuals. Software takes many hours of grinding and problem solving. Those without passion or skill will give up easily and develop sub optimal products.

**With me it is different.** I love to problem solve and work with a team to solve complex and jarring issues. I love finding issues with mine and others work then improving upon them. I have been developing software for 5 years now and am passionate about learning and love assisting others. I strive for excellence both in the designs I create and the functionality of my products. Many projects I have developed with a team and become both a leader and exceptional design influence over the projects in question.

# My Career Interests

* I enjoy both front-end and back-end development
* Creating and improving on applications is what I am best with
* I have experience with many different languages and operating systems and thus am not afraid of developing proprietary or open-source software
* I prefer in person occupation but am not opposed to remote service
* Developing in a way that improves lives and positively influences others is what I require

**Check out my Résumé**

View Résumé  [Download Résumé](http://127.0.0.1:5500/Resume(Spring2021).pdf)

**My Current Education**

**Auburn University August 2018 - December 2021**

* Pursuing a Bachelor of Science in Computer Science under the Samuel Ginn College of Engineering
* Currently I am a senior with 16 credits left till graduation

**Spring Hill College August 2017 - May 2018**

* Majored in Business Administration under CIS (Computer Information Systems)
* Decided to switch majors and University as I felt business was important and useful but not what I was truly passionate for
* Awarded the Gautrelet Scholarship for academic achievement

**UMS-Wright Preparatory School**

* Graduated with my high school diploma in 2017
* Attended from kindergarten all the way through my 12th grade year

**My Personal Backstory**

I first experienced constructing software in my Intro to Python class which I took my 12th grade year at high school. I found the projects we worked on engaging and fulfilling and knew that a future in software is what I desired. When I went to Spring Hill College, I had the mindset that being in software and business would be my expertise. However, I found development to be more thrilling and engaging over business related activity.

I expanded through college and found myself working on more personal software projects that I would develop over the course of months or even years. Eventually I became involved in software related clubs such as the ACM (Association of Computing Machinery) and participated in the Ethical Hacking club. Later I began to enter a software competition known as Auburn Hacks. There the "Mario With A Gun" project I discussed on my home page was developed. I have since expanded this project and added another level to the game.

Throughout high school I was involved in a lot of extracurricular activities such as soccer, chess, and scouting. I invested many years into chess and ranked 18th in the Nation under the U-800 division in the US Chess Federation competition which took place in Atlanta Georgia.

**Me chilling at Dauphin Island**

**Me and my desk setup**

**Winning my 18th place national chess trophy**

Falling Matrix animation created by David Kahl

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# My Collection of Projects

* This page contains numerous projects including those found on the home page
* Some of these projects were created in relation to a class
* Other projects were developed during my spare time
* Some of these projects are still in development

**Large Scale Projects**

**Thomas Hansknecht Website**

The current site being examined. Created from scratch using HTML, CSS, and JavaScript. The site is hosted through Git Hub Pages.

Learn More

**Air Traffic Controller Application**

JFrame application that allows new user and ticket creation as well as management of user and ticket data which is stored in several databases.

Learn More

**Home Automations Project**

The scripts that control custom automations for an apartment and family home.

Learn More

**Mario With A Gun**

A reimagining of the 1985 Super Mario Bros. The game incorporates guns and takes place in a nuclear apocalyptic setting.

Learn More

**Mad Gab Game**

A recreation of the card game Mad Gab. Contains two separate levels of difficulty with customizable time constraints.

Learn More

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Game where players create a board consisting of whatever letters the players want. Then, the program locates any word combinations possible on the board. The job of the players is to find all of the words on the board. The players can check if they are right or not by inputting the word they see in the entry box.

Learn More

**Small Scale Projects**

**Git Hub Manager**

A shell-based script that was written to be more productive and efficient with Git Hub.

Learn More

**Script To Compile OS161 Kernel**

The script, when executed, will automatically configure, build, and launch the sys161 kernel utility for OS161. This Script is to be used on Linux based machines.

**Quadratic Formula Calculator**

A simple graphical application that takes an a, b, and c input and applies the quadratic formula to those values and graphically returns the results.

**Custom iTunes Music Player**

Custom scripts created for a MacBook Pro touch bar interface. The application is interactive and displays relevant media information as well as media controls with feedback.

**On Wake Sound Effects and Inspiration Script**

A custom Apple Script that runs when a Mac wakes from sleep. Using two randomizers to pick from a long list of sounds and displays inspirational messages.

**To see more projects I have not discussed visit my Git Hub profile. You can click the top right cat icon on desktop or if you are using my mobile site simply click the menu then click Visit My GitHub Page.**

**More About Thomas Hansknecht Website**

* Created using flexbox as a layout and using wrapping to flow content seamlessly between different devices and screen sizes
* Developed a responsive navigation menu that changes depending on screen real estate
* Used a repository design structure with HTML and CSS at the root with backend and visual components in sub directories
* Implemented Intersection Observers to gauge the users scroll position and activate scripts/animations accordingly
* Used jQuery for simple backend components and JavaScript for the complex logic

**What was Learned**

* Learned about Front End web development both in terms of design and in terms of customizing functionality
* Ran tests with Lighthouse to gauge performance, optimization, and accessibility features which then were implemented accordingly
* Used the developer console to better understand how the site functions in addition to debugging issues and warnings
* Learned about media queries and how they can be used to assist with accessibility, responsive design, and multiple browser support
* Created custom animations with keyframes and learned about optimizing animations by using only transforms and opacity changes primarily
* Used different kinds of positioning such as relative, absolute, and fixed and learned when each kind was appropriate
* Wrote the project using Visual Studio Code and learned about the various extensions such as Live Server that are offered to assist with development

**More About Air Traffic Controller Application**

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**More About Home Automations Project**

* A collection of scripts that control logic and allow for custom automations in a connected home environment
* The project was later expanded with a separate Hub to control an apartment
* As an independent developer, created 41 unique pistons with various inputs using webCoRE
* The Hub that controls the automations is the Samsung SmartThings Hub which is combined with Google Assistant, Amazon Alexa, Apple home kit, among other API's

**What was Learned**

* Implemented 31 virtual switches and 9 custom device handlers for advanced automations
* Learned more about how simple embedded devices communicate with each other
* Learned more about gathering and responding to signals from an interconnected range of devices
* Gathered expanded knowledge of how IoT (internet of things) devices operate
* Had to use critical thinking to solve issues and engineer solutions
* Used extensive debugging to find and correct mistakes while many different signals were competing for the same resources
* Implemented virtual switches and custom device handlers for advanced automations

**More About Mario With A Gun**

* Was a project submitted for a hackathon competition
* Created with a group in Python using Pygame

**What was Learned**

* Used Sprite sheets to animate the player and enemies
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* Learned how to create logic for movement of player and developed in game collision physics for background objects and enemies
* Worked with a team to complete the project
* There was a limited deadline, and the team was forced to make changes to cater to this deadline
* Implemented external custom resources such as soundtracks and visuals

**More About Mad Gab Game**

* Final Project for my intro to Python class taken my Senior year in High School
* First large scale interactive and design focused application I have developed
* Used tkinter for creating the interface through Python
* Implemented a skip question button which could be used to save a life and skip the question but also gave negative points to the player
* Used a long list of Mad Gab phrases and randomly shuffles them for the user
* Created a score board and 3 life system that changes depending on the difficulty selected

**What was Learned**

* Learned about making object-oriented design through classes and various functions
* Had to use display elements for the interface and experiment with the boundaries of what interactive elements can be created within tkinter
* Learned how to use multi-threading to create a visual timer complete with custom warning time animations
* Had to use message boxes to provide instruction to the player in addition to revealing the player's final score
* Made the point system work differently depending on the level of difficulty of the question

**More About Word Search Game**

* This project is an extension to the Boggle Word Search game created for a Java II Class

**How the Project was Expanded and What was Learned**

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**More About Git Hub Manager**

* This script displays a variety of options for managing git repositories and interacting with Git Hub pages
* The program is designed to be easy to use and a way to save time by not having to remember or type lots of git commands

**What was Learned**

* Learned how to develop Bash Scripts
* Used scripting to alleviate repetitive tasks
* Had to become familiar with the terminal to understand interaction with shell-based programs
* Learned more about how git functions and the various stages that git offers

**More About Script To Compile OS161 Kernel**

* This script was designed for helping with Project 2 in COMP 3500: An Introduction to OS/161
* This Script is to be used on Linux based machines
* The script, when executed, will automatically configure, build, and launch the sys161 kernel utility for OS161

**What was Learned**

* Learned how Makefile can be used to efficiently build and run packages
* Preformed many tasks after a single trigger
* Offered different options for building the OS/161 Kernel by using Makefile

**More About Quadratic Formula Calculator**

* Created to help solve equations for a math class I was taking
* Used the math module extensively for this project
* Preforms more operations than a simple quadratic calculator such as finding roots and factors

**What was Learned**

* Learned to use Math for creating algorithms
* Gained more experience with using the tkinter module
* Preformed error checking by solving many math equations and then testing the results within the application

**More About Custom iTunes Music Player**

* The scripts interact directly with the iTunes application to provide feedback
* The media player script examines song and meta data and then converts it into a readable format
* The application dynamically changes every second and is fully interactable

**What was Learned**

* Learned how to use API's for gathering details on applications
* Learned how to handle script execution differently to optimize for the script checking music status every second while music is playing
* Had to use different signals such as checking for mute status as well as audio player output

**More About On Wake Sound Effects and Inspiration Script**

* Created with the assistance of BetterTouchTool
* The scripts execute every time a Mac wakes from sleep
* There is a randomizer, so the sound effects, visuals, and messages are different every time

**What was Learned**

* Learned how to use scripting in conjunction with trigger on wake
* Learned more about how to use custom resources and randomizers in the Apple Script language

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# Current Contact Information

My preferred form of contact is email or text message

My email is[tfh0007@auburn.edu](mailto:tfh0007@auburn.edu)

My phone number is 251-327-7009

**Note:** I am always skeptical about unknown or unverified numbers thus when trying to reach me by phone leave a voicemail as I am not likely to answer unless I am expecting the call

**Note:** I can also be reached directly with the contact form located on the next page

# Let's Connect With Each Other

Your First name:  
  
Your Last name:  
  
Your Email Address:  
  
Tell Me Something:

PAGE NAVIGATION

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* [Projects](http://127.0.0.1:5500/Projects.html)
* [Contact Information](http://127.0.0.1:5500/ContactMe.html)
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* [Visit My GitHub Page](https://github.com/tfh0007)
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PAGE NOTIFICATION

# Warning:

This site has not been fully developed yet and some areas may behave unresponsive or have issues. The page Projects is currently incomplete.

Bottom of Form