



THE BLOCK FOUNDATION

The LW Block Foundation (White Paper Draft)

LLC/501(c)(3) Non Profit NeighborHOOD Foundation

About:

The Lake Worth (LW) Block Foundation Mission: Full Stack Development

The purpose of the The Lake Worth Block Foundation, is to provide opportunities for children and parents in the community to develop skills that may not be accessible. There will be five programs which will be launched after success in one category. The term Block refers to a section of the neighborhood in the city, but can also be referred to as the Building Blocks, or a small accumulation of information to be used for a larger purpose. After requisites have been met, students can explore additional categories and opportunities for projects to further skills. The program will give students, and any willing and learning individual the ability to learn web development skills to succeed in today's world. The program gives students the opportunity to use technology to build a project they find meaningful, and provide tools to make it accessible to continue their knowledge. With coding, a premier of possibilities means an endless amount of information to change with the world. The Block Foundation is committed to empowering all people of all ages, specifically young developing minds to grasp curiosity to: learn how to code, become business savvy, or provide interest in certain subjects for pursuing higher education.

Resources:

Community Partners:

Community partners are perspective organizations to seek out locally in hopes of using resources such as: computers, internet with wifi connections, and opportunities to further recruitment of students in the program. We hope to retain alumni of students in programs such as peer mentors, participants of other programs such as the internship and business accelerator/incubator program, and leaders in the community.

The list of community partners will be directly listed in the directory, with the opportunity for them to list programs and events. For each community partner, you can view role, if more substantial than just utilization of facilities.

- Library: Ability to use multiple computers at times. Reservation of study rooms, and sections of floors, give the opportunity to host meetings and give feedback/mentorship with students regarding progra, status, etc. Ability to put programs within the library events, to potentially help with recruitment and interest of students in terms of reach. Will

add credibility if you can put together a curriculum, and have it submitted to public library for students to learn web development.

- Community Center: Ability to connect with students instantaneously. Need potential opportunities to use computers, and allow sufficient amount of time for students to participate in the curriculum. Potentially use lack of resources, 1 computer per 5-10 students, allows scarcity and increases recruitment. First wave will require an interview of students, to show how to be professional, and start a full program.
- Middle and High School: Allows reach of students, and potential opportunity to start a club or organization. Provide direct mentorship to students, and give opportunity to first participate in an internship and accelerator/incubator program.
- Church: Allows reach and word of mouth of the program. Can share programs with digital marketing strategies for ease of signing up for participants.
- Community Programs: Allows reach of students with use of digital marketing
 - For the Children (FTC, inc.) and similar programs
 - TRIO, Upperbound
 - Lake Worth Rec.
 - Armstrong Training
 - *Create Coding Club @ LWCHS
- Access for **Students Without Computers** near a Partner (**See Below list of Partners)
- Have remote areas to work in and develop or have philanthropy opportunities (popup space)
- Raise money to purchase computers
 - To purchase refurbished laptops and desktop computers
 - To purchase chromebook and provide instructions on how to do everything on the cloud
 - Provide resources to get
- Raise money to use office space in the flea market, and other places
- Have internet popup vans to provide subscriptions in certain areas, schools, events, etc...
- Have people sponsor for ad space in the community
 - Build wifi infrastructure for market to charge
 - Give opportunity for market to offer wifi services for profit in exchange for space
 - Offer to create website
 - Use interns to create different development applications
 - Use interns to help expand program, open source

External Finances:

Funding:

- Nonprofit Grant
 - <https://florida.grantwatch.com/>
 - <https://soto.house.gov/services/grant-applicants#:~:text=Under%20the%20Program%2C%20the%20Small,start%2Dup%2C%20newly%20established%2C>
- Data Center/Students without computers

- Sponsorship
- Community Donations
 - Send out fundraising letters
 - Offer Text Donations
 - Create Donation Page
 - Crowdfunding
 - Peer to Peer Fundraising
 - Tax Exemptions
- Selling Wifi in work spot locations
- Internet Advertisement
 - Selling subscription services through API
 - Peer to Peer (P2P) Bandwidth sharing

Internal Finances

- Business grants
 - <https://www.grants.gov/web/grants/search-grants.html>
 - <https://www.grants.gov/web/grants/view-opportunity.html?oppld=341452>
 - <https://www.grants.gov/web/grants/view-opportunity.html?oppld=340611>
 -

Sponsorship/Endorsements

- Sponsorship/Endorsement
 - Name and Picture on Website
 - Sponsorship Card/Plaque
 - Endorsements
 - Sign for yard/business as The Block Foundation sponsor
 - 1 Year Sponsor Marketing
 - Platinum \$125
 - Gold \$100
 - Silver \$75
 - Bronze \$50
 - Community \$25
 - QR Code to personal/business site
 - Link to Bio, music, business, FB, YT/soundcloud, etc...

Website/Business Services

- Cost of Domain
- Host site for 1 year
- Manage bugs and fixes
- Search Engine Optimization (SEO) for traffic
- Generate data and traffic through email w/ API
- Meetings, 2 edits per year⁵⁷
- Link to Google Maps
- Ecommerce Component
- Branding/Product Design - RFID/NFC Card
- Social Media
- Picture of Store Front
- Mapping System from google maps
- Link to order from online delivery
 - Pickup

- Delivery
- Digital Marketing Resources
 - Edits/Updates:
 - \$25 per page
 - \$15 per page after 5 pages up to 10
 - \$35 per page every page after
- Branded Items
 - Endorsements
 - Yard and Business Signs
 - Polo/TShirts

Digital Marketing

- Digital Marketing is known as online marketing, referring to advertising through digital channels to promote brands and connect potential customers using the internet and other forms of digital communications such as:
 - Search Engines
 - Websites
 - Social Media
 - Email
 - Mobile Apps
 - Text Messaging
 - Web Base Advertising
- Digital Marketing uses a range of strategies to reach customers, whether the aim is to tempt them into making a purchase, increase their brand awareness, or simply engage with a brand. Modern digital marketing comprises a broad system of channels such as:
 - Social Media
 - Content Marketing
 - Website Marketing
 - Search Engine Optimization
 - Pay Per Click Advertising
- By implementing an omnichannel digital marketing strategy, marketers can collect valuable insights into target audience behaviors while opening the door to new methods of customer engagement.
- Companies can expect an increase in retention of customers.
- Utilization of Digital Marketing
 - Knowing your customers: Test offers and messages to get an insight into the peak times they visit your website. If you have social media strategy, you can build relationships with consumers faster, and more easily.
 - Compared to traditional marketing, digital marketing is inexpensive. There are fewer overheads, you can create a professional website for a relatively small cost, and provide a newsletter for a competitive price.
 - Website
 - Newsletter/Sales Ad
 - Market to anyone, anywhere. With a potential huge reach, you can connect with customers on the other side of the world, in multiple time zones, as seamlessly as though you were taking out an ad in the local newspaper.

- Can take a fast, fluid, and nimble approach with flexibility and adaptability. Trial different strategies and assess the results, offer different weekly/monthly initiatives, and campaigns to come up with potential permanent solutions.
- Measure campaigns and set KPIs: Determine metrics that can be utilized to determine the effectiveness of the digital marketing. Set goals for each channel and metrics you want to result. Track number of conversions and leads, visits to website, and more valuable insight to help grow your business.
- Search Engine Optimization (SEO): Using SEO
- <https://www.marketo.com/digital-marketing/#What>
- <https://www.scrapingbee.com/blog/how-to-extract-data-from-a-website/>
 - Web scraping

Site maps

<https://www.quicksprout.com/creating-website-sitemap/>

Programs:

- Full Stack Development
- Entrepreneurship Accelerator and Incubators
- Personal and Business Finance Principles
- Program to Higher Education (College)
- Video Game Development with Roblox

Overview

Web Development Curriculum

In the web development curriculum, you will learn as much basic information needed to create a basic website with minimal changes to get your feet wet in web development and coding. You will be able to learn basic information to change colors, add text, and other things to your first webpage.

- Learn html
- Learn basic CSS
- Building registration and survey forms with html
- Learn responsive web design with javascript
- Create technical docs page
- Create landing page
- Build Personal Portfolio Webpage

Front End Development

After learning how to do basic web development, you will have the opportunity to curate and better your page by working on the Front End Development curriculum. This is where you will learn how to implement frameworks, create buttons and functions to your website, and add jQuery to function on your website properly.

- Learn frameworks, bootstrap
- Create Buttons with bootstrap
- Change fonts, size, etc for all buttons
- Building responsive buttons
- Use jQuery to select, remove, clone, and modify different elements on the page

- Use react to create different components, manage data, use different lifecycle methods like componentDidMount

Back End Development and APIs

After working on the basic, Front End Development curriculum, you will have the option to complete the Back End Development and APIs curriculum.

- Manage development packages with Node Pack Manager
- Basic Node and Express
- Learning basic database application
- Use backend microservices
- Creating timestamps
- URL Shortener

Course Curriculum

Responsive Web Design

1. Learn html **utilizing basic functions** such as photos, buttons, and other simple elements to your webpage
2. Learn html forms by **building a basic registration form**
3. Learn html to **build a survey form** to collect data from users
4. Learn **accessibility by building a quiz**, and making your webpage easy for all people to use - including people with disabilities.
5. Create a **technical documentation page** to serve as an instruction or reference for a topic
6. Create a **product landing page** to market a product of your choice
7. Create a **personal portfolio webpage** to showcase skills, interest, etc...
8. Responsive Web Design Principles
 - a. Create a media query
 - b. Make an image responsive
 - c. Use retina image for higher resolution display

Back End Development and APIs

1. Managing Packages with NPM (**Node Package Manager**), *a command line tool to install, create, and share packages of javascript code written for Node.js*. There are many source packages available on npm.
 - a. This course, you will learn to work with **package.json** and **how to manage installed dependencies**
2. Learn **Basic Node and Express**, a javascript runtime that *allows developers to write backend (server-side) programs in javascript*. Node.js comes with a handful of built in modules - small independent programs - which include *http*, and *file system* which *acts like a server and a module to read and modify files*
 - a. **Expresss** is a lightweight web application framework and is one of the most popular packages on npm. Much easier to *create a server and handle routing for your application*, such as directing people to the correct page when they visit a certain endpoint like */blog*.
 - i. Create a server
 - ii. Serve different files
 - iii. Handle different request from the browser

3. Build your own **APIs**, *creating 5 different microservices* (small applications that are limited in scope)
 - a. Timestamp Microservice
 - b. Request Header Parser Microservice
 - c. URL Shortener Microservice
 - d. Exercise Tracker
 - e. File Metadata Microservice

Database Applications - MongoDB and Mongoose

1. **MongoDB** is a database application that *stores JSON documents* (or records) that you can use in your application.
2. Mongo stores all associated data within one record, instead of many preset tables such as a SQL database.
3. Mongoose is a popular npm package that is often installed alongside mongo, and you can use plain javascript objects instead of json.
 - a. *Learn fundamentals of working with persistent data* including how to set up a model, save, delete, and find documents in the database.

Javascript Algorithms and Data Structures

1. Use *Javascript to make web pages interactive*.
2. Learn *fundamental programming concepts* in javascript with basic data structures like *numbers and strings*.
3. Learn to *work with arrays, objects, functions, loops, if/else statements, and more*.
4. Learn **debugging** to *go through code, find any issues, and fix them*
5. Learn *issues in code with generally 3 forms*:
 - a. Syntax errors that prevent your program from running
 - b. Runtime errors where code has unexpected behavior
 - c. Logical errors where code doesn't do what is intended
6. Learn **Basic Data Structures**, where *data can be stored and accessed* in many ways - in addition to common structures such as arrays and objects
7. Learn **basic algorithm scripting**, which is a *series of step-by-step instructions* that describes how to do something
8. Learn basic principles of **Object Oriented Programming in javascript**, *including the "this" keyword, prototype chains, constructors, and inheritance*
9. Learn **functional programming**, to *organize code into smaller and basic functions* to build complex programs
 - a. Learn core concepts of **Functional Programming** including pure functions, how to avoid mutations, and how to write cleaner code with methods like **.map()** and **.filter()**
10. Learn Intermediate Algorithm Scripting to test skills with the basics of Algorithmic Thinking and Object Oriented Programming
- 11.

Machine Learning with Python

1. Work with **Tensorflow**, an *open source framework that makes machine learning and neural networking easier to use*
 - a. Learn Core Learning Algorithms
 - b. Learn Neural Networks
 - c. Learn Convolutional Neural Networks

- d. Learn Natural Language Processing
- e. Reinforcement Learning
- 2. Learn How **Neural Networks** Works, which is the *core of artificial intelligence*
- 3. Machine Learning with Python Projects
 - a. Rock Paper Scissors
 - b. Cat and Dog Image Classifier
 - c. Book Recommendation Engine using K Nearest Neighbors algorithm
 - d. Linear Regression health cost calculator*
 - e. Neural Network SMS Text Classifier

Miscellaneous Information

<https://colorlib.com/wp/template/lovecare/>

<https://colorlib.com/wp/cat/charity/>

- Database
 - Perspective Clients
 - Current Connected Clients
 - Students in program
 - Students in internship
 - Students in accelerator
 - Perspective Students
 - Data generated from website traffic
 - Areas/Zip codes - Location
 - Incubator/Shadow

Opportunities for the Community (Community Service/Service Learning):

Opportunities for the community list a few things the students of the program can do, while enhancing their community. While there are a few things the students can do to give back to their community, they can also utilize skills learned from the program to enrich small businesses with digital marketing.

- Lake Worth Beach ECommerce, Mercantile, and Digital Marketing
- Whats happening in Lake Worth News Letter
- Real Estate Firms putting listing to generate traffic
- Events happening in Lake Worth
- Have tool that searches and updates website with current events around city
- Show spots to visit in Lake Worth
- Non profit community help organizations
- Thrift Stores
- Bargain Shopping and Recipes for Food
- Living Sustainably and Utilizing Resources
- Buying vertical gardens
- Highlight whats happening in primary/secondary school for parents update
- Opportunities to let students skills and get rated by doing real projects

- Opportunities to monopolize skills working on real world projects
- Opportunity to develop project and build portfolios
- Most students (with exception of interns/cohort) will **not** have the opportunity to utilize facilities without parental consent. Will need to bring students to facility initial visit and ensure you agree to parental controls, and child(ren) understandings rules and understanding of curriculum - ensuring the understanding of safety is paramount when participating in program

Projects/Curriculum

Machine Learning Projects for Beginners:

- Movie Recommendations with Movielens Dataset
- TensorFlow***
- Sales Forecasting with Walmart
- Stock Price Predictions
- Human Activity Recognition with Smartphones
- Wine Quality Predictions
- Breast Cancer Predictions
- Iris Classification
- Sorting of Specific Tweets on Twitter*
- Turning Handwritten Documentation into Digitized Versions
 - * Learning curve, want to use/Little to no experience
 - ** Used and have some experience
 - *** Want to build upon knowledge, or become very proficient in new subject language

Web Development Projects for Beginners: (Web development projects will be implemented on website)

- **Login Authentication**, keep server safe by allowing access only to authenticated users. Uses JavaScript skills, by designing a website's login authentication bar - where users enter their email ID/username and password to login to the site.
- **Giphy with a unique API**, develop a web application that uses search inputs and Giphy API for presenting GIFs on a webpage. Can use the Giphy API to build a web application that has a search input where users can search for specific GIFs, can display GIFs in a column/grid format, and has a load more option at the bottom for searching more GIFs.
- **JavaScript Quiz Game**, project aims to create a JavaScript quiz game that can take multiple answers and show the correct results to users. Learn about **data management** and **DOM manipulation** - and ability to handle complex login, allows you to make it simple or complicated.
- **To-Do List**, Web development project to create lists containing user interactive features like adding and removing tasks, highlighting dates, strikethrough feature to indicate completion, and other text decoration components.
- **SEO-friendly website**, Take role of **Digital Marketer** and gain in-depth knowledge of SEO. Being well versed in SEO, you can build a website having user-friendly URLs and featuring an integrated responsive design. This allows the site to load quickly on both desktop or mobile devices, therefore strengthening a brands social media presence.
- **Search Engine Results Page**, Create a search engine results page that resembles Google's SERPs. Ensure that the webpage can display at least ten search results, include the navigation arrow at the bottom of the webpage so that users can switch to the next page.
- **Survey Form**, Use survey form to collect relevant data about target audience by designing a full fledge survey form that includes relevant questions like: name, age, email, address, contact number, and other questions depending on the type of company or organization. This project will test your **webpage structuring** skills.
- **Social Share Buttons**, Take challenge of writing a JavaScript code that will allow you to add social share buttons to static sites. Incorporate HTML elements or images in the sites template, using JavaScript allows you to add the share buttons dynamically.

- **Word Counter**, Nifty tool to write detailed documentation, blogs, essays, etc..., online. Word counter allows you to see how many words you've written so far, and how much more you need to write. Requires you to build an application that can parse texts and show the number of words and characters contained in a writeup. You can also include additional functionality in the word counter to provide more advanced information such as the number of passive sentences in a block of text.
- **Modal Pop-ups**, Create a JavaScript code that will be immediately triggered every time a user clicks a button on the page or loads the page. You will design modal popups to provide notifications, promotions, and email signups to users. The pop-up should be such that it can be closed with a click.
- ***Generate templates for resume**
 - Create database of resumes you do
- ***Generate template for website to create personal biography**

Resume:

One of the first things the students will be doing is creating basic documents knowing how to use the computer and building their resume simultaneously

- Working on different things on website provides practice content
- Building resume for internship program (student ran)
- Creating Biography of self and projects worked on, and used as a frame for website
- Creating forms and files
- Participate in Hackathons and Sprints
- Service Learning Projects
- Research Adult Tools:
 - Getting Learners License/Drivers License
 - Getting Passport and Second form of ID
 - Knowing what a W2 is and filling out proper forms
 - Knowing how to make a public records request
 - Establishing Local Residency
- Developing games
- Applying for internship program
 - Develop webpage
 - Sit in shop with computers and fix
 - Provide customer service
 - Create business management program

- Point System
- Will take more rigorous courses or less difficult
- Intern will receive stipend for work, feedback regarding information
- Get rated based on quality, speed, and feedback
- Dedicated intern to work on web development and take up skills with business
- Writeup what they did for school internship project
- Document standard operating procedures

- Applying for entrepreneurship program

- Learn skills in accelerator to run business
- Create and use ideas from kids to group and cluster
- Set up meetings for students and monitor activity and provide next steps advisory skills

Front End/Back End

- Learning html, css, and javascript
- Learning API and web tools
- Making a Website with Wordpress
- Setting up and Hosting Website
- Developing Web Pages with hardcode
- Creating projects to work on Front End
- Learning Design for Web Development
- Learning Frameworks and Packages
- Students providing great work and interest getting internship
- See if sponsors can get stipend for students to develop their website, promote student created and developed by... (can polish website off after students make skeleton)

UX/UI and Toolkits

- Creating different tools using systems in place to make developers jobs easier
- Create packages to develop quicker website and updates

Development Tools

- Google as a development tool
- Navigating stack exchange
- Reddit and other online forums
- Utilizing Github
- Search Engine Optimization
-

For Students

- ***Mental health:*** Ensuring technology is an addition to life, and should not be held paramount to ones happiness, not staying glued to computer screen, being able to healthily navigate the internet safely
- ***Cyber bullying:*** Knowing what to do, and how to conduct yourself in situations online. It may not be considered bullying, but you can learn as an internet user how to mitigate bullying or harassment online.
- ***Unplugging:*** Getting outside, and getting active away from technology. With a certain amount of time put into something, you learn and develop a skill. The more you spend online, the more you need to be able to spend time away doing something you deem as a hobby or source of mindfulness
- ***Social media:*** Footprints, safety, and conducting yourself amongst people you may not know. Not speaking to strangers, not potentially falling a risk of predators - or ruining identity. Having your own sense of identity is important, but how you conduct yourself is everything.
- ***Internet safety:*** Being able to navigate the internet and make right choices. Staying safe is not a physical privileges, but being safety financially, socially, and connected to the internet can provide a holistic experience for users.

- **Internet mindfulness:** Being able to have mindfulness and make the right decision online. Having a good attitude and mindset starts with the user, and can provide positive experiences for other users.
- **Internet Financial Literacy:** Being able to navigate the internet knowing how to conduct yourself. Spending frivolously happens quickly when you don't know physical and digital money are the same. You need to be able to make responsible decision without being limited.
- **E-commerce Safety:** Being able to navigate the internet's e-commerce without accidentally spending on the wrong accord. Being able to make limitations are not the same as having trust between parents and children.
- **Spam, malware, viruses:** Being able to stay safe on the internet. There are many people trying to get personal information, and what you wouldn't get any information in person. This is the same outlook you need to look at when navigating emails, communicating with the internet, etc...

For Parents

- **Purchasing Computer for Bargain:** Being able to get started for the family and making the right purchase for a frugal investment. Setting up a decent computer will save you from making too large of an investment, and strain relationship with the students as you may not see the benefit of your purchase. Getting a computer for your child should not be looked at as an investment, but as a learning tool you can use to assist in their development as a young adult navigating the ever changing world.
- **Choosing Network/Data Service (Internet Service Provider for Router):** With an investment such as a computer, you need to be able to have all the tools needed to fully and efficiently use the computer. Choosing the right network means being able to power your computer and other mobile household devices to the internet. This can provide sometimes a discount on providers on data services when downgrading to the lowest plan, and opting to use wifi at home.
- **Navigating Internet:** Knowing how to navigate the internet and ensuring you know information your child can have. The parents responsibility does and should not stop with the purchase of the computer, and setting up the data services. To keep your child safe, you need to have a sense of trust with the users of the accounts, knowledge of what can be done, and the senses to use the computer and get better yourself.
- **Safety Protocols:** Setting up safety protocols to keep your kid safe, and mitigate risk. Setting up parental settings, guiding your child in the correct direction to prevent curiosity in the wrong areas, etc. Safety mechanism can be put in place to stop things from happening with the dangers of the internet.
- **Reporting Suspicious Activity:** Knowing when and how to report suspicious online activity. As a user of the internet, you have an obligation to stay safe, and keep others safe by saying and making action when you see something. This can provide a safe user experience for all other users you may not interact with.
- **Monitoring Minor Accounts:** Being able to monitor activity of the child(ren) while keeping a sense of trust. Monitor does not mean spy, and kids should be able to use their knowledge and curiosity to navigate the internet; but parents should be able to decide what is appropriate within their household.
- **Predators and Safety Mechanisms:** Knowing and acknowledging danger is out there is important. Putting safety mechanisms in place is important, and pivotal in preventing things from happening.