

WORKFORCE INNOVATIONS FOR A NEW NEVADA

WORKFORCE DEVELOPMENT PROGRAM APPLICATION

AUTHORIZED PROVIDER INFORMATION

Name: Udacity, Inc.		
Address: 2465 Latham Street		
City: Mountain View	State: CA	ZIP Code: 94131
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COMPANY INFORMATION

This workforce development program will benefit a consortium of technology companies with operations in the Reno, NV area that have committed to engaging with talent that graduates from this program. Those companies include:

- Bombora
- ConvergenceHealth
- Cycle
- No-IP
- Renown Health

Additional companies in the State and in the Reno MSA specifically, including International Game Technologies (IGT), Sierra Nevada Corp (SNC), and Noble Studios are very supportive of workforce development programs like this one and see strong value in program graduates in spite of not having immediate job openings that match up with the current planned pilot phase.

Number of Primary Jobs Created: 5-10	Industry: Various, IT	Capital Investment: N/A	Wage Range: \$65,000-\$130,000
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PROGRAM OBJECTIVES

Overview

The State of Nevada has a strong foundation of technology companies across many industry verticals. The number of technology companies is growing at an ever-increasing velocity, both through a vibrant startup scene, as well as established companies moving into Nevada from other regions. These technology-centric companies demand a workforce with skills related to computing, software development, data science, and artificial intelligence.

The proposed workforce development program will provide the training necessary to up-skill individuals for many of the new jobs being created by technology companies. This specific program will focus on training for a software development skill set commonly referred to as "Full-Stack Web Developer". The program will start with this skill set and related roles, based upon the demands Udacity heard from employers across the Reno/Sparks area. In more than 20 hours of interviews with Chief Executive Officers, Chief Technology Officers, Vice Presidents of Engineering, and Human Resource leaders, it became clear that a general Full-Stack Web Developer skill set was an important part of many companies' hiring plans and would apply to a broad set of roles. See Attachment A for relevant job descriptions provided by Companies and Udacity. Note that Attachment A also includes third party research on this job category and relevant salary ranges. Over time, the workforce development program could expand to include other skill sets and job areas, including mobile development, data science, machine learning, robotics, and much more.

Udacity is an education platform with job-focused training programs called Nanodegrees. These project-based programs are designed and developed with a broad set of technology companies in order to create a real-world training curriculum that is both applicable to the companies' skill needs, as well as transferable across tech companies. The standard curriculum for the Full Stack Web Developer program was designed with a panel of hiring managers and technology executives from our partners, including but not limited to, Google, Amazon Web Services, AT&T, and GitHub. The program will be further customized based on the input from our local partners listed in this application. The program will last 12 weeks and consists of 300+ hours of learning. See Attachment C for more detail on the program and learning objectives.

For this workforce development program, Udacity will provide a blended instructional model, using both online instruction as well as in-person instruction. This model enables both rigor and flexibility, giving student best in class technical training to jump-start their careers without having to quit any current commitments to job, academic studies, or family. Students spend 10 to 15 hours per week on course work, projects, and assessments. During that time they have continual support via 1:1 mentorship, online forums, and line-by-line code feedback from a mentor community. They also participate in weekly, in-person, 4-hour sessions that consists of live teaching with an instructor and collaborative

project work as well as the opportunity to get one-on-one support through optional office hours.

Also note that Udacity provides targeted career advice and guidance for students, ranging from instruction on how to do a technical interview, to resume and LinkedIn profile preparation. The program will engage local employers and community partners in preparing the students for the job search ahead.

Finally, an important objective of this program is to provide a pathway to higher-skill and higher wage jobs for individuals across the state. The companies Udacity has engaged in this effort have provide salary ranges for Full Stack Web Developer positions ranging from \$65,000/year to \$130,000/year. Those figures are consistent with third party research, like the CEB Insights Market Salary date for Reno:



Source: CEB Insights Market Salaries for Reno MSA and Nationally

PROGRAM OUTCOMES

Individuals who successfully complete the training program and competency-based assessment will receive an industry-recognized Nanodegree credential from Udacity and best-in-class training that meets the specific needs of a broad consortium of technology companies. Additionally, upon successful completion of the program, students will have a portfolio of projects and code repositories that demonstrate to potential employers they have the skills and experiences required for Full Stack Web Developers. See Attachment C for a complete list of learning objectives that students who successfully complete the program will be able to do.

Companies listed on this application will have the ability to pre-screen and continually monitor progress of students, thus giving successful graduates of the program priority candidacy for employment or apprenticeship with the company. Example jobs descriptions for which this workforce development program will prepare graduates are listed in Attachment A of this application and more extensive job reports are provided in Attachment B.

WORKFORCE DIVERSITY ACTION PLAN

SEE ATTACHMENT D FOR EXPANDED WORKFORCE DIVERSITY ACTION PLAN.

Statement to Comply with Federal & State Law:

The companies listed on this application are equal opportunity employers. All aspects of employment including the decision to hire, promote, discipline, or discharge, will be based on merit, competence, performance, and business needs. We do not discriminate on the basis of race, color, religion, marital status, age, national origin, ancestry, physical or mental disability, medical condition, pregnancy, genetic information, gender, sexual orientation, gender identity or expression, veteran status, or any other status protected under federal, state, or local law.

Udacity is committed to providing a place of work and learning free of discrimination on the basis of race, color, national origin, disability (whether actual or perceived by others), religion, age, sex/gender (including pregnancy related conditions), sexual orientation, gender identity or expression, genetic information, veteran status (military status or military obligations) in the programs or activities which it operates. Where discrimination is found to have occurred, Udacity will act to stop the discrimination, to prevent its recurrence, to remedy its effects, and to discipline those responsible

STATEWIDE PORTABILITY PLAN

Potential or Existing Plan:

This program provides a general skill set in web development that can be utilized by virtually any technology company in the state. Further, because it does not require an extensive technical background as prerequisite, the program can be a pathway to higher skill and higher wage jobs across the state. Udacity would like to engage with GOED to leverage the Statewide Learn and Earn Advanced Career Pathways (LEAP) framework to develop additional entry pathways for future inclusion in the broader Nevada technology landscape.

Please see the state-wide job report in Attachment B for more detail on the portability of these skills and the hiring companies across the state.

COST ESTIMATES

As part of this workforce development program, Provider and Companies seek support from the Governor’s Office of Economic Development to fund only the tuition and fees, through a combination of scholarships and tuition reimbursement administered by Udacity, for qualified students preparing for new jobs with Companies.

There will be two levels of scholarships: Level 1 scholarships will cover 40% of the tuition and fees. Level 2 scholarships will cover 60% of tuition and fees. Students can qualify for one or both scholarships depending on merit, performance, and need, as determined by Udacity and participating companies.

SEE ATTACHMENT E FOR EXPANDED WORKFORCE DEVELOPMENT PROGRAM BUDGET.

Category	FY17	Total
Tuition and Fees	24,000	24,000
Discretionary (program support, etc.)	1,000	1,000
Total		\$25,000

TRAINING FACILITIES

Facility Name: The Innevation Center, University of Nevada, Reno

Address: 450 Sinclair Street, University Mail Stop 0724	City: Reno	Hours: General Public/Members: 8 a.m. to 5 p.m. Udacity Hours: 10am to 5pm on Saturdays
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Facility Name: Udacity Online Classroom and Project Review Application

Address: https://classroom.udacity.com	City: N/A	Hours: 24/7
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Attachment A

Udacity

Workforce Development Program Example Job Descriptions

Example 1: Udacity Full Stack Web Developer Job Description

As a Full Stack Web Developer you are the mid-level developer that entry-level Front-End and Back-End Web Developers on your team will seek out as a mentor in their daily work efforts. You are knowledgeable in every level of “how the web works” from setting up and configuring Linux servers, to writing server-side APIs, diving into the client-side JavaScript powering your application, and turning a “design eye” to your CSS. You are a jack-of-all trades and the go to person in your organization when a task needs to get accomplished.

Skills:

- You can identify issues in user experience and provide recommendations verbally as well as codified solutions to influence design
- In architecting applications, you account for separation of concerns and future maintainability of the codebase.
- Given a specification, you immediately identify the client- and server-side responsibilities of a solution and articulate the pros and cons to various solutions.
- Constantly have a read on the pulse of the industry and have the ability to act as a thought leader within your organization in educating your peers on technological innovation within the field.

Responsibilities:

- Receive product specifications from stakeholders, break down these specifications into actionable items and execute upon those action items within the codebase
- Proactively identify and preemptively plan and prepare for various feature requests that span across all levels of the application’s architecture.
- Provide technology recommendations to management and convey the pros and cons of these recommendations to your peers.
- Take an active role in the mentorship, professional growth and resolving of work blockages of junior developers through code reviews and regularly scheduled stand-ups.

Requirements:

- Strong experience with Linux/Unix administration and web services configuration, to include web servers and database engines.
- Be proficient in a server-side language like Python, Ruby, Java or PHP
- Write reasonable, testable code and have significant experience with common frameworks and libraries
- Have significant experience with a variety of datastore technologies, both SQL and NoSQL
- Have a solid understanding of HTML, CSS and JavaScript

Example 2: No-IP Full Stack Web Developer Job Description

We are looking for a Full Stack Developer who is motivated to explore new technologies and join a cross functional team focused on increasing the success of No-IP’s customers. You should have strong experience in JavaScript, PHP, MySQL, and Git as well as a deep understanding of modern web technologies such as HTTP, REST and JSON. You should enjoy working with the full stack needed to finish a product. The right candidate for this role must have the desire to take an active role in defining how our applications work.

We need you to write beautiful, fast PHP to a high standard, in a timely and scalable way that improves the code-base of our products in meaningful ways. You will be a part of a collaborative team that is responsible for all aspects of the ongoing software development from the initial specification, through to developing, testing and launching.

Responsibilities

- Develop an understanding of No-IP products, infrastructure, architecture, and business model
- Create and maintain database schemas to support business processes
- Migrate legacy code to more efficient frameworks and structures
- Write clean, well designed code
- Troubleshoot, test and maintain the core product software and databases to ensure strong optimization and functionality
- Contribute in all phases of the development lifecycle
- Follow industry best practices
- Develop and deploy new features, procedures, and tools.
- Be an active participant on an Agile Software team

Must Have

- 3 years of development experience in PHP or other OOP language with a focus on enterprise applications and clean, maintainable code
- Experience with front-end development, including HTML5, CSS, JavaScript, and responsive front-end frameworks (e.g., Bootstrap, Foundation)
- Interest or experience with scaling technologies such as containerization, microservices, and event sourcing
- Comfortable with Linux, SSH and the command line
- MySQL experience, strong SQL skills
- Confident in Git
- Strong attention to detail and the ability to work independently
- Highly motivated individual with a focus on writing clean, well-tested, and scalable code

Nice to Have

- 5+ years of PHP development experience with recent experience in modern PHP practices and deployment
- Knowledge and experience with Dynamic DNS
- Experience with frameworks like VueJS and Laravel
- Experience in common third-party APIs
- Passion for best design and coding practices and a desire to develop new bold ideas
- BS/MS degree in Computer Science, Engineering or a related subject
- Experience with non-SQL database models such as columnar stores and graph databases

Attachment B

Udacity

Workforce Development Program Job Reports for Reno MSA and Nevada

[Remainder of page intentionally left blank; reports inserted on following pages]

Job Report Web Developers (Reno MSA- Past Year)

Search Definition: Web Developers; Information Technology in Reno MSA, NV

HIRING SCALE



Potential Candidates in the workforce:
200

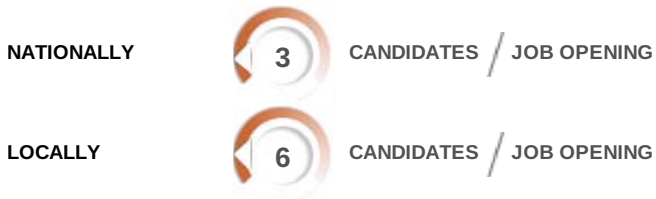
Direct Employers currently competing:
13

Open Jobs posted by Direct Employers:
26

Average posting duration
36 days

RECRUITMENT INDICATORS

DEMAND PRESSURE



COMPETITIVE INTENSITY



MARKET SALARY



SKILLS AND CERTIFICATIONS

Skills

- Hypertext markup language (HTML)
- JavaScript (JS)
- Cascading Style Sheets (CSS)
- Java
- Content Management System (CMS)

Certifications

- Law Enforcement Agency Data Sys...
- Continuing Education (CE)
- Visual Communication with Adobe...

JOB TITLES

- Web Developer
- Java Developer
- Senior Web Developer Ruby Rails
- Web Designer
- Php Developer
- Application Developer
- Web Development Engineer
- Senior Web Developer
- .net Developer
- Ruby Developer

ACTIVE COMPETITION

Direct Employers found: 13

- Oracle
- International Game Technology
- University of Nevada, Reno
- Anthem, Inc.
- Coupa
- RenoWebDesigner.com
- EIG Services, LLC
- Udacity
- Grand Sierra Resort
- ABUV Media

HISTORICAL HIRING

Employers found: 151

- International Game Technology
- Oracle
- Capital One
- IGT
- University of Nevada, Reno
- Renown Health
- Anthem, Inc.
- MortarStone
- Sierra Nevada Corporation
- IBM

Job Report Web Developers (Reno MSA- Past Year)

Search Definition: Web Developers; Information Technology in Reno MSA, NV

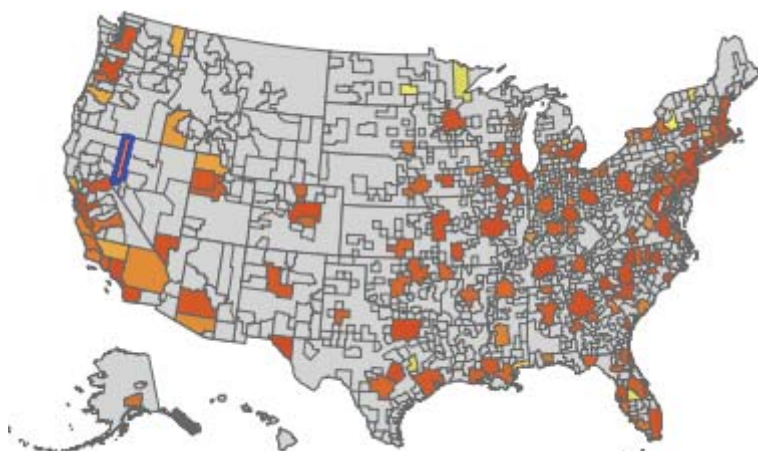
CANDIDATE LOCATIONS

Alternate Location	Job Volume *	Salary Range	Candidate Supply	Posting Period	Demand Pressure	Competitive Intensity	Hiring Scale
Duluth, MN	7	\$73K - 122K	< 100	N/A	N/A	N/A	39
College Station-Bryan, TX	6	\$53K - 118K	100	N/A	18	25	39
Lakeland-Winter Haven, FL	6	\$81K - 106K	200	N/A	27	38	43
Fargo, ND	7	\$50K - 116K	200	N/A	23	34	47
Utica-Rome, NY	8	\$68K - 114K	< 100	N/A	N/A	N/A	48
Burlington-South Burlington, VT	33	\$72K - 120K	400	N/A	9	29	57
Gulfport-Biloxi-Pascagoula, MS	6	\$62K - 143K	< 100	N/A	N/A	N/A	60
Saginaw, MI	5	\$68K - 149K	< 100	N/A	N/A	N/A	62
Springfield, MA	9	\$59K - 99K	300	N/A	11	37	64
Reno, NV	26	\$67K - 133K	200	N/A	6	13	83

HIRING SCALE HEAT MAP

Unavailable Selected Locations

Easier-to-fill jobs Harder-to-fill jobs



ABOUT CEB TALENTNEURON

In November 2015, WANTED Analytics became a CEB company and is now a part of its TalentNeuron solution. CEB (NYSE: CEB) is a best practice insight and technology company that partners with its customers to develop innovative solutions that unlock their potential and help them grow.

CEB TalentNeuron provides you with the most comprehensive source of global talent demand and supply data, predictive analytics, insights into real-time job market and location data, and competitive intelligence to help you make informed recruiting and talent planning decisions. It provides recruiting organizations with real-time business intelligence on jobs, employers, and talent with data on hiring demand and talent supply data to create a true talent intelligence platform for hard-to-fill positions.

CEB TalentNeuron contains tools and insight that can help recruiters:

- Unlock hidden reserves of candidates for hard-to-fill positions,
- Reduce time-to-fill by streamlining the relationship with hiring managers,
- Analyze real-time employment trends, and
- Increase the strategic value of your department with on-demand access to company-level research that HR executives can use to gather valuable competitive intelligence on what your competition is doing.

For more information about how TalentNeuron helps organizations make better decisions, visit www.cebglobal.com/talentneuron.

Job Report Web Developers (Nevada- Past Year)

Search Definition: Web Developers; Information Technology in Nevada

HIRING SCALE



Potential Candidates in the workforce:
600

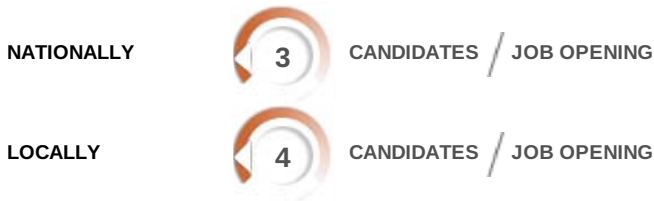
Direct Employers currently competing:
56

Open Jobs posted by Direct Employers:
96

Average posting duration
34 days

RECRUITMENT INDICATORS

DEMAND PRESSURE



COMPETITIVE INTENSITY

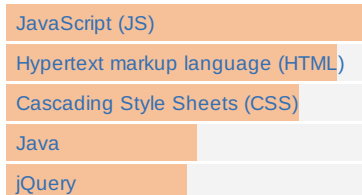


MARKET SALARY



SKILLS AND CERTIFICATIONS

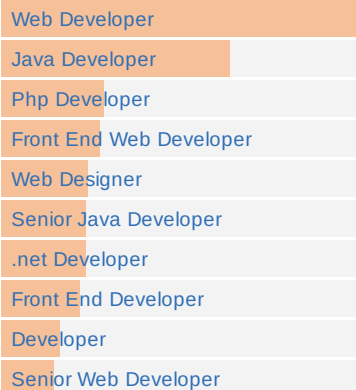
Skills



Certifications



JOB TITLES



ACTIVE COMPETITION

Direct Employers found: 56



HISTORICAL HIRING

Employers found: 972



Job Report Web Developers (Nevada- Past Year)

Search Definition: Web Developers; Information Technology in Nevada

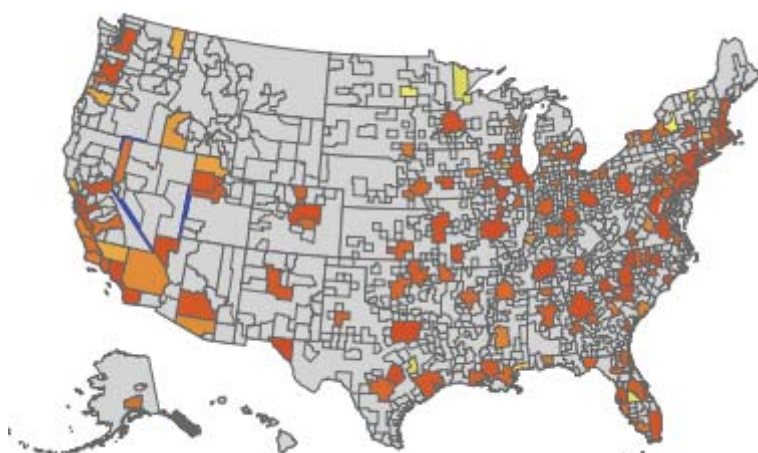
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Burlington-South Burlington, VT	33	\$72K - 120K	400	9	29	57
Gulfport-Biloxi-Pascagoula, MS	6	\$62K - 143K	< 100	N/A	N/A	60
Saginaw, MI	5	\$68K - 149K	< 100	N/A	N/A	62
Springfield, MA	9	\$59K - 99K	300	12	37	64
Rockford, IL	12	\$82K - 115K	< 100	N/A	N/A	66

HIRING SCALE HEAT MAP

Unavailable Selected Locations

Easier-to-fill jobs Harder-to-fill jobs



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For more information about how TalentNeuron helps organizations make better decisions, visit www.cebglobal.com/talentneuron.

Attachment C
Udacity
Skill Set and Learning Objectives: Curriculum Overview

[Remainder of page intentionally left blank; detailed curriculum inserted on following pages]

Full Stack Web Developer Nanodegree Syllabus



Build Complex Web Applications

Educational Objectives

This program will prepare you for a job as a Full Stack Web Developer, and teach you to build complex server-side web applications that use powerful relational databases to persistently store data. You'll learn to build applications that can support any front-end, and scale to support hundreds of thousands of users.

Length of Program*: 300 Hours (to be completed in 3 months)

Frequency of Classes: Weekly 4-hour in-person sessions, self-paced online progress of 15/hours a week.

Textbooks required: None

Instructional Tools Available: Video lectures, 1:1 appointments, forum support, In-classroom mentorship

*This is a self-paced program and the length is an estimation of total hours the average student may take to complete all required coursework, including lecture and project time. Actual hours may vary.

1. Programming Fundamentals and the Web

Get started as a developer by mastering object-oriented Python programming, HTML, CSS, and responsive Web design.

Lessons: Programming Foundations with Python

Lesson Title	Learning Outcomes
Use Functions	<ul style="list-style-type: none">→ Tour the Python standard library→ Use programming library documentation
Use Classes: Draw Turtles	<ul style="list-style-type: none">→ Use classes and objects to draw graphics
Use Classes: Send Text	<ul style="list-style-type: none">→ Use the Twilio web API to send SMS messages
Use Classes: Profanity Editor	<ul style="list-style-type: none">→ Read and write to and from files→ Accessing web APIs with the Python urllib library
Make Classes: Movie Website	<ul style="list-style-type: none">→ Write programs using Object Oriented Programming

(OOP) design

Make Classes: Advanced Topics

- Reuse code with class inheritance
 - Customize inherited classes with method overriding
-

Project 1: Movie Website

In this project, you will write server-side code to store a list of your favorite movies, including box art imagery and a movie trailer URL. You will then serve this data as a web page allowing visitors to review their movies and watch the trailers.

Lessons: Intro to HTML and CSS

Lesson Title	Learning Outcomes
HTML Syntax	<ul style="list-style-type: none">→ Set up your development environment for writing HTML→ Learn about HTML tree structure and write HTML syntax
CSS Syntax	<ul style="list-style-type: none">→ Get started with the basics of CSS→ Unleash the power of developer tools to inspect webpages and apply changes on the fly→ Use CSS units, colors and fonts→ Start adding style to your websites
Sizing	<ul style="list-style-type: none">→ Use the box model to size and position elements
Positioning	<ul style="list-style-type: none">→ Position elements using different flows
Floats	<ul style="list-style-type: none">→ Use floats to extend and improve your ability to create layouts

Lessons: Responsive Design

Lesson Title	Learning Outcomes
Why Responsive?	<ul style="list-style-type: none">→ Create web pages with mobile-first design→ Manage web development by using in-browser development tools→ Troubleshoot and debug faulty code
Starting Small	<ul style="list-style-type: none">→ Build HTML elements for any size screen→ Use the browser viewport to create consistent user experiences
Building Up	<ul style="list-style-type: none">→ Use media queries and breakpoints to create responsive web page designs→ Create flexible HTML elements with Flexbox

Project 2: Build a Portfolio

In this project, you will be provided with a portfolio website design mockup as a PDF file and will translate that design into a real website using HTML and CSS.

2. Developers' Tools

Brush up your knowledge of essential developers' tools such as the Unix shell, Git, and Github; then apply your skills to investigate HTTP, the Web's fundamental protocol.

Lessons: Shell Workshop

Lesson Title	Learning Outcomes
Shell Workshop	→ The Unix shell is a powerful tool for developers of all sorts. Get a quick introduction to the basics of using it on your computer.

Lessons: Git & Github

Lesson Title	Learning Outcomes
Purpose & Terminology	→ Learn about the benefits of version control and install the version control tool Git.
Create a Git Repo	→ Create a new Git repository for your code.
Review a Repo's History	→ Review an existing Git repository's history of commits — the changes that have been made to the project.
Add Commits to a Repo	→ A repository is nothing without commits. In this lesson, you'll learn how to make commits, write descriptive commit messages, and verify the changes you're about to save to the repository.
Tagging, Branching, and Merging	→ Being able to work on your project in isolation from other changes will multiply your productivity. You'll learn how to do this isolated development with Git's branches.
Undoing Changes	→ Help! Disaster has struck! You don't have to worry, though, because your project is tracked in version control! You'll learn how to undo and modify changes that have been saved to the repository
Working with Remotes	→ Create remote repositories on GitHub and send changes to the remote repository
Working on Another Developer's Repository	→ Fork another developer's project and learn how to contribute to a public project

Staying In Sync With a Remote Repository

- Send suggested changes to another developer by using pull requests and use the powerful `git rebase` command to squash commits together
-

Lessons: HTTP & Web Servers

Lesson Title	Learning Outcomes
Requests & Responses	→ Examine HTTP requests and responses by experimenting directly with a web server, interacting with it by hand.
The Web from Python	→ Build up your knowledge of HTTP by writing servers and clients in Python that speak HTTP.
HTTP in the Real World	→ Examine a number of practical HTTP features that go beyond basic requests and responses.

3. The Backend: Databases & Applications

Master SQL databases and build multi-user web applications using the Flask framework, SQLAlchemy, and authentication providers such as Google and Facebook.

Lessons: Intro to Relational Databases

Lesson Title	Learning Outcomes
Data and Tables	<ul style="list-style-type: none">→ Use the table structure of databases to organize data→ Use types and keys to more accurately model your data
Elements of SQL	<ul style="list-style-type: none">→ Use the <code>select</code> statement to retrieve data from tables→ Use the <code>insert</code> statement to add data to tables→ Combine SQL tables using joins and aggregations to create powerful queries
Python DB-API	<ul style="list-style-type: none">→ Interact with a database from Python code→ Connect a Python web application to an SQL database→ Discover and fix security problems with database-backed apps
Deeper into SQL	<ul style="list-style-type: none">→ Create tables using normalized forms→ Use keys to express relationships between tables→ Write reusable views to quickly and efficiently retrieve data

Project 3: Logs Analysis

In this project, you'll analyze data from a web service's logs, practicing your command-line and database skills, particularly with a focus on building advanced SQL queries.

Lessons: Full Stack Foundations

Lesson Title	Learning Outcomes
Working with CRUD	<ul style="list-style-type: none">→ Model database entries in Python→ Write server code to create, read, update and delete database entries interactively.
Making a Web Server	<ul style="list-style-type: none">→ Configure a web server to handle requests using HTTP→ Allow a web server to read and update data based on HTTP request input
Developing with Frameworks	<ul style="list-style-type: none">→ Build a functioning web application using the lightweight Flask framework→ Respond to HTTP requests with JSON data
Iterative Development	<ul style="list-style-type: none">→ Plan the design of a complex web application

Lessons: Authentication and Authorization

Lesson Title	Learning Outcomes
Authentication vs Authorization	<ul style="list-style-type: none">→ Secure your application by verifying users' identities→ Control application authorization based on user roles and login state→ Use third-party systems to authenticate users
Creating Google Sign-in	<ul style="list-style-type: none">→ Implement user authentication using Google's OAuth 2.0 tools
Local Permission System	<ul style="list-style-type: none">→ Store user data in an application database→ Manage user authorization from stored user data
Adding Facebook and Other Providers	<ul style="list-style-type: none">→ Implement other authentication providers in a web app

Lessons: RESTful APIs

Lesson Title	Learning Outcomes
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What's and Why's of APIs	→ Examine API terminology, techniques, and the REST concept.
Accessing Published APIs	→ Send requests to remote APIs. Use published documentation to understand and apply those APIs correctly.
Creating Your Own APIs	→ Apply the Flask framework to create APIs in Python code.
Securing Your API	→ Use token-based authentication and OAuth to protect API endpoints.
Writing Developer-Friendly APIs	→ Improve your documentation skills and use API versioning to help developers use your API correctly.

Project 4: Build an Item Catalog

In this project, you will develop an application that provides a list of items within a variety of categories as well as provide a user registration and authentication system. Registered users will have the ability to post, edit and delete their own items.

Part 3: The Frontend: JavaScript and AJAX

Extend the power of the web frontend using JavaScript, JQuery, and AJAX to build advanced interactive web applications.

Lessons: Intro to AJAX

Lesson Title	Learning Outcomes
Requests and APIs	→ Connect to external web APIs to power asynchronous browser updates
Building the Move Planner App	→ Use the jQuery Javascript library to build AJAX requests and handle API responses → Handle error responses with AJAX

Lessons: JavaScript Design Patterns

Lesson Title	Learning Outcomes
Changing Expectations	→ React to changing product specifications and developer expectations → Explore the Model-View-Controller design pattern

	→ Analyze an existing application for MVC structure
Refactoring with Separation of Concerns	<ul style="list-style-type: none"> → Write code with discrete areas of responsibility in an MVC application → Refactor an existing application to make use of modern code design practices
Using an Organization Library	<ul style="list-style-type: none"> → Build a reactive front end application using an organization library, knockout.js → Implement knockout models and observable elements in an application
Learning a New Codebase	→ Use proven strategies to adapt to a new and unfamiliar codebase

Lessons: Google Maps APIs

Lesson Title	Learning Outcomes
Getting Started with the APIs	→ Set up your developer credentials and get started with the Google Maps APIs.
Understanding API Services	→ Explore the location services available in the Google Maps APIs, including the Geocoding, Elevation, and Directions APIs.
Using the APIs in Practice	→ Examine some technical details of using the Maps APIs.

Project 5: Neighborhood Map

In this project, you will develop a single-page application featuring a map of your neighborhood or a neighborhood you would like to visit. You will then add additional functionality to this application, including: map markers to identify popular locations or places you'd like to visit, a search function to easily discover these locations, and a listview to support simple browsing of all locations. You will then research and implement third-party APIs that provide additional information about each of these locations (such as StreetView images, Wikipedia articles, Yelp reviews, etc).

Part 4: Deploying to Linux Servers

Lessons: Configuring Linux Web Servers

Lesson Title	Learning Outcomes
Intro to Linux	<ul style="list-style-type: none">→ Explore the historical roots of Linux and some common Linux distributions→ Launch the Ubuntu operating system in a virtual machine on your own computer
Linux Security	<ul style="list-style-type: none">→ Control authorization on a Linux system using super user privileges→ Install additional software packages to a Linux system→ Manage Linux users and user permissions→ Protect a Linux system with a universal firewall
Web Application Servers	<ul style="list-style-type: none">→ Install an Apache web application server on a Linux system

Project 6: Linux Server Configuration

In this project, you will take a baseline installation of a Linux distribution on a virtual machine and prepare it to host your web applications, to include installing updates, securing it from a number of attack vectors, and installing and configuring web and database servers.

Attachment D Diversity Action Plan

This Workforce Diversity Action Plan outlines key considerations and actions steps that Udacity and Companies participating in the program can take to help accomplish workforce diversity goals.

Application and Selection Process

Udacity recognizes that diverse learning communities lead to better outcomes for our students as well as the employers they will work with after our programs. As such, we use the application and selection process for our programs to ensure we extend invitations to as diverse of a group of students as possible. We use a combination of factors, including quantifiable demographic data as well as more qualitative data from essays and personal statements the demonstrate diversity of perspective.

Educational Resources

Udacity is an online education platform with learners all around the world. Many of the courses on our platform have been translated into more than 5 languages, a list that includes but is not limited to:

- Spanish
- Portuguese
- Simplified Chinese
- German
- French
- Bahasa Indonesia

Additionally, our online classroom allows users to select their preferred language for the entire site and learning experience:



Interview Preparation and Job-Preparedness

In addition to teaching the hard skills required to do a job like a Full Stack Web Developer, Udacity provides education and training to ensure all our candidates are prepared to search for and interview for jobs in the knowledge sector of the economy. This is particularly important for students who may be transitioning from unemployment, under-employment, or from jobs in different sectors that have very different interview practices and expectations for things like resumes, online profiles, etc.

Diverse Pipeline for Companies

By selecting and educating a diverse group of students, Udacity will provide a diverse pipeline of talent for companies participating in the workforce development program. The Companies participating are committed to diverse teams and recognize that workforce diversity is a collection of individual attributes that together help agencies pursue organizational objectives efficiently and effectively. These include, but are not limited to, characteristics such as national origin, language, race, color, disability, ethnicity, gender, age, religion, sexual orientation, gender identity, socioeconomic status, veteran status, and family structures.

Attachment E
Udacity Budget Request
WINN FUND

Level 1 Student Scholarships 11
Level 2 Student Scholarships 6

CAPITAL EXPENSES

<u>FY17</u>	<u>Description</u>	<u>Cost</u>	<u>Quantity</u>	<u>Total</u>
	<i>Not included in this request</i>	-	-	-
CAPITAL EXPENSE SUBTOTAL				-

TUITION & FEES

Full Stack Web Developer (Parts 1-2)				
<u>FY17</u>	<u>Topic</u>	<u>Cost</u>	<u>Quantity</u>	<u>Total</u>
	Part 1: Programming Foundations and the Web	\$ 600.00	11	\$ 6,600
	Programming Foundations with Python			
	Intro to HTML and CSS			
	Responsive Web Design			
	Project: Movie Website			
	Project: Build a Portfolio			
	Part 2: Developers Tools	\$ 600.00	11	\$ 6,600
	Shell Workshop			
	Git & Github			
	HTTP & Webservers			
Level 1 Scholarships Subtotal				\$ 13,200

Full Stack Web Developer (Parts 3-5)				
<u>FY17</u>	<u>Topic</u>	<u>Cost</u>	<u>Quantity</u>	<u>Total</u>
	Part 3: The Backend, Databases, and Applications	\$ 600.00	6	\$ 3,600
	Intro to Relational Databases			
	Full Stack Foundations			
	Authentication and Authorization			
	RESTful APIs			
	Project: Logs Analysis			
	Project: Build an Item Catalog			
	Part 4: The Frontend, JavaScript, and AJAX	\$ 600.00	6	\$ 3,600
	Intro to AJAX			
	JavaScript Design Patterns			
	Google Maps APIs			
	Project: Neighborhood Map			
	Part 5: Deploying to Linux Servers	\$ 600.00	6	\$ 3,600
	Configuring Linux Web Servers			
	Project: Linux Server Configuration			
Level 2 Scholarships Subtotal				\$ 10,800
TUITION & FEES SUBTOTAL				\$ 24,000

PERSONNEL & VARIABLE EXPENSES

<u>FY17</u>	<u>Topic</u>	<u>Cost</u>	<u>Quantity</u>	<u>Total</u>
	Discretionary (program support, etc.)			\$ 1,000
				\$ -
PERSONNEL & VARIABLE EXPENSE SUBTOTAL				\$ 1,000

TOTAL REQUEST	\$ 25,000
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Budget Narrative

All WINN funds will go towards student tuition and fees in the form of scholarships. The scholarships will be structured to align student incentives with finding employment with workforce program Companies. There will be two levels of scholarships provided to pre-selected and pre-screened students:

Level 1 scholarships will be awarded in advance of the program to incentivize top candidates to participate in the program and commit to filling open roles with partner companies. Level 1 scholarships will cover 40% of the tuition and fees (~\$1,200 per student). Level 1 scholarship recipients will be expected to cover the remaining tuition and fees out of pocket. There will be eleven Level 1 scholarships available.

Level 2 scholarships will be awarded when a student (i) successfully completes the entire program, and (ii) accepts a job with a relevant company in the state of Nevada, with preference being given to participating Companies. Level 2 scholarships will take the form of tuition reimbursement and will cover 60% of the tuition and fees (~\$1,800). There will be six Level 2 scholarships available, and they will be awarded first to students employed with participating companies.

Udacity and Companies may award Level 1 and Level 2 scholarships for a combination of factors including need, merit, experience, and demonstrated potential. The same individual could receive both a Level 1 and Level 2 scholarship to equal a full scholarship.