

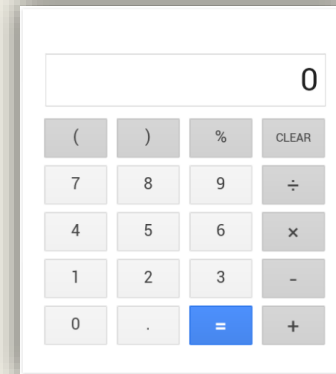
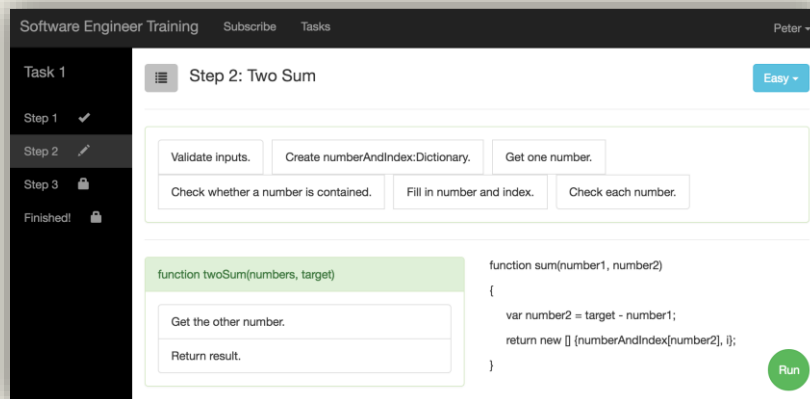
A thick black L-shaped frame is positioned on the left and bottom edges of the slide, framing the central text.

SOFTWARE ENGINEER TRAINING

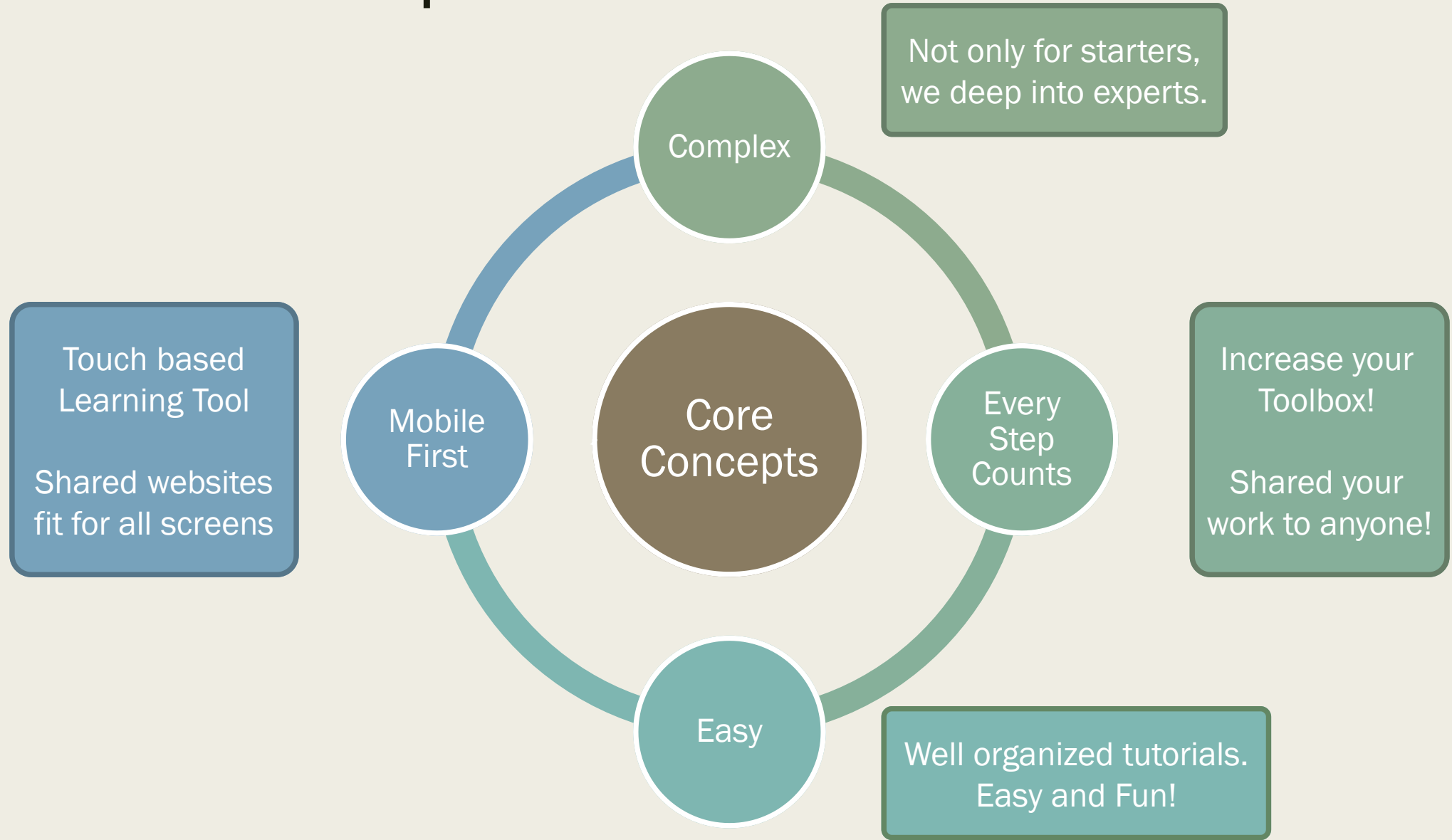
Coding, Engineering and Specific Language

Summary

- Software engineer training is an online learning website to teach users how to create a complex web app and share their apps to anyone.



Core Concepts



Example: Basic Calculator – Task 1

Make sure a task



Find a solution



Gain and share

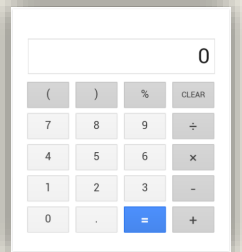
```
describe("Test a basic calculator.", function()
{
  it("1 + 2 = 3", function()
  {
    var result = calculate(1, 2, "+");
    expect(result).toEqual(3);
  });
});
```

```
function calculate(number1, number2, operation)
{
  switch (operation)
  {
    case "+": return number1 + number2;
  }
}
```

function sum()



My toolbox



Example: Basic Calculator – Task 2

New requirement



Refactor code



Gain and share

```
describe("Test a basic calculator.", function()
{
  it("1 + 2 = 3", function()
  {
    var result = calculate(1, 2, "+");
    expect(result).toEqual(3);
  });

  it("3 - 1 = 2", function()
  {
    var result = calculate(3, 1, "-");
    expect(result).toEqual(2);
  });
});
```

```
//Factory Pattern
abstract class Operation
{
  private _number1: number;
  private _number2: number;

  set number1(num: number)
  {
    this._number1 = num;
  }

  set number2(num: number)
  {
    this._number2 = num;
  }

  abstract getResult(): number;
}

class AddOperation extends Operation
{
  getResult(): number
  {
    return this.number1 + this.number2;
  }
}
```

```
interface OperationFactory
{
  getOperation(): Operation;
}

class AddOperationFactory implements OperationFactory
{
  getOperation(): Operation
  {
    return new AddOperation();
  }
}
```

```
const operation = new AddOperationFactory();
operation.number1 = 1;
operation.number2 = 2;
var result = operation.getOperation().getResult();

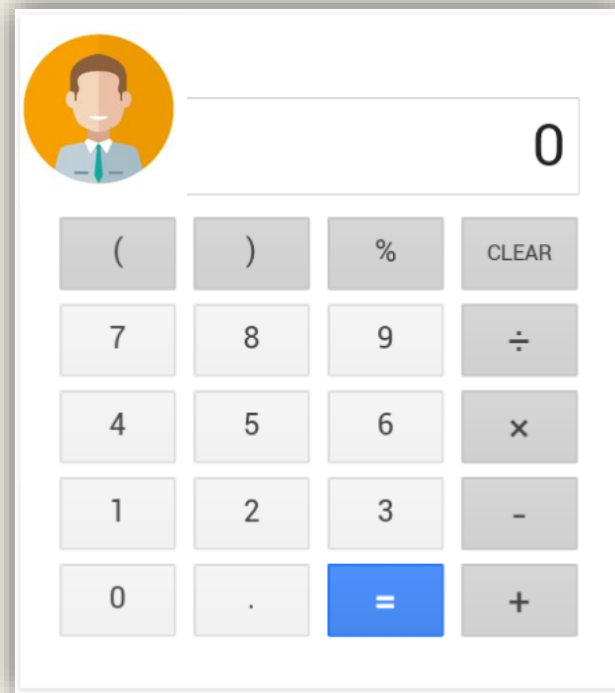
bootstrap(AppComponent);
```

Example: Basic Calculator – Task 3

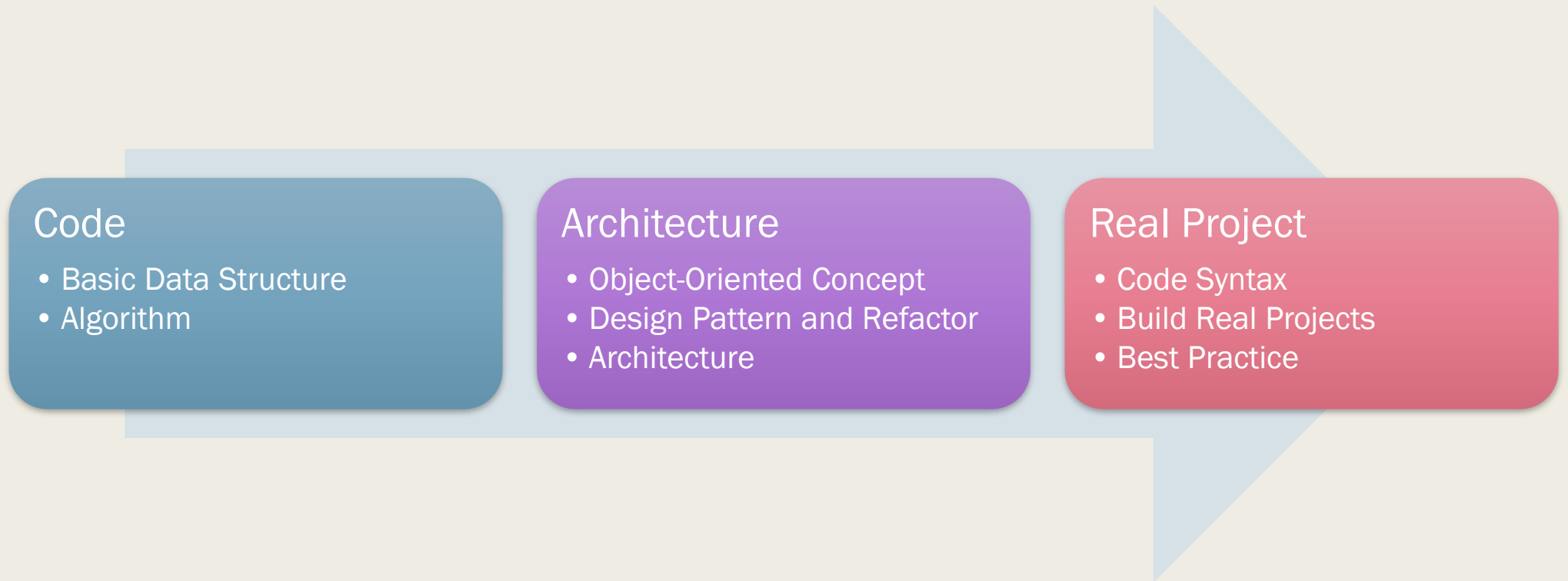
Decorate



Share your app

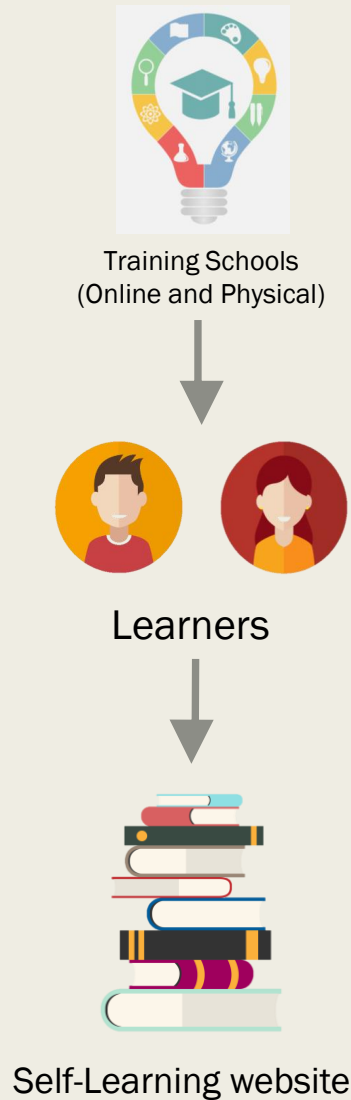


Learning Path

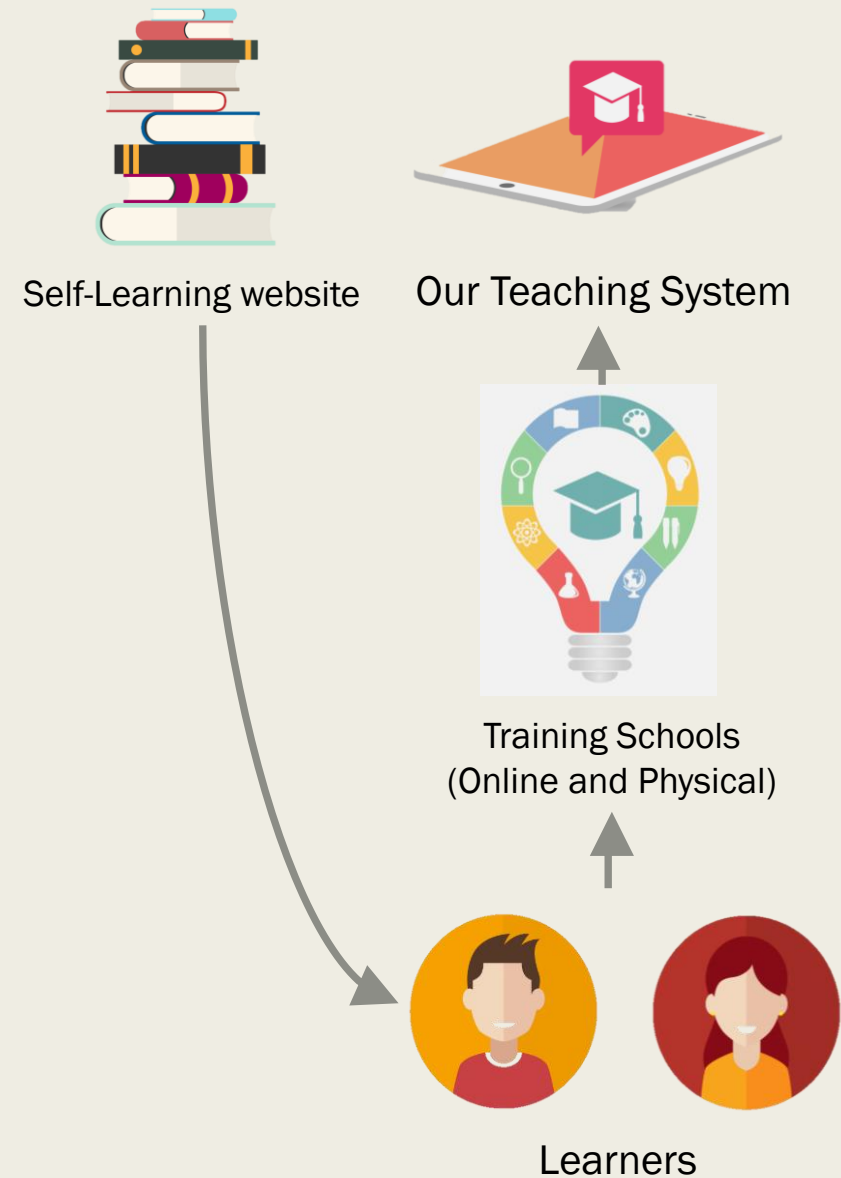


Marketing

Push Strategy



Pull Strategy

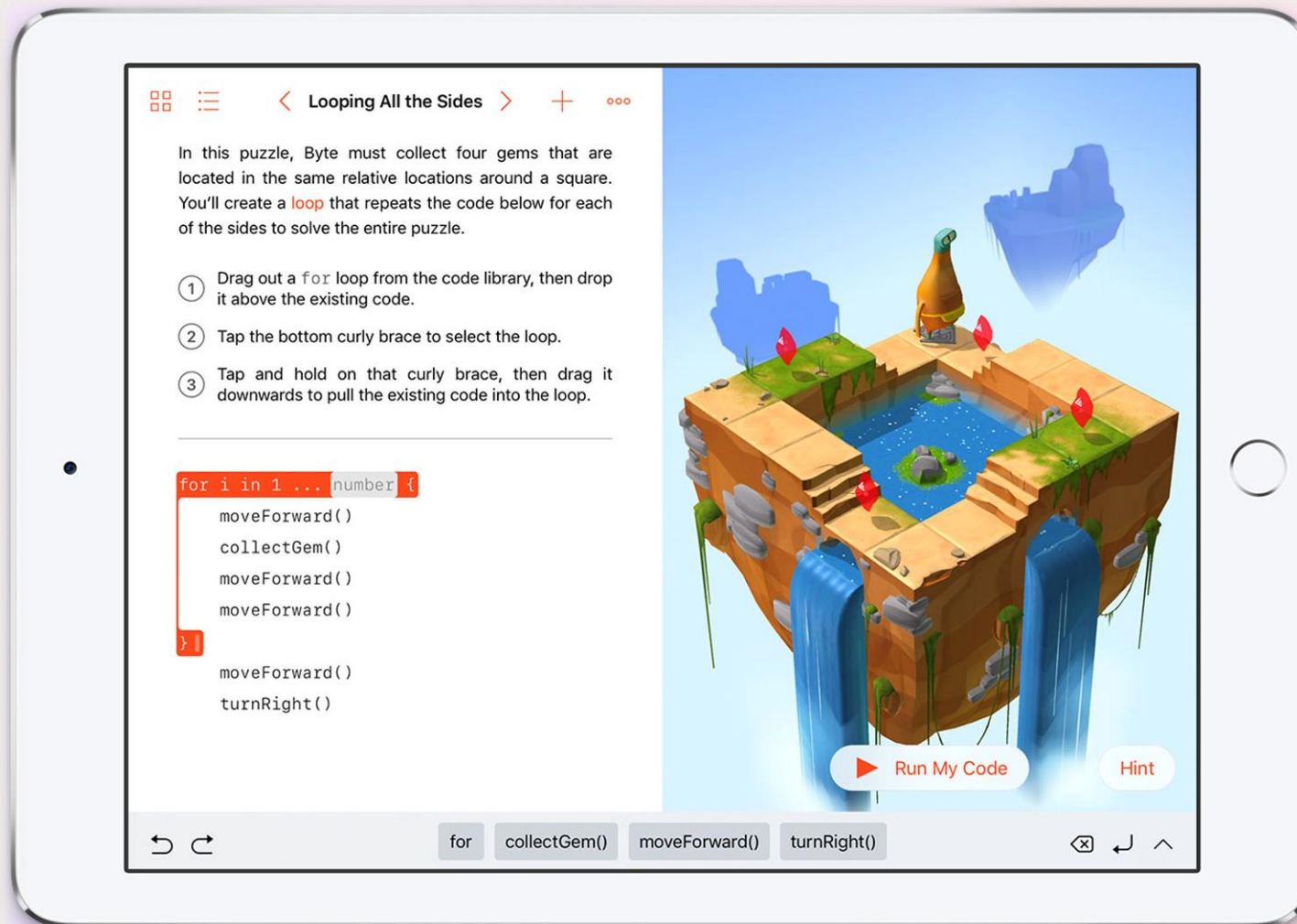


Competitor

By 2020, 1.4 million jobs for computer scientists will exist, but right now, there are only 400,000 people who will be trained to fill those roles, according to the U.S. Bureau of Labor Statistics.

- Apple - Swift Playgrounds
- Language-oriented learning websites
- Videos and books learning

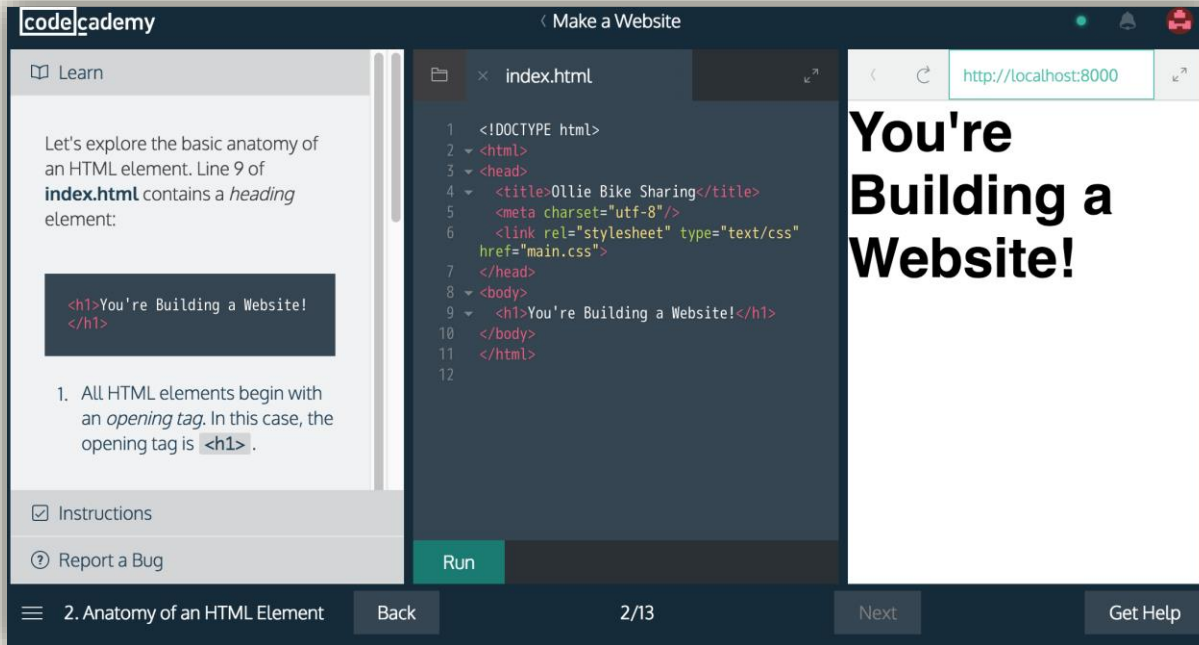
Game Learning



Good for starters

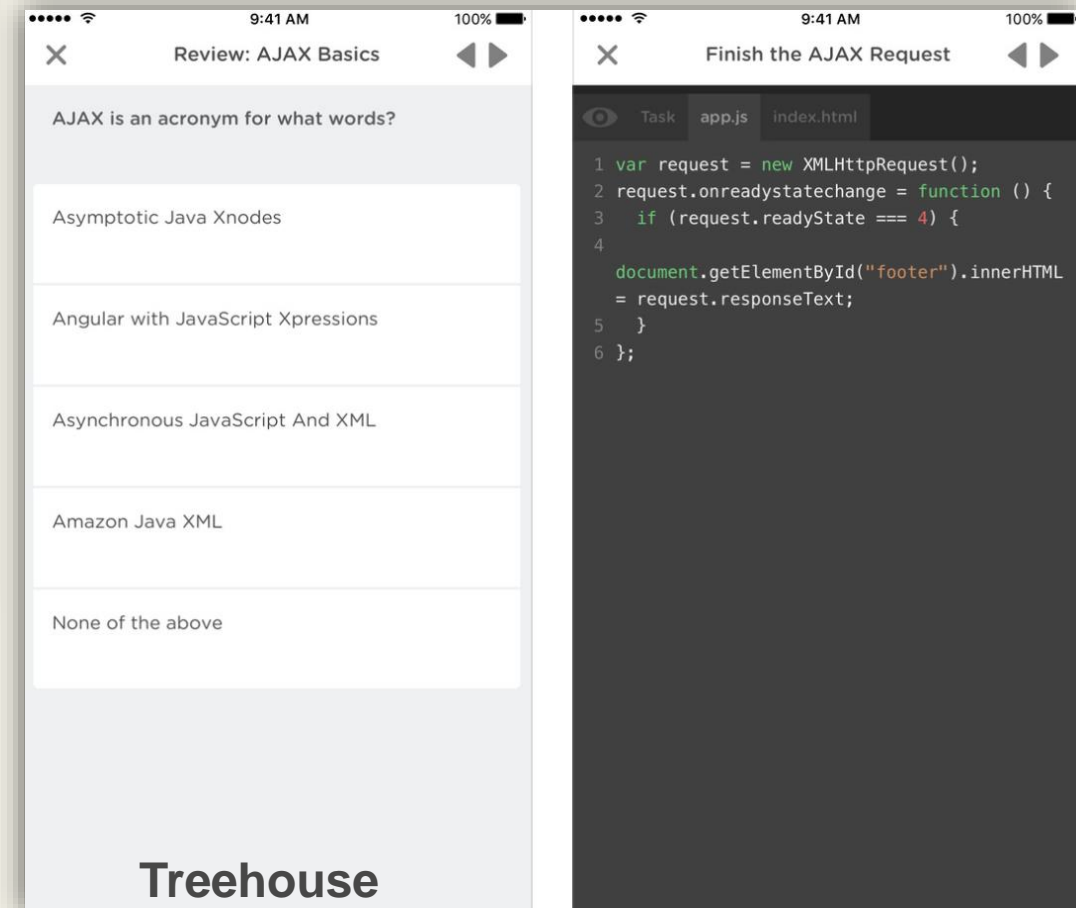
Hard to deep in

Language-Oriented Learning Website



Good to master a language

It is weak to learn core knowledge for all languages because they combine basic concepts into specific languages.



Videos and Books Learning

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Q

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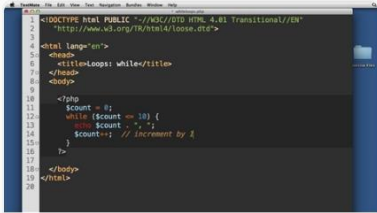
Business

Creative

Technology

Efficient

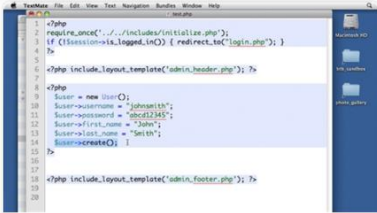
Easy to get bored



PHP with MySQL Essential Training

Kevin Skoglund

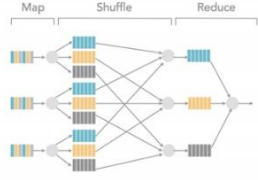
• 14h 32m • **3,907,848** Views



PHP with MySQL Beyond the Basics

Kevin Skoglund


• 10h 26m • **2,199,079** Views



Hadoop Fundamentals

Lynn Langit

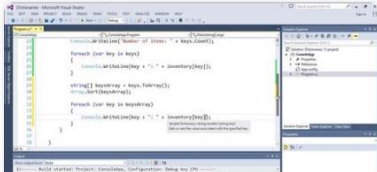
• 4h 48m • **647,853** Views

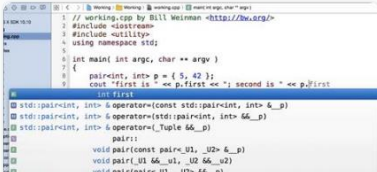



jQuery Essential Training

Joe Marini

• 3h 37m • **856,985** Views








Specially Blended

COFFEE HOUSE



your vineyard

Main Heading Here

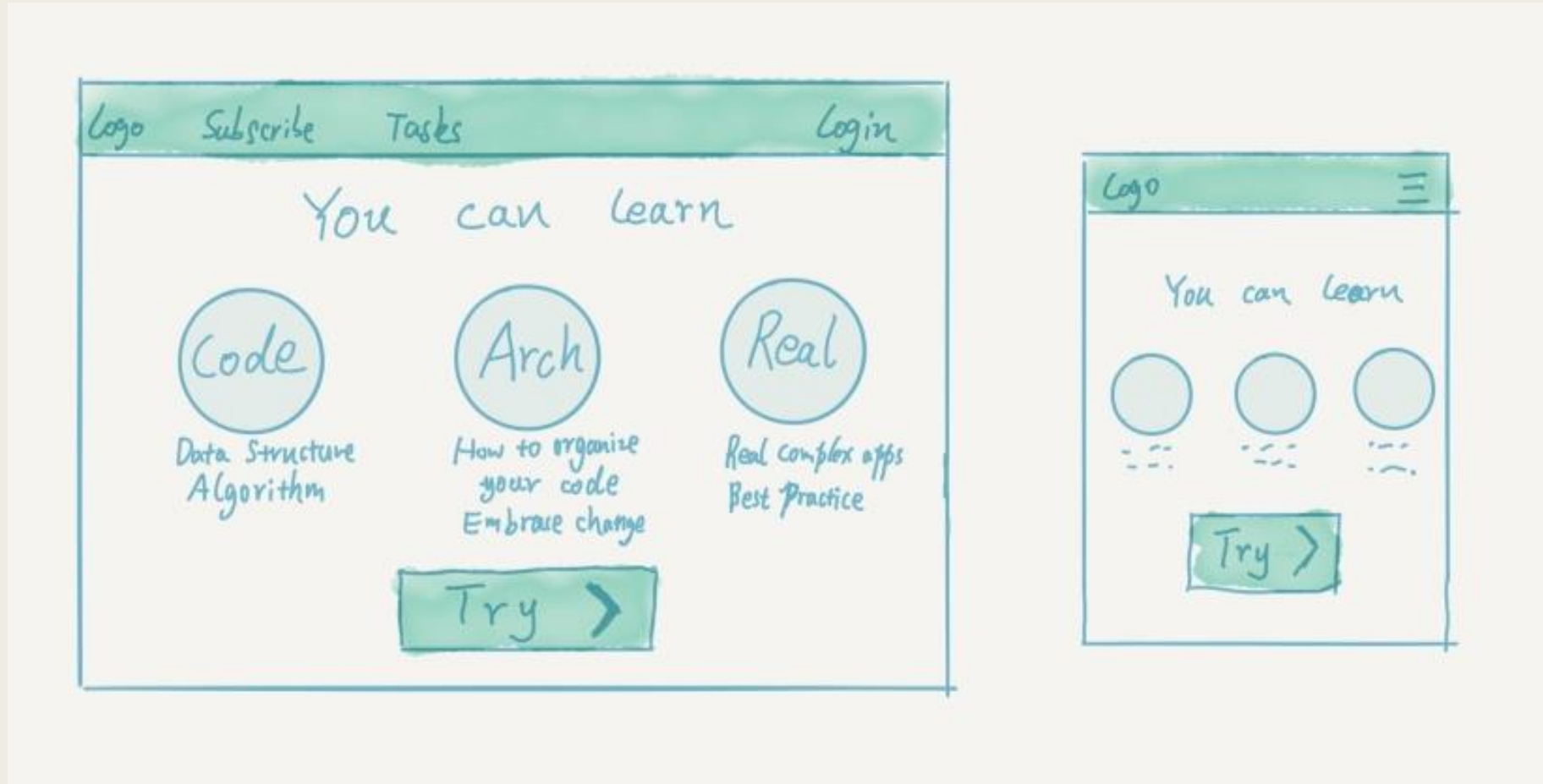
Revenue Stream

- Subscription fee for individuals.
- Free to use for training schools.
- Development fee for customized requirements from training schools.
- Advertising revenue from training schools.

Three Years Plan

- Add complex algorithms like KMP, Union-Find etc.
- Cooperate with companies to help them hire people.
 - *Provide training hours on the platform.*
 - *Detect coding style to avoid cheating based on data mining.*
- Help large companies work on open source projects.
 - *Companies publish tasks and unit tests to the website.*
 - *The website finds suitable learners to work on the tasks.*
 - *The companies receive the code and comment.*
 - *Good learners may increase the possibility to get hired by the companies.*

Wireframes – Homepage



Have not finished mock-up yet.

Wireframes – Finish Tasks

The main wireframe shows a task completion interface. At the top is a header bar with 'Logo', 'Subscribe', 'Tasks', and a user profile 'Peter' with a dropdown arrow. Below the header is a table with columns for task status, task details, and code snippets. The table has five rows: 'Task 1', 'Step 1 ✓', 'Step 2', 'Step 3', and 'Finished!'. The 'Step 2' row is highlighted. In the 'Step 2' row, the task details are 'Step 2: Sum of Two Numbers' with a difficulty level of 'Easy'. The code snippets are 'number 1', 'return', 'number 2', and 'function sum'. The 'Finished!' row shows a large code editor with the function 'function sum(n1, n2)' and a 'Run' button. A 'Generate the real code at the same time.' label points to the 'Run' button.

Task 1	Step 2: Sum of Two Numbers	Easy ▼
Step 1 ✓	number 1	return
Step 2	number 2	function sum
Step 3		
Finished!	<pre>function sum(n1, n2) { // ... return result; }</pre> <div>function sum</div> <div>Run</div>	

One function can be implemented by easy, medium and hard way.
(Teach learners how to improve time and space complexity)

All snippets are from previous tasks.
Users generate this code by themselves.

After run, the program will run all test cases from Step 1.

Generate the real code at the same time.

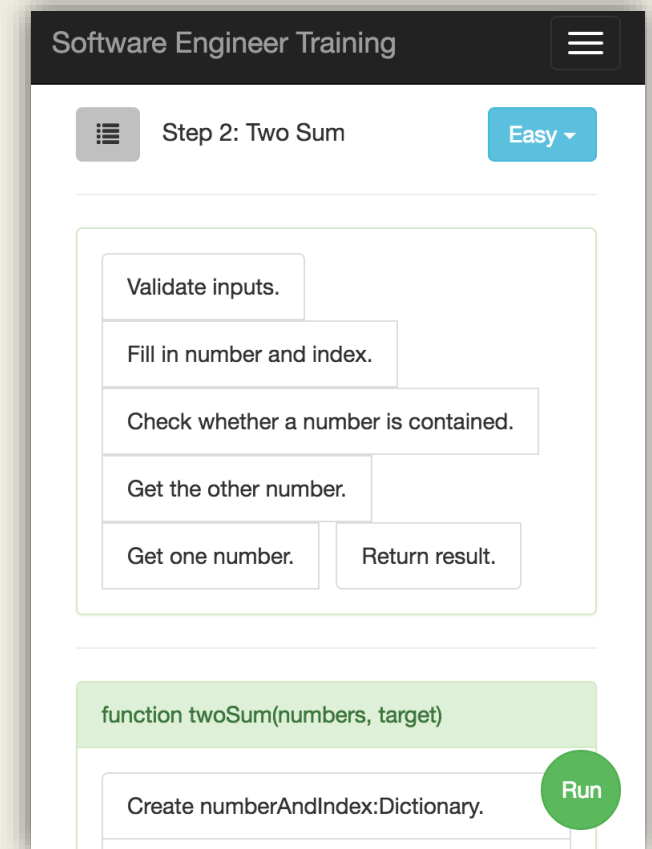
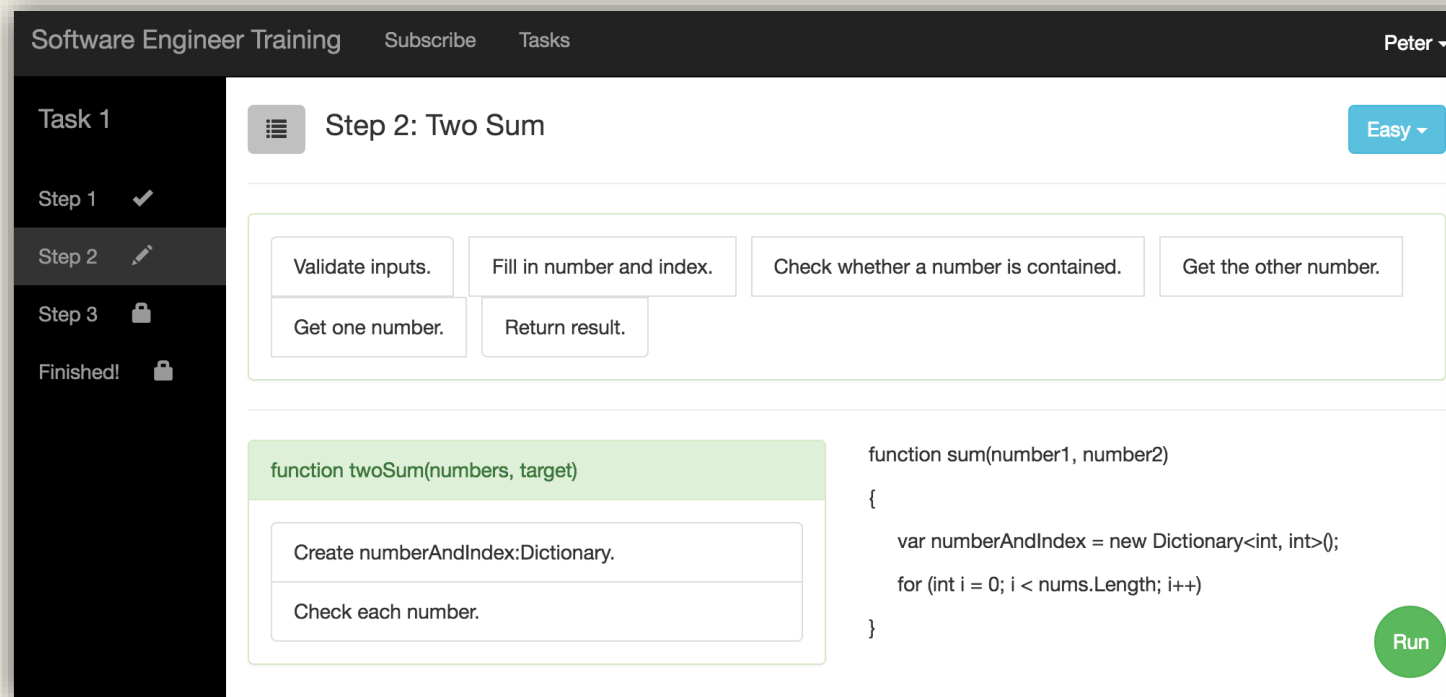
The secondary wireframe shows a simplified version of the task completion interface. It has a header bar with 'Logo' and a menu icon. Below the header is a table with columns for task status, task details, and code snippets. The table has three rows: 'Step 2: Two Sum', 'function sum(n1, n2)', and 'function sum(n1, n2)'. The 'Step 2: Two Sum' row is highlighted. In the 'Step 2: Two Sum' row, the task details are 'Step 2: Two Sum' with a difficulty level of 'Easy'. The code snippets are 'number 1', 'return', 'number 2', and 'function sum(n1, n2)'. The 'function sum(n1, n2)' row shows a large code editor with the function 'function sum(n1, n2)' and a 'Run' button.

Step 2: Two Sum	Easy ▼
number 1	return
number 2	
function sum(n1, n2)	
function sum(n1, n2)	<div>Run</div>

Mock-up

Please visit: <http://40.117.32.22/softwareengineertraining/>

Github: <https://github.com/PeikangHu/SoftwareEngineerTraining>





THANKS

