

IS216 Web Application Development II

Session 9

Vue.js

*(instance, interpolation, directives, binding,
computed properties)*

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Sections: G1 / G2 / G3 / G11

Project (25%)

1. **Initial Proposal** → Please address all feedback comments (reply in Comment bubbles)
 - **[DEADLINE]** *Final proposal due (Week 9) on 17-OCT-2021 (SUN) 12PM SG Time*
2. **[GitHub Classroom]** Every group must push their project source files into a private repo in **is216-supreme Classroom**.
 - *"The invitation link expired!!!"*
 - Please contact your **Section TAs** as they can re-invite you.
 - No, you cannot change the repo name (use what's given to you, e.g. group39).
3. **Course-Wide Project Briefing** (Google Doc)
 - **Minimum requirements**
 - **Course-wide project briefing document:** <https://smu.sg/2021-is216-project-briefing>
 - What you learn in class → HTML5, Bootstrap, CSS, JavaScript, Axios, Vue.js (Version 3) – the “CDN” way
 - 1 API
 - **X-Factor** (a.k.a. *Beyond-The-Lab*)
 - Beyond that one API, more APIs
 - Vue.js (Version 3) – the “CLI” way (create a proper Vue “app”)
 - Any other frameworks or libraries (front-end)
 - Deployment to Cloud, GitHub, Web Security...

```
<ol id="oppa">  
  <li>Hyun Bin</li>  
  <li>Joong Ki</li>  
</ol>
```

Direct
DOM manipulation

```
var men = ['Hyun Bin', 'Joong Ki'];  
// Or maybe data come from an external API  
  
var oppa = document.getElementById("oppa");  
  
for(man of men) {  
  var li = document.createElement("li");  
  var textNode = document.createTextNode(man);  
  li.appendChild(textNode);  
  oppa.appendChild(li)  
}
```

OR

```
var men = ['Hyun Bin', 'Joong Ki'];  
// Or maybe data come from an external API  
  
var str = '';  
for(man of men) {  
  str += `<li>${man}</li>`;  
}  
  
document.getElementById("oppa").innerHTML = str;
```

Progressively add onto “existing” HTML

```
<ol id="oppa">
  <li>{{ myMan1 }}</li>
  <li>{{ myMan2 }}</li>
</ol>
```



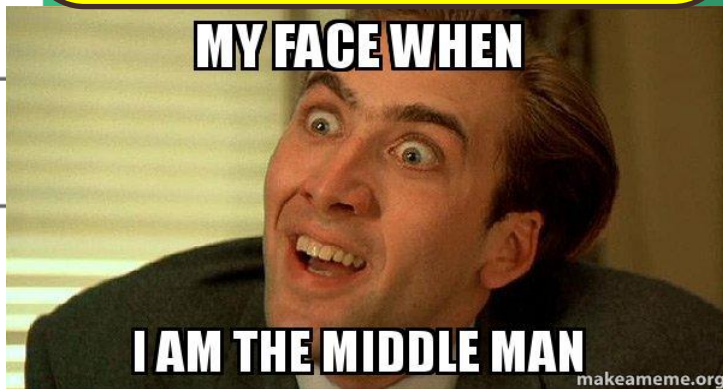
View



DOM

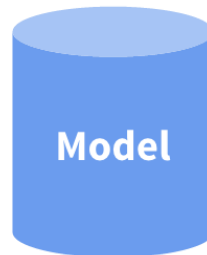
“Don’t worry about the details! Let **Vue.js** handle this! You go do other more important things!”

Abstraction Layer



Vue

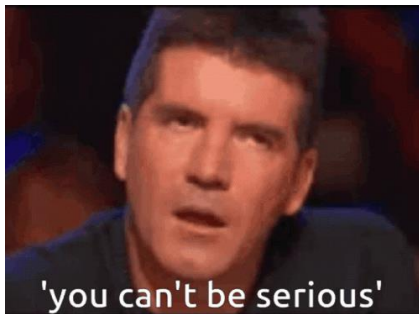
```
// Vue code...
// data
myMan1: 'Hyun Bin',
myMan2: 'Joong Ki'
```



Plain JavaScript
Objects

DO NOT TOUCH HTML !!! NO NEED!

```
<ol id="oppa">
  <li>{{ myMan1 }}</li>
  <li>{{ myMan2 }}</li>
</ol>
```



DOM

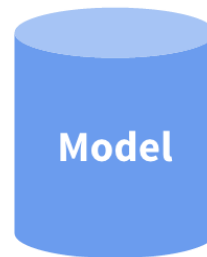
"I TOLD YOU!
Don't worry about it!
I **REACT** to changes in **DATA**!"

Abstraction Layer



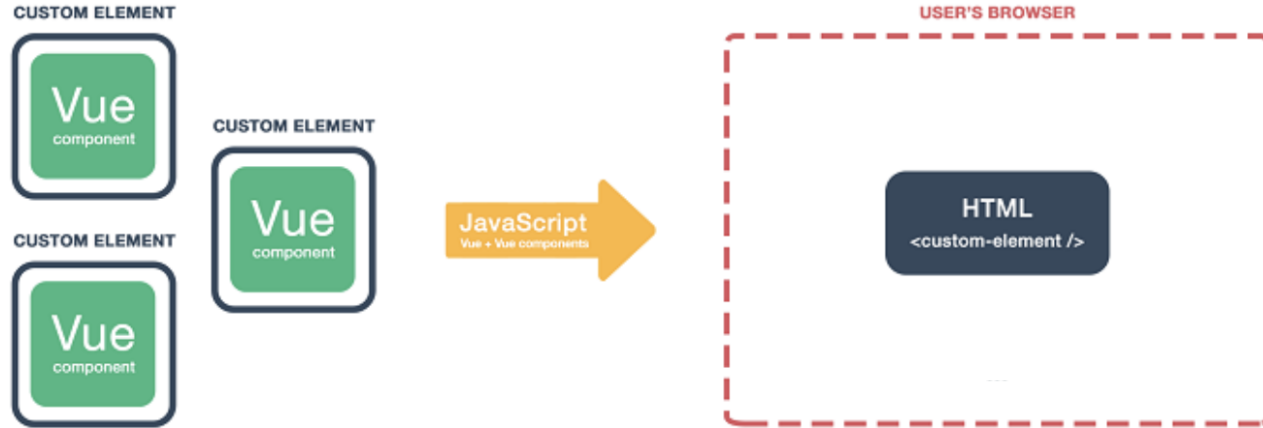
Vue

```
// Vue code...
// data
myMan1: 'Min Ho',
myMan2: 'Soo Hyun'
```



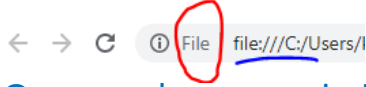

Plain JavaScript
Objects

Vue.js Reusable *Components*



Source Code Files

[eLearn G1-2-3-11](#) → Content → Session 9 → **In Class** → *

- **Unzip** it into your **webroot** (*any meaningful sub-directory*), for example:
 - (WAMP) C:\wamp64\www\is216\Week9\
 - (MAMP) /Applications/MAMP/htdocs/is216/Week9/
- Visit web pages (.html) **via HTTP protocol**
 - Do NOT double-click on the HTML file. Your computer will **open the HTML file as a file**.
 -  → **OH NO...**
 - Open web pages via HTTP protocol. How? Go to the web browser's **address bar**
 -  → **GOOD**

Follow Me (Code Together)

- **Vue.js (Version 3)**
 1. Demo1 – ***Vue instance, interpolation, directives***
 2. Demo2 – ***Binding***
 3. Demo3 – ***More directives*** (arrays & objects)
 4. (Pair Programming) Activity 1
 5. (Pair Programming) Activity 2
 6. *Break*
 7. Demo4 – ***Computed Properties***
 8. (Pair Programming) Activity 3

Activity 1: Cat Adoption

1. Go to **FollowMe** → **Activity1** → **activity1.html** + **activity1.js**
2. Use **Vue.js** (V3) to enable the below *(the user should be able to add many cats – one at a time)*

activity1.html (Loaded in web browser for the first time)	activity1.html (AFTER clicking “Add New Cat” button)
<div data-bbox="235 492 527 539"><h2>Cat Adoption</h2></div> <div data-bbox="235 579 390 601">New cat name:</div> <div data-bbox="235 601 515 639"><input type="text"/></div> <div data-bbox="235 667 390 694">Add New Cat</div> <div data-bbox="272 743 369 880"><ul style="list-style-type: none">• filthy• smelly• fatty• greedy• needy</div> <div data-bbox="620 552 707 585">geeky</div> <div data-bbox="504 749 587 781">Click</div>	<div data-bbox="1081 492 1373 539"><h2>Cat Adoption</h2></div> <div data-bbox="1081 579 1236 601">New cat name:</div> <div data-bbox="1081 601 1362 639"><input type="text"/></div> <div data-bbox="1081 667 1228 694">Add New Cat</div> <div data-bbox="1118 743 1215 912"><ul style="list-style-type: none">• filthy• smelly• fatty• greedy• needy• geeky</div> <div data-bbox="1476 552 1562 585">empty</div> <div data-bbox="1373 847 1678 912">Cat “geeky” has been added to the list</div>

Dynamically rendered from a data property

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Activity 2: Dog Adoption

1. Go to **FollowMe** → **Activity2** → **activity2.html** + **activity2.js**
2. Use **Vue.js** (V3) to enable the below *(the user should be able to add many dogs – one at a time)*

activity2.html (Loaded in web browser for the first time)	activity2.html (AFTER clicking “Add New Dog” button)
<div data-bbox="227 470 523 519"><h2>Dog Adoption</h2></div> <div data-bbox="227 554 388 579">New dog name:</div> <div data-bbox="227 579 502 614"><input type="text"/></div> <div data-bbox="600 532 691 563">nerdy</div> <div data-bbox="227 642 369 667">New dog age:</div> <div data-bbox="227 667 502 702"><input type="text"/></div> <div data-bbox="600 634 639 665">10</div> <div data-bbox="239 732 369 757">Add New Dog</div> <div data-bbox="620 790 703 821">Click</div> <div data-bbox="266 801 504 910"><ul style="list-style-type: none">• healthy is 3 years old• smiley is 7 years old• happy is 1 years old• sleepy is 12 years old</div>	<div data-bbox="1025 463 1321 512"><h2>Dog Adoption</h2></div> <div data-bbox="1025 547 1186 572">New dog name:</div> <div data-bbox="1025 572 1300 607"><input type="text"/></div> <div data-bbox="1470 547 1561 577">empty</div> <div data-bbox="1025 634 1166 659">New dog age:</div> <div data-bbox="1025 659 1300 694"><input type="text"/></div> <div data-bbox="1470 634 1561 665">empty</div> <div data-bbox="1037 725 1166 750">Add New Dog</div> <div data-bbox="1064 796 1302 932"><ul style="list-style-type: none">• healthy is 3 years old• smiley is 7 years old• happy is 1 years old• sleepy is 12 years old• nerdy is 10 years old</div> <div data-bbox="1470 828 1843 899">Dog “nerdy” (10 years old) has been added to the list</div>

Dynamically rendered from a
data property

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Activity 3: Stress

1. Go to **FollowMe** → **Activity3** → **activity3.html** + **activity3.js**
2. Watch this [YouTube video](#) below for visual illustration
3. Follow the instructions in **activity3.html**
4. See below (next 4 slides) for visual illustration

Activity 3: Stress *(continued...)*

Year 2 is Beautiful

My fullname is:

I am a: ☒ Boy ☐ Girl

The following modules stress me greatly:

☐ BPAS ☐ IDP ☐ WAD2 ☐ CT

Lately, I feel:

Sad

Devastated

Hopeless

Suffocated

Numb

Crushed

If I could get away from work now, my dream destination would be:

What do you want to tell yourself - to cheer yourself up?



Year 2 is Beautiful

My fullname is:

I am a: ☒ Boy ☐ Girl

The following modules stress me greatly:

☐ BPAS ☐ IDP ☐ WAD2 ☐ CT

Lately, I feel:

Sad

Devastated

Hopeless

Suffocated

Numb

Crushed

If I could get away from work now, my dream destination would be:

What do you want to tell yourself - to cheer yourself up?

Dear Mr. Pam Beasley,

Added name

Name appears here

Activity 3: Stress (continued...)

Year 2 is Beautiful

My fullname is:

I am a: ☐ Boy ☒ Girl ← Selected Girl

The following modules stress me greatly:
☐ BPAS ☐ IDP ☐ WAD2 ☐ CT

Lately, I feel:

Sad

Devastated

Hopeless

Suffocated

Numb

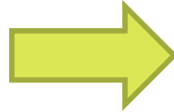
Crushed

If I could get away from work now, my dream destination would be:

What do you want to tell yourself - to cheer yourself up?

Dear Ms. Pam Beasley,

Changed from
"Mr." to "Ms."



Year 2 is Beautiful

My fullname is:

I am a: ☐ Boy ☒ Girl

The following modules stress me greatly:
☐ BPAS ☒ IDP ☒ WAD2 ☐ CT ← Selected
- IDP
- WAD

Lately, I feel:

Sad

Devastated

Hopeless

Suffocated

Numb

Crushed

If I could get away from work now, my dream destination would be:

What do you want to tell yourself - to cheer yourself up?

Dear Ms. Pam Beasley,

You've indicated that the following modules stress you greatly:

- IDP
- WAD2

The modules appear in
an unordered list

Activity 3: Stress *(continued...)*

Year 2 is Beautiful

My fullname is:

I am a: ☐ Boy ☒ Girl

The following modules stress me greatly:

☐ BPAS ☒ IDP ☒ WAD2 ☐ CT

Sad
Devastated
Hopeless
Suffocated
Numb
Crushed

Lately, I feel:

If I could get away from work now, my dream destination would be:

What do you want to tell yourself - to cheer yourself up?

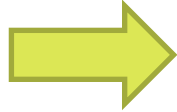
Dear Ms. Pam Beasley,

You've indicated that the following modules stress you greatly:

- IDP
- WAD2

You feel devastated, hopeless, numb !!!

Selected 3 emotions



Year 2 is Beautiful

My fullname is:

I am a: ☐ Boy ☒ Girl

The following modules stress me greatly:

☐ BPAS ☒ IDP ☒ WAD2 ☐ CT

Sad
Devastated
Hopeless
Suffocated
Numb
Crushed

Lately, I feel:

If I could get away from work now, my dream destination would be:

What do you want to tell yourself - to cheer yourself up?

Dear Ms. Pam Beasley,

You've indicated that the following modules stress you greatly:

- IDP
- WAD2

You feel devastated, hopeless, numb !!!

To help relieve your stress, we prepared a private jet to your dream destination:

Colombia

Selected a country

The emotions appear here as a string

The selected country appears here

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Activity 3: Stress *(continued...)*

Year 2 is Beautiful

My fullname is:

I am a: ☐ Boy ☒ Girl

The following modules stress me greatly:

☐ BPAS ☒ IDP ☒ WAD2 ☐ CT

Lately, I feel:

Sad

Devastated

Hopeless

Suffocated

Numb

Crushed

If I could get away from work now, my dream destination would be:

What do you want to tell yourself - to cheer yourself up?

Just hang in there!!! Don't fall!!

Dear Ms. Pam Beasley,

You've indicated that the following modules stress you greatly:

- IDP
- WAD2

You feel **devastated, hopeless, numb !!!**

To help relieve your stress, we prepared a private jet to your dream destination:
Colombia

Next time when you're stressed, tell yourself:
Just hang in there!!! Don't fall!

Typed in a cheerful message in text area

The message appears here