00:01 Okay, let's practice with- the form information that we will have. This is quite a complex form, so you will be given, um, the code for it, but we're gonna go- through it in very good detail.

00:13 Do some computational thinking as well. There are some new, um, information. I'm gonna be doing a separate video on the favicon, because it's kind of a separate topic.

00:23 But for our form- and we won't really have a bad- back end that's actually gonna process the data in the form that the user puts in.

00:31 So we are going to be using this dot prevent default method to stop the action attribute of the form. So it's really not gonna go to a separate page that's gonna process the data.

00:43 So you will be seeing this method used in our code, but it is new. Just know that it stops it from going to that action page.

00:52 And it will allow us to then run some other JavaScript there on the same page. dot test is also new.

00:59 We're going to be looking at a regular expression. It's going to look like this so that we can make sure that the user put in valid credit card number.

01:09 in real life, that could be any, any number as long as when it gets tested. It's a real credit card, but in our case, we're actually going to have one number that they can put in.

01:20 Um, because normally you would be able to use a credit card service to check a number, but we're not going to have that.

01:29 So, anyway, there will be a .test method that works with that regular expression that's going to return either a true or a false, depending on if they got the right, credit card, digits.

01:43 Alright, and then we will have a .trim, because sometimes users, as they're entering information into a input field, they'll put some spaces at the beginning or.

01:54 Our spaces at the end, which might mess up, you know, our account for digits or things like that. So we are going to use this .trim method to take the value that they put into that credit card input box and make sure it eliminates those leading and trailing.

02:10 spaces. So just a few things that you might see that we haven't seen yet. So here is the idea with this form.

02:17 They're going to be able to choose one. Let me start that over. If they're going to be able to choose either credit card or PayPal, then it will show the course.

02:26 The corresponding details that they would need for that. And then it's going to also be looking that some of these are going to be required fields.

02:36 And in the case of this credit card number, it should be one, two, three, four, one, two, three, four, one, two, three, four, one, two, two, three, four.

02:41 So it's not a valid credit card. Card number, the expiration date, uh, the year 24 is also old. And so if you take, make sure it's going to have that validation also in our JavaScript and be able to take us, well, it's going to actually not take us to a new page.

02:57 It's just going to replace. The page content with an H2 that thanks them for their purchase. So, um, a little different from real life because we don't have a back-end.

03:07 But, um, it will be really good for us to learn all the front-end things that we need to know about forums.

03:14 Not only will their Mm-hmm. It will validation with what type of input we have, but we will also add some validation with that credit card number and the expiration date in our JavaScript as well.

03:26 So, let's go ahead and create this HTML page. And then we're going to talk about the computational thinking a little bit because you'll need that for your assignment this week.

03:36 So, in the ponder folder, I'm just going to go ahead and do a forum.html. And I'm going to throw all this code and everything is complete here.

03:45 Oops. And throw that in there. Okay, let's go- let's take a look at what we're seeing here. And we are going to do this favicon later, but we have already linked up the CSS and- and JavaScript when we get there.

04:02 But right now- Oh, let's just go ahead and look at this section right here. It's going to be where any error messages might show up.

04:09 And right now it's just empty. It's got the class of errors. We have a form here. It does have, um, an action.

04:18 So this is- It is typical of what you might go to a different page to process that back-end information. This actually is not going to go to a completed.html.

04:29 So it's really not going to go anywhere because in our job script we're going to have prevent default and it's not going to go anywhere.

04:35 So it doesn't matter what you've got in that action that's really not going to happen. Same with method. It's not really sending the data anywhere.

04:43 Uhm, but we do have our labels for their full name. Notice that that's required. So is the email. Uhm, our address is also required.

04:55 Here in, we have a drop down so that they can either choose the credit card or the PayPal. And right now to help with the area with those with using screen readers.

05:05 We do have it so it shows that it's. It's not expanded yet. So in JavaScript, we're going to make sure that we tell the user when they click on credit card or PayPal that that is now expanded and they'll be able to read more information there.

05:28 So we have some good, um, accessibility going on there. Alright, so now we also have the information that's going to show up when they, umm, choose one or the other here.

05:32 So we're going to hide it to begin with, right? So let's go ahead and make that CSS so we can see.

05:39 So we're going to give it the same name, forms.css. And we're going to skip the JavaScript. I don't even want you to look at it right now.

05:47 I want to kind of think about it before we do it, since we're just giving you the code. But notice we do have this hide.

05:55 So anything with the class of hide is going to not be shown. So we can see the, that this whole, we've got it inside this paragraph.

06:04 The whole label and input for all the credit card is going to be hidden to begin with. But you'll see we have some information here.

06:13 We do have a, a little bit of validation going through HTML. And the required's here. And we do have some ARIA that we talked about because we have one label for two inputs the month and the year for their credit card.

06:30 And so we did need to say these both go with the same label. With these ARIA labeled by, and because usually you would have a four with two IDs, but the IDs need to be unique for those two.

06:42 And then here is the information for the PayPal that, again, is hidden to begin with. And it's a little simpler than the credit card because they just need to add a pre-user name and there's no, um, we're not gonna, you can type anything for the username at this point in this one.

06:56 Again, in real life, they would probably compare that, of course, to their database of user names. and then there's our submit button.

07:03 Alright. Let's think about what we would need for this to run. So, if you go back to the video here, what are we trying to accomplish here?

07:15 See, so first of all, we're gonna have both of the credit card and, hidden, and tell- all they choose one of those, and that's gonna trigger an event, so we can start thinking about that.

07:25 What is that event going to be? And when that drop-down changes is basically what it is. What are we listening for?

07:35 We're also going to- I'm going to be looking at that validation to make sure that they have the right credit card input, and that they have the right date and year, so we're gonna be handling some of that in JavaScript as well.

07:47 So I would sit down and I would start thinking about the process of what kind of things- I'm gonna need to do.

07:53 And you might come up with something like this in your pseudocod. It's quite lengthy, but you're gonna be, you know, using query selector, or maybe, get down and buy IDs too.

08:05 So, focus on a lot of these things. So, looking at the inputs that the user's gonna be putting information for, because we're gonna need to validate the information there.

08:15 We're also going to be checking to see, umm, getting that dropdown so that we can see. Add an event listener so that we can check to see when they change their value, either to credit card or PayPal there.

08:29 Then when that happens, so we're gonna be listening for that dropdown and, when that happens, we're gonna want to be able to start out with both of them being hidden.

08:40 Remove the required from with from both. Because if we try to submit the form, and they're still required in PayPal, even though it's hidden, it still won't let us do that.

08:49 So that's something that you might have missed in your, uh, pseudocode, or your computational thinking, but you would definitely notice it later when the error comes.

08:59 Um, but if you kind of think ahead of that, you can put that on there. In your pseudocode, if the user selects credit card, we're going to need to be able to show those inputs and labels, or that whole paragraph that had all that, and make sure that, that credit card when it's required, because we had

09:16 removed the required from both here. and then if they select PayPal, then do the same thing there, and then we are going to have all that, um, are you expanded to let them know that now it is expanded?

09:29 And then with the the validation here, we're going to have an error that's going to go ahead and show that on the page, but it won't be called until an error happens.

09:38 We'll have a function to check the validity of their credit card number. We are specifically going to test for one, two, three, four, four times.

09:46 And then we have another event. That we're going to be listening for. That's going to go when the submit button gets sent.

09:55 And normally that would be the action, um, attribute. But for us, we're going to call a submit handler function. It's going to stop that default.

10:05 And we're going to. Kind of clear out any error messages that may have already been there. If it's a credit card, we're going to check that it's 16 digits long.

10:14 And we're going to make sure it's valid according to our, um, valid here. So we'll probably call the function from in here to here to check that.

10:22 And make sure that the card is not expired. And if then there are any errors, we need to go ahead and show those errors and stop it from being submitted.

10:33 And then if it is good, if there's no errors, then we can give them that thank you message. So lots going on, but that's kind of the process that you would go through to kind of think through what you need to do with the code.

10:46 And this is pretty close to code at this point. So that would have taken a while on your own, but I did want to not skip that.

10:54 And step and just go straight to the code because I think it will help you understand the code a little bit better as well.

11:00 Alright, so let's go ahead and get that JavaScript. And go ahead and add that form.js and paste it there. Okay, so, let's take a look and make sure it's running properly and my CSS is not working.

11:23 Let me Should be in ponder. I've got him outside of ponder. Oh, I put an S. I always, that is the biggest mistake I always made.

11:34 Adding S's when there's not S's, or taking out when it should be there. Okay, there. There we go. My CSS is working.

11:42 Alright, so we're going to go ahead and just put in some information here. And these were required if I had left one of these out, for example.

11:55 The address will leak that out. And let's do PayPal first and put any name for PayPal. Hit place order. It's going to make me go back.

12:05 Okay, so that's just with the required attribute inside HTML. So that's. How that, uh, each of those work. Didn't even get to JavaScript at that point.

12:15 And it should let us go ahead and get to the thank you message. Now, if I do this again, And then, Let's go ahead and choose credit card this time.

12:30 And let's put in that wrong number. So I'll just do one one one one. So it's the last four digits or less three digits are wrong.

12:38 And we'll also put in expired, um, at first. So we should get two different error messages. And of course we can fix that.

12:50 Just like the video and go ahead and this should let us go through. Okay, so everything's working. Okay. So let's go back to.

12:59 Out of this JavaScript and figure out what all of this is doing. Okay, this first section was just us getting, targeting all those different elements in our form.

13:12 So we have the. Let's look at the IDs here. We have the whole form has the idea of checkout form.

13:20 And so that's targeting the entire form. And then we also have the payment method, which I think is that drop down.

13:29 Yep, payment method, which is our select with. With the different options there, we also have our credit card number container, which is the whole thing with all the credit card information in it.

13:41 That's what we're going to hide and show. And then we have the same for the PayPal container. Then the. These two are a little different, and this might be a little new as well.

13:50 We've put a space input. So it works just like CSS. So when you have a space, you're saying the input inside of the container.

14:01 going to be all the credit. Inputs and the PayPal input. Alright, so then we have, let's come down here. What's going to happen first?

14:08 We're going to be, um, looking for this payment method. And again, that's our. Select. We already have it up here.

14:18 Nope. Oh, yeah, we did. We didn't need that again. That's extra. Anyway, we're going to add an event listener. And what we're listening for in a dropdown is change.

14:29 That means they've chosen credit card. Or PayPal. And what's going to happen then is that toggle payment details is going to get called.

14:39 And that's what's going to trigger all of this information here. Notice we're sending in e, which is the object event.

14:47 Every event has this. It's not an, uh, argument we had to send in, but it's a parameter that can come in automatically that has a lot of information about where they clicked, what they clicked and all that.

14:59 We've seen that briefly before. So we're going to say, Hey, take whatever they clicked. Grab the value. Target means which item did they click and get the value.

15:09 So what's going to be here is either the PayPal or the credit card. We're going to initially height have both of those hidden and both of them are going to.

15:19 And not be required to begin with. If they chose credit card, if that value was credit card, then we need to go ahead and remove height so that that shows for the user and make it required.

15:35 If they chose PayPal, same thing. Make sure it's not hidden anymore and make sure it's required. Now this was important because if we didn't take off those requireds, even though we would submit for PayPal, it would still be looking for those required cards.

15:52 So that the user wouldn't even see. So that's why we need that extra bit there. Here is where we're going to be, letting the screen readers know that they have chosen something and to expand it.

16:06 So. So whether they chose credit card or PayPal, um, we're going to go ahead and say yes, it's a bit expanded, otherwise it stays, um, false, which it was originally.

16:19 Alright, so let's go down. Umm, validations and errors. So this area is going to be taken care of once they submit.

16:27 So this event, not, it won't be the dropdown, it will be the clicking of this place order button that will trigger.

16:34 This information. So again, let's start where that would start. We're going to be looking at the entire form and we're going to be looking for that submit for the form, which is in that submit button.

16:45 It's going to call submit handler first. So it's going to come up. Here. And it's going to say, hey, prevent it from actually going to that action page and doing these because we really don't have a back end.

16:59 And we're going to set up an error message and it's going to be blank to begin with. And we're also going.

17:06 To make sure that anything's cleared out if we ended up having another error like with our credit card and then we switched to pay pallets just going to sit there.

17:14 So we're going to make sure there's no errors showing to begin with as well. this is an actual call to display error, which is right here and it's going to.

17:24 Send in the message, right? The first time it's going to just be empty so it won't show any errors, but this could get called later if there isn't error.

17:32 Alright, back to the Smith handler. Um, we're going to make sure that we have the credit. The credit number ID, which is right here.

17:44 So whatever they put in as the credit card number, we're going to be testing that. So we're going to say if the value in that.

17:54 Was credit card. Then we're going to go ahead and check to see if it's valid. Here is that regular expression that makes sure that 16 digits.

18:03 And if it is not, if it's not that, then it's going to add to our error message. Variable here. That the card is not valid.

18:15 The slash N is just so it gives a line return in our, output. it's also going to check to make sure.

18:21 That the value we got from the year and the month. Are going to be valid. So we're going to put those two that we got from user into those two variables.

18:32 And we're also going to grab the current date of our computer system. And put it into current date. So we're going to say, hey, if the current, um, at 2000 plus the year, the two digit year they put in there is less than the current year that we're currently in.

18:49 Um, so that would be it was expired. Or also if that year is expired and look at the month as well, if it's less than or equal to the current month, any of those is going to give an error.

19:04 If any of those are true, and it's going to say card is expired. If there happened to be an error, meaning it wasn't empty at this point because it got one of these, umm, values assigned to it, and notice.

19:17 The plus, or if it's not valid in two different ways, card, credit card, and expired, they will both show up.

19:24 If there is an error, then we're gonna run that display error, send in the error, quote, umm, error message, and go- go ahead and change that from maybe empty to now having a message there.

19:38 Okay, notice also that not only does it display the errors, but it's going to say return is going to kick it out of the functional, together, so this wouldn't run.

19:47 So if this never runs and never sees return because this, it doesn't have any errors, it will come down here then and go ahead and grab the checkout form.

20:00 which is the entire form, basically, and just replace it, replace all of its inner, each, chame out with that, h2.

20:06 So we're really staying on this. The same page with this one, which is maybe a little different from real life.

20:11 But there we have what is happening. And I know it's a lot, but forms are really important. They're used all the time.

20:19 It's really important that you understand not only the validation that we. We have with some of the required and, um, the types that we have here of what it's expecting, which is good validation in our HTML.

20:34 But we also have some validation going on here in JavaScript. And in real life, you're all. We're also going to have validation when it goes to the form or to the action.

20:46 And it's actually sending those value, name value pairs into whatever file that you're actually putting the data into. A database or whatever you're doing with that data.

20:58 It will also have some really good validation on the back end as well to prevent, um, hackers and things like that.

21:05 And that is how we get our form to run properly. properly.