

Lesson

Monday

Intermediate JavaScript (/intermediate-javascript)

/ Object-Oriented JavaScript  
(/intermediate-javascript/object-oriented-javascript)

/ Address Book: Event Bubbling, Event Delegation, and the Event Object

Text

Cheat sheet

## Terminology

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- **Event Bubbling:** The process of events bubbling upward when an event is triggered in the DOM.
- **Event Delegation:** The process of creating an event listener on a parent element that fires for all specified child elements.

## Examples

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Here's an example of **event bubbling**:

```
<div id="top-level">
  <ul id="contacts">
    <li id=1>Contact 1</li>
    <li id=2>Contact 2</li>
    <li id=3>Contact 3</li>
  </ul>
</div>
```

If an `li` in the sample HTML above is clicked, it will first trigger any listeners on `li`, then listeners on `#contacts`, then listeners on `#top-level`. The event 'bubbles up' the elements to the outermost element, triggering any event listeners as it goes.


Here's an example of **event delegation**:

```
function displayContactDetails(event) {
  const contact = addressBook.findContact(event.target.id);
  document.querySelector(".first-name").innerText = contact.firstName;
  document.querySelector(".last-name").innerText = contact.lastName;
  document.querySelector(".phone-number").innerText = contact.phoneNumber;
  document.querySelector("div#contact-details").removeAttribute("class");
}

...

window.addEventListener("load", function () {
  ...
  document.querySelector("div#contacts").addEventListener(
    "click", displayContactDetails);
});
```

Thanks to event delegation (and event bubbling), we can attach a click event listener to the parent element "div#contacts" , and it will trigger when we click on a list item inside of the div. We can then access information about the list item element through `event.target` . The power of event delegation is being able to write code for and target data from elements that do not exist yet in the DOM.

 **Example GitHub Repo for the Address Book**  
([https://github.com/epicodus-lessons/oop-address-book-v2/tree/7\\_event\\_delegation](https://github.com/epicodus-lessons/oop-address-book-v2/tree/7_event_delegation))

[Previous \(/intermediate-javascript/object-oriented-javascript/address-book-adding-interactivity\)](#)

[Next \(/intermediate-javascript/object-oriented-javascript/address-book-delete-functionality-and-polish\)](#)

Lesson 20 of 33

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