

Missing DOM features project

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Implement missing DOM features

Background information: The [HTML specification](#) is large, and major browsers attempt to implement as much of it as possible. Servo is a new, experimental browser that supports many parts of the specification, but is still missing some pieces entirely. The goal of this project is to implement two of these missing pieces to improve our compatibility with existing web content and improve our automated test coverage for tests that rely on these features.

Tracking issue: (please ask questions in these issues)

- <https://github.com/servo/servo/issues/4767> (srcdoc iframes)
- <https://github.com/servo/servo/issues/16479> (named form getter)

Useful references:

- [Guide](#) to getting Servo building
- [Documentation](#) for types and modules inside Servo

Initial steps:

- email the mozilla.dev.servo mailing list (be sure to subscribe to it first!) introducing your group and asking any necessary questions
- uncomment the [srcdoc](#) WebIDL attribute, and implement the [attribute getter](#).
- add a field to [LoadData](#) for storing the srcdoc contents when loading a srcdoc iframe
- add a method to `script_thread.rs` (using [start_page_load_about_blank](#) as a model) which loads the special `about:srcdoc` URL [per the specification](#) and takes the srcdoc contents as an argument
- call this new method from [handle_new_layout](#) when it's detected that a srcdoc iframe is being loaded
- in [process_the_iframe_attributes](#), implement the [srcdoc specification](#) so that the resulting `LoadData` initiates a srcdoc load
- in [attribute_mutated](#), ensure that changing the `srcdoc` attribute of an iframe element [follows the specification](#)
- Verify that `./mach test-wpt tests/web-platform-tests/html/semantics/embedded-content/the-iframe-element/srcdoc_process_attributes.html` is passing.

Subsequent steps:

- uncomment the [named getter](#) from `HTMLFormElement.webidl`
- add the missing `NamedGetter` and `SupportedPropertyNames` methods to [HTMLFormElement](#)
- implement `SupportedPropertyNames` according to [the specification](#):
 - create an enum to represent the `id`, `name`, and `past` states for the sourced names
 - create a vector of `(SourcedName, DomRoot<HTMLElement>)` by iterating over `self.controls` and checking the element type and calling methods like `HTMLElement::is_listed_element`
 - sort and filter elements from the vector as described in the spec using `Node::CompareDocumentPosition`
 - return a new vector of unique names
- implement a live `NodeList` for form element collections:
 - create an enum representing the kind of live `RadioNodeList` - `Listed` or `Img`
 - add a `FormControls` variant to [NodeListType](#) which contains a `Dom<HTMLFormElement>`, the new enum, and a `DOMString`
 - add a method to `HTMLFormElement` that returns a `Ref<Vec<Dom<Element>>>` and exposes its `self.controls`
 - implement the `NodeList` API for the new `NodeListType` variant using the new `HTMLFormElement` API to iterate over and filter matching elements from the form element's controls
- implement `NamedGetter` according to [the specification]:
 - add a `past names map` member (`HashMap<DOMString, Dom<HTMLElement>`) to `HTMLFormElement`
 - create `RadioNodeList` objects according to the specification
 - update the `past names map` according to the specification
- verify the results of the tests:
 - `./mach test-wpt tests/wpt/web-platform-tests/html/semantics/forms/the-form-element/form-elements-nameditem-01.html`
 - `./mach test-wpt tests/wpt/web-platform-tests/html/semantics/forms/the-form-element/form-elements-nameditem-02.html`
 - `./mach test-wpt tests/wpt/web-platform-tests/html/semantics/forms/the-form-element/form-nameditem.html`

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