

Field Session: UTAM Seed

Proposed for Colorado School of Mines [Field Session](#) in March, 2021
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About Salesforce

Salesforce unites your marketing, sales, commerce, service, and IT teams from anywhere with Customer 360 – one integrated CRM platform that powers our entire suite of connected apps. With Customer 360, you can focus your employees on what's important right now: stabilizing your business, reopening, and getting back to delivering exceptional customer experiences.

The Project

UI Test Automation Model (UTAM) is based on the popular Page Object design pattern commonly used in Selenium tests. This design pattern uses an object-oriented class to decouple a test from the target web page for easier test maintenance and is authored in JSON – no code needed.

To encourage and ease the authoring of UTAM page objects, we want a JS/node script that can seed the UTAM JSON based on one or multiple components (basically instrument them for testing). Input WebComponent HTML and JS, output UTAM JSON. This will require parsing (or compiling) the WebComponent, and creating a set of rules to construct the page object JSON.

For example, the following LWC for a ToDo MVC Item:

```
<template>
  <input class="toggle" type="checkbox">
</template>
```

Produces:

```
{
  "shadow": {
    "elements": [
      {
        "name": "toggleCheckbox",
        "type": "clickable",
        "selector": {
          "css": "input.toggle"
        }
      },
    ],
  },
  "methods": [{
    "name": "toggle",
    "compose": [{
      "element": "toggleCheckbox",
      "apply": "click"
    }]
  }]
}
```

Bonus: Generate Test Boilerplate

UTAM Page Objects are mainly used for automated end-to-end tests like you'd see with WebDriverIO or Selenium. Generating test boilerplate could help developers start their test case authoring without needing to lookup how to import the PageObject or perform the actions it supports, spending more of their time writing the test scenarios.

From our example above, generating wdio.js:

```
const Item = require('../..//pageObjects/item');

describe('todo item test', () => {
  beforeEach(async () => {
    await browser.url('http://localhost:3000/');
  });

  it('interact with toggleCheckbox', async () => {
    const item = await utam.load(Item);
    item.toggle();
  });
});
```

Technologies

- Javascript, node, yarn, npm
- html, Web Components, Lightning Web Components
- git/github

The Team

- Members: 2 - 3
- Each team member will be asked to sign an NDA with Salesforce
- Full remote via Google Meet