How to Handle DatePickers in Playwright

Date pickers are customized elements, meaning they consist of multiple sub-elements. Since date picker UIs can vary from one application to another, we need to automate the script based on the design of each date picker. The same script cannot be used for every type of date picker. Depending on the design, you will have to adapt your automation code.

Types of DatePickers

1. **Normal Text Field**
2. **Date Picker with Dropdowns and Navigation Buttons**

How to Handle a Normal Text Field DatePicker

If the date picker is a normal text field, you can fill in the value as usual, just like filling in any other text field.

Example DOM:

```
<input type="text" id="datepicker" />
```

Code:

```
import { test, expect } from '@playwright/test';

test('Date picker with text field', async ({ page }) => {
    await page.goto('https://your-application-url.com');
    await page.fill('#datepicker', '01/08/1997');
});
```

How to Handle a Designed Date Picker Web Element

When dealing with a customized date picker with navigation buttons and dropdowns, you need to break the task into smaller steps. You will likely need to interact with multiple elements such as the month, date, and year.

Example DOM:

```
<div class="ui-datepicker">
    <span class="ui-datepicker-month">January</span>
    <span class="ui-datepicker-year">1997</span>
    <a href="#" class="ui-datepicker-next">Next</a>
    <a href="#" class="ui-datepicker-prev">Previous</a>
    <a href="#" class="ui-datepicker-day">1</a>
    <a href="#" class="ui-datepicker-day">2</a>
    <!-- More days here -->
</div>
```

Steps to Handle Designed DatePicker

1. **Declare Variables for Month, Date, and Year**
   First, we need to declare variables for the desired month, date, and year.

   ```
   const month = 'Jan';  // Month
   const date = 08;      // Date
   const year = 1997;    // Year
   ```

2. **Open the Date Picker**
   Use `page.click()` to open the date picker.

   ```
   await page.click('#datepicker');  // Click to open the date picker
   ```

3. **Match the Month and Year**
   Locate the current month and year displayed in the date picker, and keep checking until they match the desired month and year.

   ```
   while (true) {
       const currentMonth = await page.locator('.ui-datepicker-
   month').textContent();
       const currentYear = await page.locator('.ui-datepicker-
   year').textContent();

       if (currentMonth === month && currentYear === year) {
           break;  // Exit loop once the desired month and year are
   found
       }

       await page.locator('.ui-datepicker-next').click();  // Click
   'Next' button to navigate to the next month
   }
   ```

4. **Select the Desired Date**
   Once the correct month and year are selected, find all the date elements and select the required date.

```
        const dates = await page.$$("//a[@class='ui-datepicker-day']");
        for (const dt of dates) {
            if (await dt.textContent() === date.toString()) {
                await dt.click();  // Click on the correct date
                break;
            }
        }
    }
```

Full Code Example

Here's the complete code combining all the steps mentioned above:

```
import { test, expect } from '@playwright/test';

test('Handle designed date picker', async ({ page }) => {
    const month = 'Jan';   // Desired month
    const date = 08;       // Desired date
    const year = 1997;     // Desired year

    await page.goto('https://your-application-url.com');  // Go to the
webpage with the date picker

    // Click to open the date picker
    await page.click('#datepicker');

    // Loop until the desired month and year are displayed
    while (true) {
        const currentMonth = await page.locator('.ui-datepicker-
month').textContent();
        const currentYear = await page.locator('.ui-datepicker-
year').textContent();

        if (currentMonth === month && currentYear === year) {
            break;  // Exit loop once the month and year match
        }

        await page.locator('.ui-datepicker-next').click();  // Click 'Next'
button to navigate
    }

    // Select the desired date
    const dates = await page.$$("//a[@class='ui-datepicker-day']");
    for (const dt of dates) {
        if (await dt.textContent() === date.toString()) {
            await dt.click();  // Select the correct date
            break;
        }
    }
});
```

Summary

1. **For Normal Text Field DatePickers**: You can simply use `page.fill()` to fill in the date.
2. **For Designed DatePickers**: You need to:
   - Navigate to the correct month and year.
   - Locate and click the correct date.
3. **Code Structure**:
   - Define the month, date, and year.
   - Use `page.click()` to open the date picker.
   - Use loops and conditional logic to navigate to the correct month and year.
   - Finally, select the correct date.