## Overview

### Available features

* Take screenshots on multiple (real or emulated) devices
* Synchronize clicks, scrolls, form submits, form inputs and form toggles
* Automatically fill out forms
* Automatically reload when files are changed
* Reload on all devices
* Throttling and latency manipulation
* Emulate touch screen, geolocation, accelerometer
* Remote debugging of HTML/CSS/JS
* Live test on emulated/real devices
* Selenium automated testing
* Emulate devices
* Analyze layout differences between devices
* Add CSS outline/box shadow/.. to all elements
* Update devices when tab is switched
* Turn on/off synchronization on a per device basis

### Connecting Real Devices

* Install a program and a browser extension on a desktop PC and app on mobile devices, use the app to connect to the desktop
* Run a local server and generate QR code that can be scanned from mobile devices to connect to the server
* Run a local server and type URL manually into mobile devices
* Insert code snippet into the HMTL page 🡪 all devices that visit the webpage are connected automatically

### Emulating Devices

* Specific devices, e.g. Nexus 7
* Location
* Sensors, e.g. acceleration
* Network throttling
* Screen size
* Screen resolution
* Device pixel ratio
* Touch: yes/no
* OS
* Browser

## Chrome Developer Tools (Device Mode)

### Features

* Emulate specific devices (portrait and landscape)
* Emulate different screen sizes and resolutions
* Visualize and inspect CSS media queries
* Throttling and latency manipulation
* Emulate touch screen, geolocation, accelerometer
* Remote debugging by plugging in phone

### Advantages

* Emulation of many common mobile devices
* Network conditions can also be emulated
* Location and accelerometer emulation

### Disadvantages

* Only one device can be emulated at a time
* Testing on real devices only possible when the devices are plugged in

## BrowserStack

### Features

* Select browsers and devices and generate screenshots
* Live test a device
* Developer tools for remote devices
* Selenium cloud testing

### Advantages

* Tests on real iOS devices
* Automated interaction testing
* Screenshots of the entire page (including scrolling)

### Disadvantages

* Only one device can be live tested at a time
* Rather slow
* No location emulation (devices forward to google.nl)
* In the screenshots, it is not clear which parts of the page are actually visible because scrolling is included
* Only emulated Android devices

## CrossBrowserTesting

### Features

* Select a number of devices, select OS/browser/resolution, select baseline browser, specify URL, generate screenshots
* Displays layout differences between screenshots
* Screenshots can be viewed next to each other along with a list of layout differences
* When clicking on a layout difference, the respective element is highlighted in the screenshot
* Websites can be live tested
* Selenium automated testing

### Advantages

* Take many screenshots at once
* Tests are performed on real devices
* Allows testing interactions

### Disadvantages

* Some layout differences seem rather trivial (e.g. the body element of a browser with higher resolution is wider), while other differences are not detected at all
* Interactions can only be tested on one device at a time

## Remote Preview

### Features

* Synchronize URL across multiple devices

### Advantages

* Synchronous navigation (?) between pages

### Disadvantages

* Only URL changes are synchronized
* Real devices required for testing

## BrowserSync

### Features

* Remote debugging of HTML and CSs
* Add CSS outlines/box shadows to all elements, add CSS grid overlay
* Synchronize clicks, scrolls, form submits, form inputs and form toggles
* Reload all browsers
* Automatically reload when files are changed
* Network throttle

### Advantages

* All interactions can be synchronized
* Automatic reloading
* Emulate network conditions
* Highlight CSS elements by adding outlines

### Disadvantages

* Requires a special code snippet in HTML pages
* All connected devices are automatically synchronized
* No remote JS debugging
* Only works for local testing

## Adobe Edge Inspect CC

### Features

* Take screenshots on all connected devices (including text file that contains device resolution, orientation, OS version, pixel density, status and URL of the screenshot)
* Screenshots are automatically transferred to a folder on the desktop PC running the application
* Refresh all devices
* Shows website of the desktop on all mobile devices (including navigation, tab switch, …)
* Remote HTML and CSS debugging using weinre

### Advantages

* Synchronization over all devices, even if tabs are switched
* Screenshots can be taken on all devices simultaneously
* Remote debugging
* Easy to connect

### Disadvantages

* Only one desktop can be connected
* Navigation is only possible on the desktop PC
* Requires installation of a program, Chrome extension and app on mobile devices

## Ghostlab

### Features

* Watch files and reload content on change
* QR code scanning to open the website on other devices
* Synchronized browsing
* Fill out forms automatically on all devices
* Synchronized CSS and HTML inspection on multiple devices
* Remote JavaScript debugging
* Turn on/off synchronization on a per-device basis

### Advantages

* Debugging on multiple devices at once
* Synchronization of all interactions
* Easy to connect
* Automatic reloading

### Disadvantages

* Requires installation of a program on the desktop PC