MULTITOUCH FIREFOX

Internship project at Mozilla, Felipe Gomes

Moz Chile 09
Multitouch project

* Improve our support for touchscreens
* How usable is Firefox on a touchscreen
* How consistent
* What new things can be done
Multitouch project

- Various sub projects
  - Make everything scrollable work
  - Resolve ambiguities
  - Customizations mockups
  - Investigate usable sizes in the UI
  - Multitouch on web pages
Scroll
Scroll Pan

- Physical movement
- More natural
- Inertia
- Feedback
Scroll Pan

- Pan in Firefox - current status
- Vertical webpages, horizontal webpages
- Drop down boxes, lists, trees
- Menus
- Tab bar
- Scrollbars
More

* Resolving ambiguities
* Select text
* Vertical / Horizontal movement
* Drag tabs
* Drag elements
Gestures

* Two-finger panning
* Pinch / Spread for zoom
* Two-finger tap
* Swipe Left / Right
* Rotate
Customization Mockups

- UI for customizing gestures
- How to choose gesture and action
- Usable interface for touch
- Free-form gestures
Gestures customization

Two Finger Tap
- Smart Zoom

Swipe Left
- Forward

Swipe Right
- Back

Pinch Out
- + Zoom

Pinch In
- - Zoom

Rotate Right
- Next Tab

Rotate Left
- Previous Tab

2 Finger Swipe Left
- action not defined

2 Finger Swipe Right
- action not defined

Action for Two Finger Tap

- Next tab
- Previous Tab
- - Zoom
- + Zoom
- Smart Zoom
- Bookmark
- Open URL
- New Tab
UI Sizes

* Default size of elements made for mouse pointer
  * very good pixel precision

* Guidelines for Finger UIs
  * diameter of finger: 0.6” to 0.8” (1.6cm to 2.0cm)
  * pad of finger: 0.4” to 0.55” (1.0cm to 1.4cm)
  * fingertip: 0.31” to 0.39” (0.8cm to 0.99cm)
UI Sizes

* Close button
* Drop down markers
* Tab bar
* New Tab button
* Awesome bar icons
UI Sizes

* Don’t change current theme
* CSS pseudo-selector
  * :-moz-system-metric(touch-enabled)
UI Sizes

.tab-close.button:-moz-system-metric(touch-enabled) {
  -moz-transform: scale(1.3);
}

tabs-newtab-button:-moz-system-metric(touch-enabled) {
  min-width: 1cm;
}

Multitouch on webpages

* Make it available for web pages
* Web apps
* Provide developers with easier access to multitouch
  * creativity
Multitouch on webpages

- DOM Events
  - MozTouchDown
  - MozTouchMove
  - MozTouchRelease
Multitouch on webpages

- One event for each finger
  - event.streamId

- Pushing discussion for web standards
Multitouch on webpages

- Demos
Next goals

* Create more demos
  * increase awareness and visibility
* Advance the API
* Make it a standard
* Implement on other operating systems
Thanks!

Questions?

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