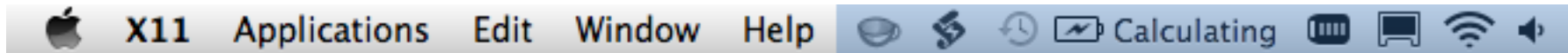


# Long-Running Web Applications

Joe Hildebrand

# Notification area



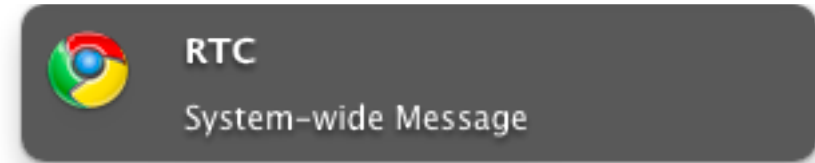
- Information conveyed
  - My process is running!
  - Current state
  - Non-transient notifications
  - Quick access to actions
- Interface affordances
  - Icon (can change)
  - Text (can change)
  - Mouse-over, click
  - Context menu
  - Canvas needed?
- Possible issues
  - Too many
  - Too blinky
  - Impersonation
- Possible requirements
  - At most one per origin
  - Max number
  - Max change frequency
  - Disable browser-wide
  - Require user acceptance

# Running in the background

- Problem: user closes browser when “done”
- Today: leave download window running
- Possible API: persistent shared workers
- Affordances
  - Singleton
  - Events, both ways
  - Launch windows
- Possible issues:
  - Too many
  - Not obvious to user
  - New XSS attacks
- Possible requirements:
  - Tie to notification icon
  - Limit number/access by origin

# Notifications

- Toast:  
Something happened!
- Interface affordances:
  - On top, system-wide
  - Icon, Title, Text, HTML?
  - Multiple notifications stack
  - Timed/sticky
  - Click callback with context
- Use existing  
(e.g. Growl)



- Possible issues
  - Too many
  - Impersonation
- Possible requirements
  - User control by event type
  - Tie to notification icon

## Other issues

- System-wide away timer
- Power events
- Network events
- Application icon
- External window chrome (security vs. UE control)
- “Real” menus (bigger issue on Mac)