

Privacy of Geolocation Implementations

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Implementations

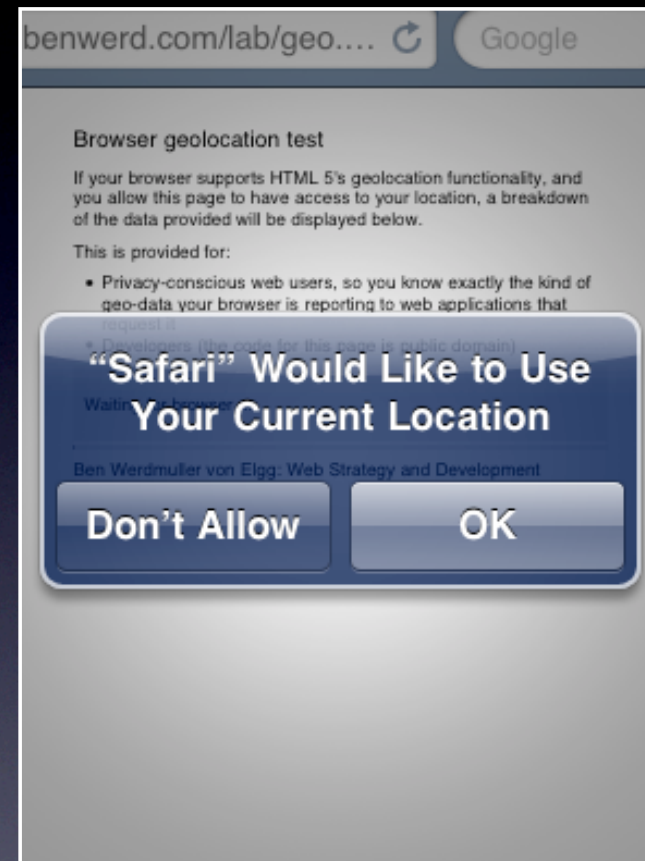
- iOS 4
- Firefox 3.6
- Chrome 6
- Opera 10.6

Critical Framework

- **Accessibility:** Can the end-user access options and information pertaining to privacy?
- **Control:** Does the system afford control over privacy settings? How much?
- **Confidentiality:** Does the system afford anonymity or alternative means of protecting their privacy?

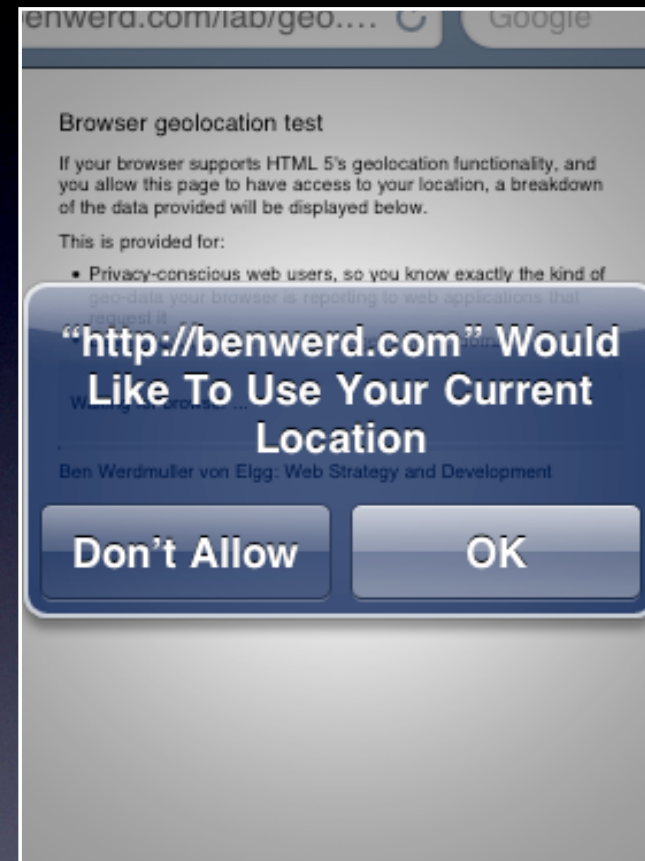
iOS 4

- All apps must get the user's express permission (DAP take note!)



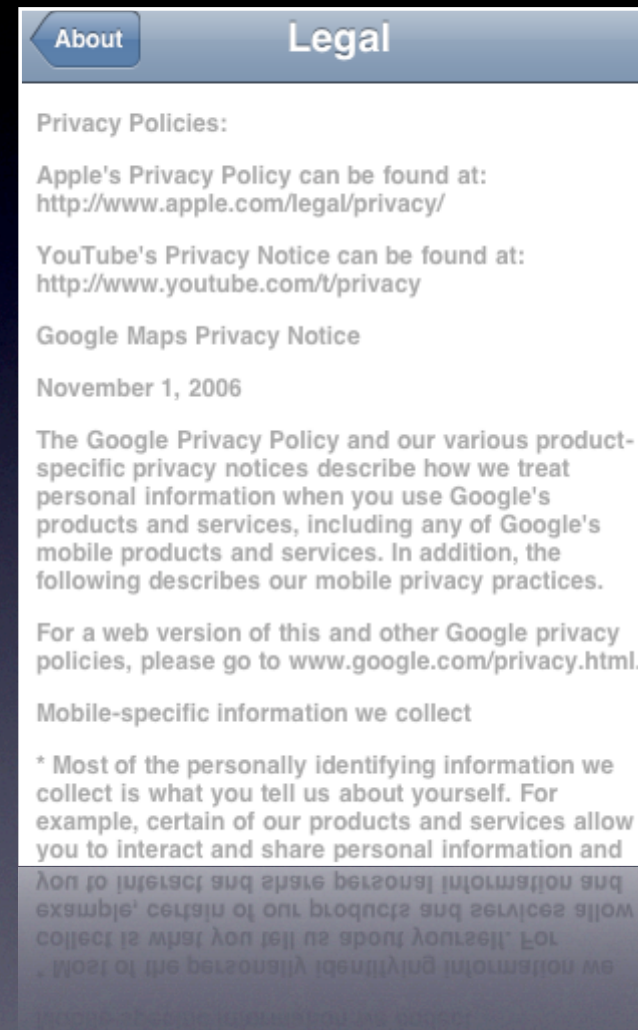
iOS 4

- No indication as to how location is being derived
- Modal prompts: user cannot explore page.
- Risk “click fatigue”
- No link to privacy policy



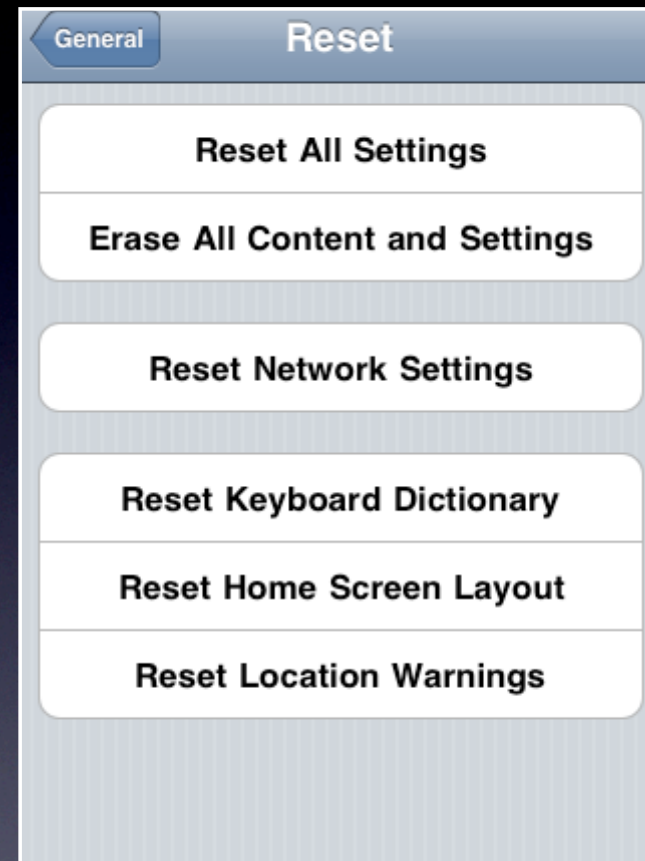
iOS 4

- Privacy Policy 3 Levels deep
- ~50 pages (!)
- No links, search, send
- iHardToReadLegalGrey™



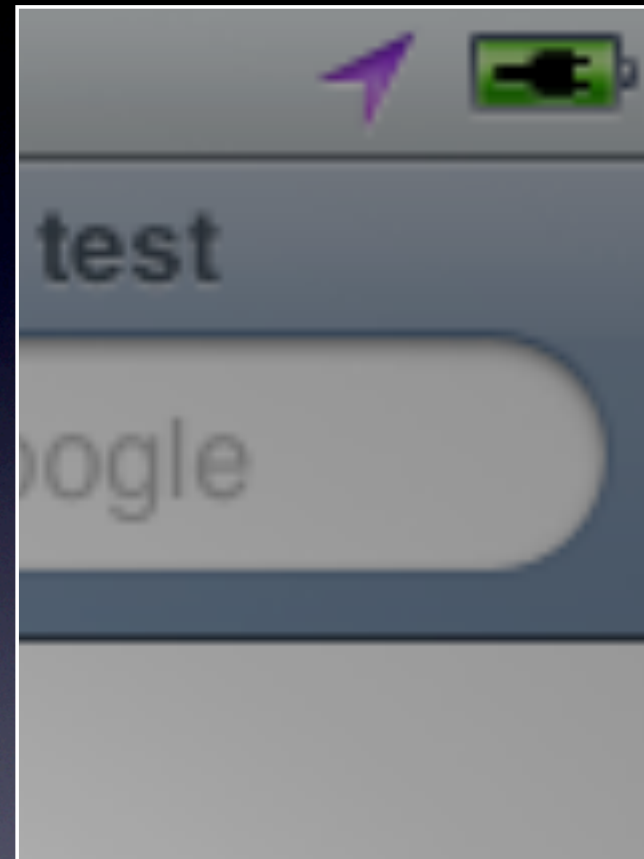
iOS 4

Resets all location warnings



iOS 4

Location services indicator!



iOS 4

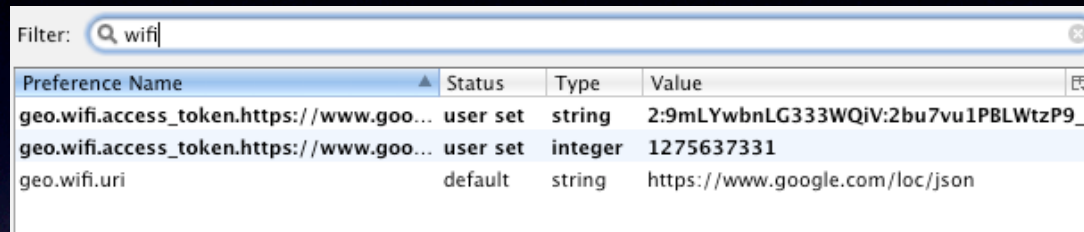
- **Accessibility:** Not very. Modal dialog. Hard to find privacy controls and policy. Indicator is helpful!
- **Control:** kinda. Requires full reset. No control over provider (ability to lie).
- **Confidentiality:** Kinda. Location services can be disabled + Airplane mode.

Firefox



- Non-modal
- Allow, Deny, remember.
- Access to privacy policies.

Firefox - Location Provider



The screenshot shows the 'about:config' page in Firefox with a search filter set to 'wifi'. It displays a table of configuration preferences related to location services.

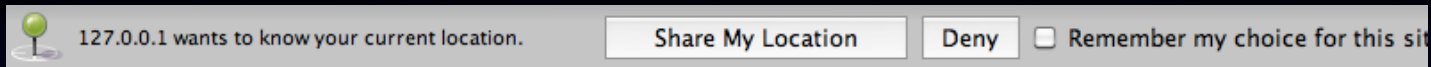
Preference Name	Status	Type	Value
geo.wifi.access_token.https://www.goo...	user set	string	2:9mLYwbnLG333WQiV:2bu7vu1PBLWtzP9_
geo.wifi.access_token.https://www.goo...	user set	integer	1275637331
geo.wifi.uri	default	string	https://www.google.com/loc/json

- Not very accessible: “about:config”

Firefox

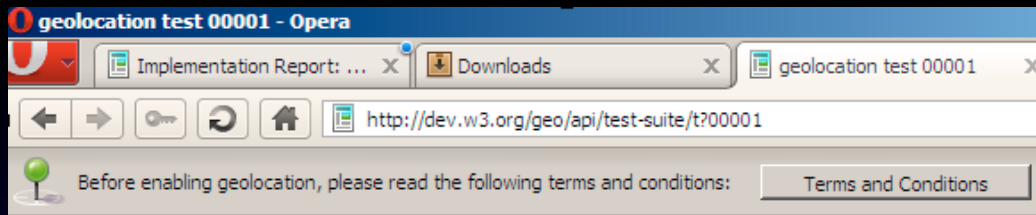
- **Accessibility:** Hard to find. Lacks way of managing sites. No indicator.
- **Control:** Yes, but advanced options are hidden. Hard to change.
- **Confidentiality:** Hard. Ability to disable and change provider.

Opera

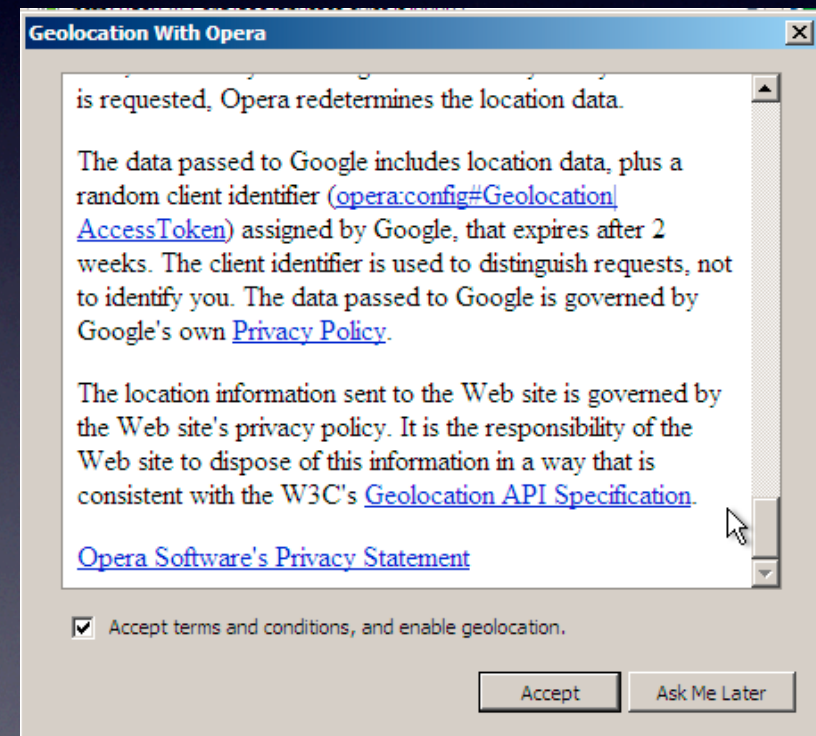


- Non-modal
- Allow, deny, remember.
- No access to privacy policies!

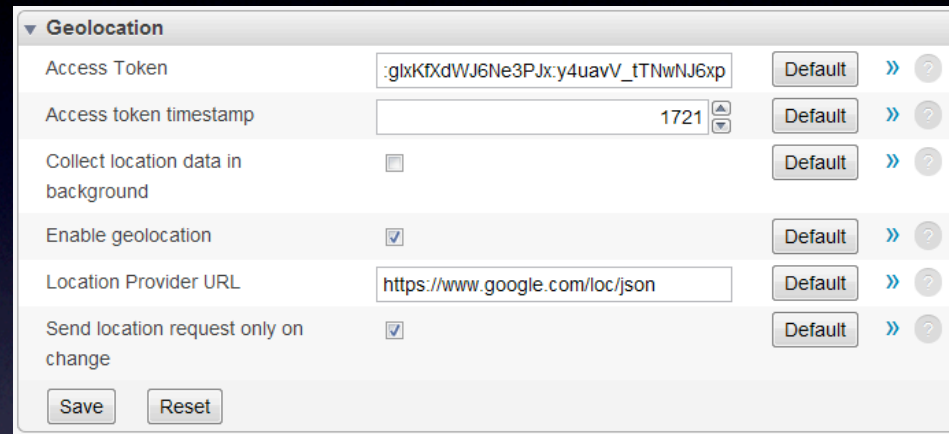
Opera - First time



- After accept, lacks way to view privacy policy.



Opera - Location Provider



The screenshot shows the 'Geolocation' settings window in Opera. It contains the following fields and controls:

- Access Token:** A text input field containing the value `.glxKfXdWJ6Ne3PJx:y4uavV_tNwNJ6xp`. To its right are 'Default', '>>', and '?' buttons.
- Access token timestamp:** A numeric input field containing the value `1721`. To its right are 'Default', '>>', and '?' buttons.
- Collect location data in background:** A checkbox that is currently unchecked. To its right are 'Default', '>>', and '?' buttons.
- Enable geolocation:** A checkbox that is currently checked. To its right are 'Default', '>>', and '?' buttons.
- Location Provider URL:** A text input field containing the value `https://www.google.com/loc/json`. To its right are 'Default', '>>', and '?' buttons.
- Send location request only on change:** A checkbox that is currently checked. To its right are 'Default', '>>', and '?' buttons.

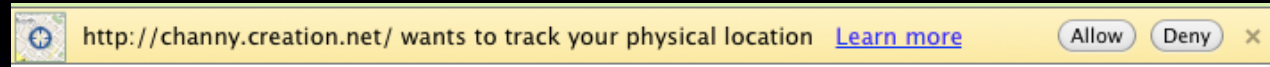
At the bottom of the window are 'Save' and 'Reset' buttons.

- Not very accessible: “opera:config”
- Provides decent control
- Lacks info about choices

Opera

- **Accessibility:** Yes. One click. But lacks good way of managing sites.
- **Control:** Yes, but advanced options are hidden.
- **Confidentiality:** Yes, ability to disable and change provider.

Chrome

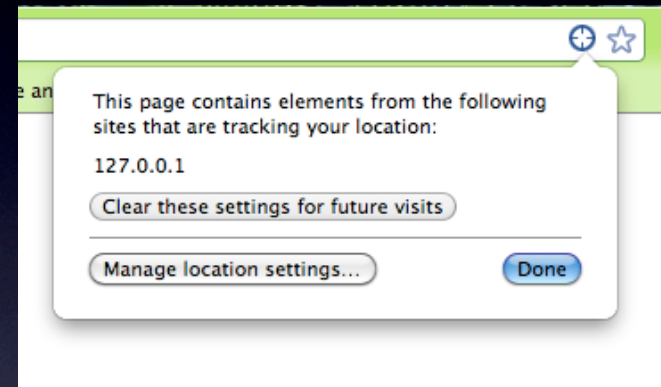


- Non-modal
- Allow (forever), deny.
- Access to privacy policies.

Chrome



- Indicator
- One click access
- Good control over sites
 - Embedded components



Content Settings	
Site	Action
benwerd.com	Allow
embedded on software.hixie.ch	Allow
channy.creation.net	Allow
embedded on software.hixie.ch	Allow
dev.w3.org	Not set
embedded on software.hixie.ch	Allow

Chrome

- **Accessibility:** Yes. One click. But lacks good way of managing sites.
- **Control:** Yes. But no control over provider.
- **Confidentiality:** Yes. But no ability to change provider?

Do we need...

- Further standardization of UI?
- To leave it to the market?