

The NPTEL logo is a circular emblem. It features a central stylized flower or star shape with eight petals, rendered in a light pinkish-red color. This central motif is surrounded by a circular border composed of many small, rectangular segments. The segments are colored in a gradient, transitioning from light yellow on the left to light pink on the right, with some segments having a slight 3D effect.

User Privacy and Usability

Dr. Neminath Hubballi

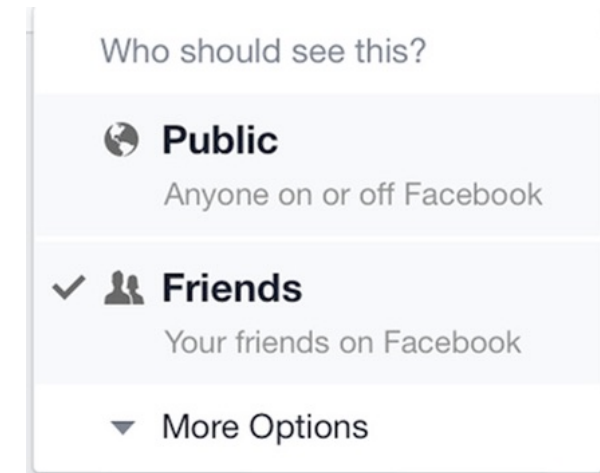
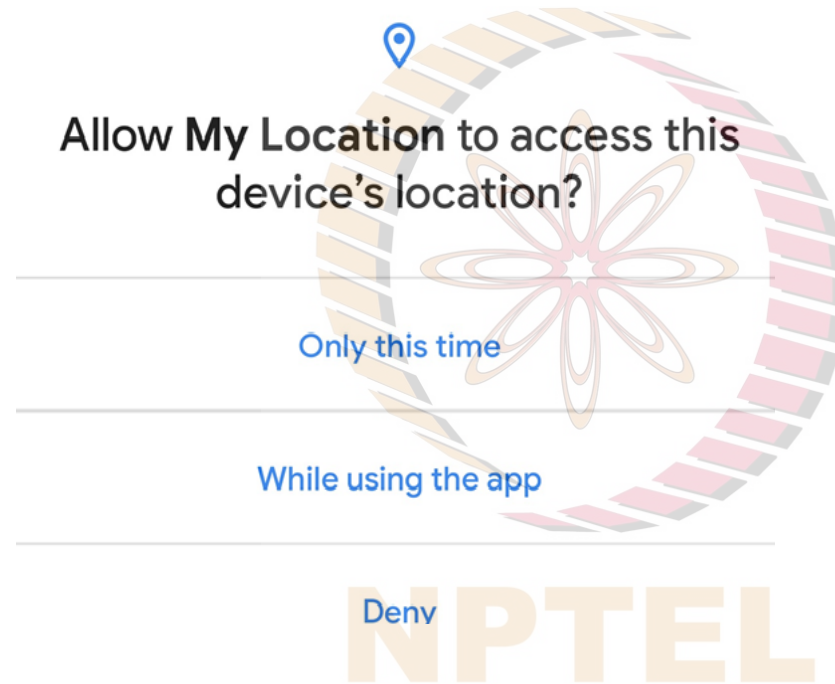
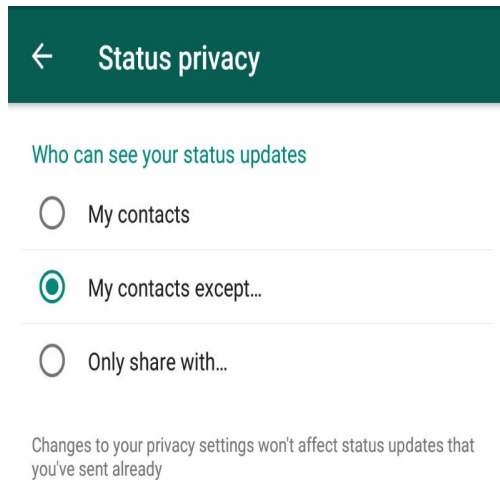
NPTEL

Overview

- ☐ Some example privacy settings
- ☐ Define privacy
- ☐ How privacy is compromised ?
- ☐ Implications
- ☐ How privacy is provided
- ☐ Why users ignore privacy



Privacy



Privacy: Few Questions

- ☐ Facebook posts
 - ☐ Many users post their home addresses
 - ☐ Class details
 - ☐ Phone numbers
- ☐ Youtube videos
 - ☐ Show their homes
 - ☐ Places they visit
- ☐ Instagram



What is Privacy ?

- ❑ Deals with protection of information of individuals
- ❑ Environment
 - ❑ Privacy is dynamic - can change across societies, cultures, evolving events
- ❑ Contributing factor
 - ❑ Storage cost is decreasing
 - ❑ Communication and networking is connecting large number of devices
 - ❑ Easy access to content
- ❑ Confidentiality and privacy are same ?

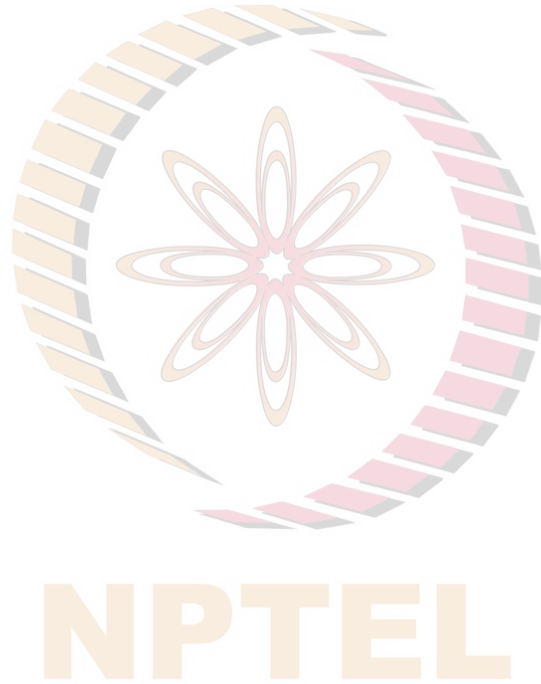
Privacy Compromise

- ☐ Careless Users
- ☐ Unaware Users
- ☐ Cyber Attack
 - ☐ On devices/computers
 - ☐ On networks
 - ☐ Trick the user to reveal the private information
- ☐ Corporate actions
 - ☐ MiTM Attacks
- ☐ Government censorship



Privacy Compromise Implications

- ☐ Not needed attention
- ☐ Cyber bullying
- ☐ Cyberstalking
- ☐ Financial implications



How Privacy is Provided

InPrivate browsing

InPrivate search with Microsoft Bing

✓ **What InPrivate browsing does**

- Deletes your browsing info when you close all InPrivate windows
- Saves collections, favorites, and downloads (but not download history)
- Prevents Microsoft Bing searches from being associated with you

✗ **What InPrivate browsing doesn't do**

- Hide your browsing from your school, employer, or internet service provider
- Give you additional protection from [tracking](#) by default
- Add additional protection to what's available in normal browsing

Always use "Strict" tracking prevention when browsing InPrivate

If this is off, we'll use the same tracking prevention setting as a normal browsing window

How Privacy is Provided

The types of personal data we use



We collect and use the following information about you:

Your Profile Information. You give us information when you register on the Platform, including your username, password, date of birth (where applicable), email address and/or telephone number, information you disclose in your user profile, and your photograph or profile video.

User Content and Behavioural Information. We process the content you generate and view on the Platform, including preferences you set (such as choice of language) photographs, audios and videos you upload or create, comments and livestreams you make (“User Content”). We collect User Content through pre-loading at the time of creation, import, or upload, regardless of whether you choose to save or upload that User Content, in order to recommend audio options and provide other personalized recommendations. If you apply an effect to your User Content, we may collect a version of your User Content that does not include the effect. We may collect information about the images and audio that are a part of your User Content, such as identifying the objects and scenery that appear, the existence and location within an image of face and body features and attributes, the nature of the audio, and the text of the words spoken in your User Content. We may collect this information to enable special video effects, for

How Privacy is Provided

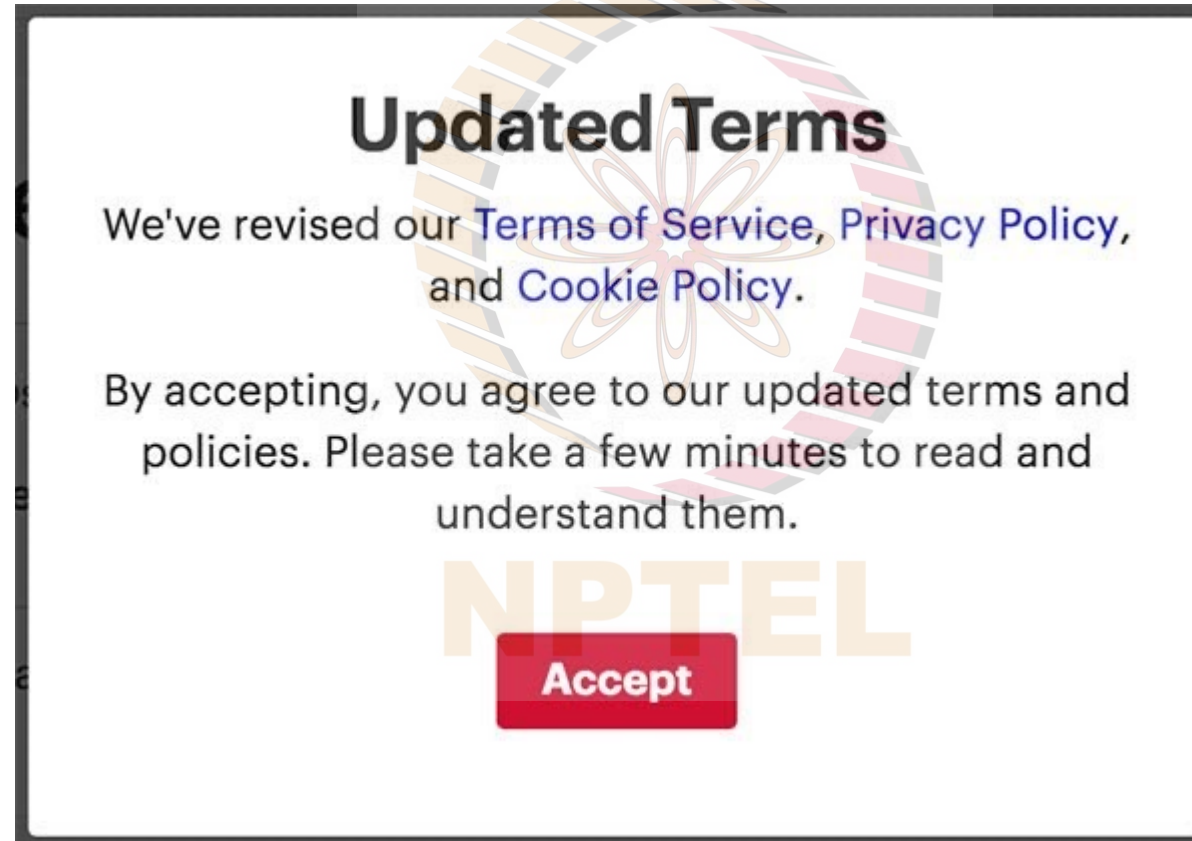
NON-DISCLOSURE AGREEMENT (NDA)

This Nondisclosure Agreement or ("Agreement") has been entered into on the date of _____ and is by and between:

Party Disclosing Information: _____ with a mailing address of _____ ("Disclosing Party").

Party Receiving Information: _____ with a mailing address of _____ ("Receiving Party").

Privacy: Is the User Caring ?



Privacy: is the User Caring ?



Your connection is not private

Attackers might be trying to steal your information from **testsslerror.bytebitebit.com** (for example, passwords, messages, or credit cards). [Learn more](#)

NET::ERR_CERT_COMMON_NAME_INVALID

☐ Help improve Chrome security by sending [URLs of some pages you visit, limited system information, and some page content](#) to Google. [Privacy policy](#)

Advanced

Reload

Privacy: is the User Caring ?



Security Certificate Revocation Awareness Test

If you can see this (and apparently you can), you
are using a **revocation UNaware** web browser!

The SSL/TLS security certificate for this special website has been deliberately revoked. Since you **are** seeing this page, we know that this web browser is allowing a site with a **known invalid certificate** to display its pages. This is likely not the behavior you would choose.

Privacy

- ☐ Does the users have option ?
- ☐ Do they read ?
- ☐ Do they understand ?
- ☐ Do they care about ?



Privacy: Why Users Reject or Ignore Warnings ?

- ❑ Argument-1: Users are hopelessly lazy
- ❑ Argument-2: Advices make systems not usable
- ❑ Argument-3: Advices save them from direct costs but incur indirect costs
- ❑ **Too many advices:** US-Cert has a list of 51 advices each running upto a page length
 - ❑ The benefits are not clear

Privacy: Why Users Reject or Ignore Warnings ?

Address	Message to users
192.34.23.1	Numeric IP addresses are suspect
www.paypa1.com	Address-bar typos
www.paypal.so	Incorrect top-level domain
www.geocities.com/www.paypal.com	Institution should appear in path rather than host
www-paypal-com.evil.com	Punctuation matters: '-' $\neq$ '.'
www.paypal.com.evil.com	Domains are read right to left

Protection against something bad

60 million dollar loss annually and that turns out to be 0.35 cents, but it increases the cost of screening

Settings

- ☐ Location
- ☐ Audio storage - Google assistant, Siri, Alexa
- ☐ AD-Tracking
- ☐ Two-Factor Authentication
- ☐ Notifications
- ☐ Automatic update
- ☐ Popups
- ☐ Voice commands
- ☐ Face unlock
- ☐ Cookies
- ☐ Tracking

