How Mobile Applications are Reshaping Information Controls in Iran

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Iran

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Should you travel there? Yes!

(Set up a Tor relays while you're there!)

Will the Internet frustrate you? Yes!

Iranian Internet popularly known as **"Filternet"** **#فیلترنت**

Should also be known as **"Kondnet"** **#کندنت**

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JUNE 29, 2009 | BY RICHARD ESGUERRA

Help Protesters in Iran: Run a Tor Bridge or a Tor Relay

As turmoil over the disputed election in Iran continues, many techs are trying to find ways to help Iranian citizens safely communicate and receive information despite the barriers being established by Iranian authorities. One tactic that even moderately tech-savvy Internet users can employ is to set up a Tor relay or a Tor bridge.

More sophisticated users can skip this paragraph, but for the rest, here's the basic outline. Tor (an acronym of "The Onion Router") is free and open source software that helps users remain anonymous on the Internet. Normally, when accessing websites, your computer asks for and

Iran's Internet: Infrastructure of Control

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- Ministry of ICT runs the Telecommunications Company of Iran (TCI); the main ISP of Iran through the Data Communication Company of Iran (DCI)
- All Internet traffic is routed through the TCI, including private and government ISPs
- DCI point of control for filtering; blocking through webpages or blacklisting keywords
- TCI uses proxy servers for surveillance by logging all unencrypted Internet traffic

Supreme Leader
(gives guidance on religiously sanctioned Internet use)

Head of Judiciary

Military

IRGC

President

50% ownership stake

Prosecutor General

Passive Defense Organization

IRGC Cyber Defense Command (Gerdab.ir)

MICT

Police Forces

Working Group to Determine Instances of Criminal Content

TCI

FETA

DCI

TIC

All ISPs

Supreme Council of Cyberspace

- - - - ► Constituents of Supreme Council of Cyberspace

History of Controls on the Internet

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- Filtering started in 2001, codified and streamlined in 2006 with Cyber Crimes Law, approved and ratified following the 2009 Green Movement
- Revolutionary Guards establish Gerdab Cyber Command in 2009
- 2011 Iran's Police Forces Establish FATA
- 2012 Supreme Leader establishes **Supreme Council of Cyberspace** (SCC) (Internet = national security issue)

How Internet Policy is Implemented

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- Realities of Internet law: 1) centralized censorship body with legal power 2) ISPs must cooperate with gov't in filtering and surveillance 3) access to banned websites are criminalized
- Committee Charged with Determining Offensive Content (CCDOC) makes filtering decisions implemented through the TCI

Types of Controls

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- shallow inspection at ISP level: domain names match blacklisted websites or monitors URLs for blacklisted keywords ex. www.essex.ac.uk
- firewall and traffic shaping boxes: filtering key ports. Past examples are Yahoo messenger and various HTTPS ports
- IP based filtering: all packets using facebook.com IP addresses dropped
- random packet dropping: popular 'just-in-time' methods, slows and stops content loading, and VPN filtering method

Moderate Rouhani Administration

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Until the time that we have a replacement for these sites, the government opposes filtering them.

Mahmoud Vaezi, Minister of ICT

Imitation and Control Attempts

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- Overblown announcements of Programs like "Spider" and Intelligent Filtering
- Plans to localize platform part of 'National Intranet Network' (aka 'Halal Internet')
- Iranian Instagram: Lenzor
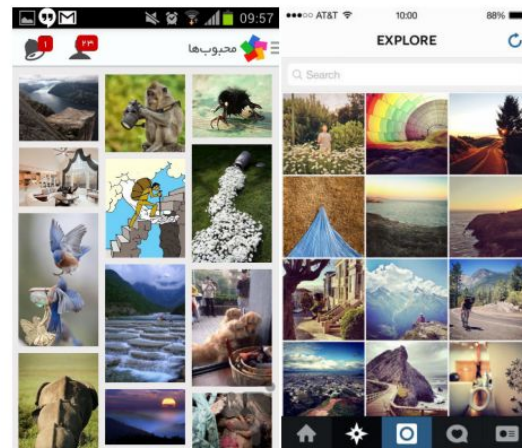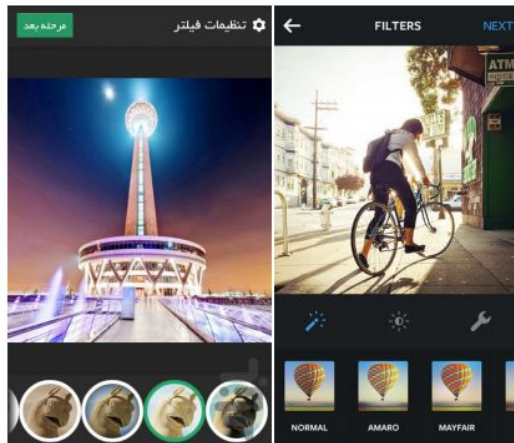- Iranian Whats App/Telegram:Salam
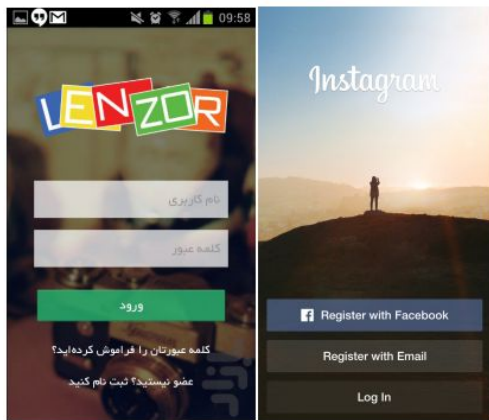- We Chat: Dialog

WeChat = Dialog

Dealing with Instagram

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- Attempts at intelligent filtering failed
- Disruptions to the loading of certain images collateral damage from overblocking of Facebook
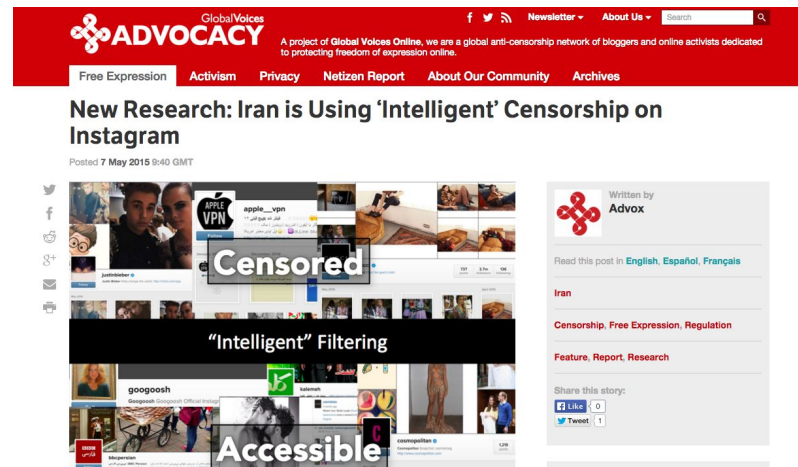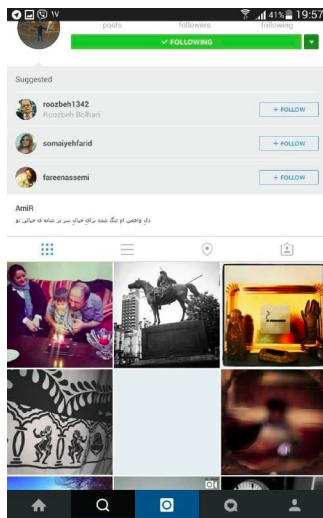
Instagram = Lenzor

Cafe Bazaar Downloads

لنزور

شرکت صبا ایده

دریافت برنامه

رایگان

عکاسی	موضوع
۱٫۷ مگابایت	حجم
	نسخه
+۵۰٬۰۰۰	نصب‌های فعال
۲٬۶۲۶	

Instagram

Instagram

دریافت برنامه

رایگان

اجتماعی	موضوع
۹٫۱ مگابایت	حجم
۷٫۸٫۰	نسخه
+۹٬۰۰۰٬۰۰۰	نصب‌های فعال
۲۰۰٬۶۵۰	

Viber/Telegram = Salam

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- Basij developed application
- Basij are paramilitary wing of Revolutionary Guards
- Not even available on Cafe Bazaar

Shift Towards Mobile

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- General shift towards OTT services such as WhatsApp over public social platforms
- Daily measurements: OTT platforms such as WhatsApp messages exceed other social networks

Number of Tweets and Messages sent Daily

500	10	27
Million	Billion	Billion

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Save valuable time and stay away from networks like WhatsApp, If you take a look at the history of social networks, you will reach the conclusion that the so-called social networks are based on Western philosophy, where humanism and human-centered philosophy is their deciding factor. In other words, none of the principles and fundamentals of Islamic philosophy can be seen in these networks. Hamid Jafari, Head of Basij IT Centre

Popular Applications In Iran

Mobile Control Attempts

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- Popularity of WhatsApp, Viber and Telegram have led to numerous campaigns of censorship, throttling, and efforts to centralize control
- Viber: reputation disparaged through association with Israel in Iranian media. Widespread disruptions from network
- Whats App: second most popular app, but experiences network disruptions
- Telegram leads in no.1 of Iranian users. **+15 million users in Iran on Cafe Bazaar**

Telegram in Iran

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- Telegram has a controversial, and confusing relationship with Iran
- Bots and Stickers Censored in Iran in August, 2015
- Ministry announces through cooperation with Telegram; Telegram denies cooperation
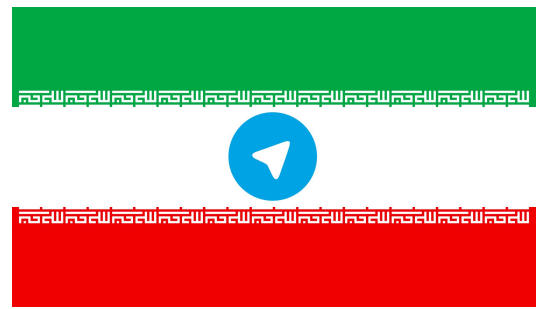
Pavel Durov ✔
@durov

⚙ 👤 Follow

@RSF_Europe Hi there, @telegram has not entered any agreements with any government on this planet. No plans to.

RETWEETS
11

FAVORITES
12

12:46 AM - 5 Sep 2015

Security of Telegram Criticized

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With regard to Telegram, specifically, I've looked a bit at the crypto and while I think their hearts are in the right place, the system still needs work. In particular, while Telegram provides end-to-end encrypted messaging, this is not the default setting. All messages are always encrypted — but normal messages are encrypted in a manner that the Telegram server can read. Only 'secret chats' are actually encrypted so that only the endpoints can read them.

In addition, users have to master a fairly complicated process of comparing 'key fingerprints' in order to ensure that they're really talking to the right person. Which means that someone with access to the Telegram server could potentially intercept their connections.

-Matthew Green on Telegram

Telegram's Security

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- Iran's Supreme Council of Cyberspace announced 30% of Telegram data stored in Iran

Latest in Telegram Story

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Telegram Messenger ✔
@telegram

@amin1374ss Sorry. Service is fine, but Iranian network providers are limiting Telegram traffic since Wednesday.

RETWEETS 56   FAVORITES 73

11:11 PM - 19 Oct 2015

Pavel Durov @durov · 16h
@alirezat @telegram @CDA That wouldn't be a problem, I've got emails from ...@tic.ir
15   40   View conversation

Pavel Durov @durov · 17h
@CDA Iranian ministry of ICT demanded that @telegram provided them with spying and censorship tools. We ignored the demand, they blocked us.
443   508   View conversation

Pavel Durov @durov · 17h
@HadiNili Hey Nadi, could you follow me so I could DM you?
1   22   View conversation

Pavel Durov @durov · 17h
@youyeganeh @telegram Adult bots are not an issue (we block it anyway). They want to read and censor private messages.
49   120   View conversation

Pavel Durov @durov · 17h
@youyeganeh Iranian officials want to use @telegram to spy on their citizens. We can not and will not help them with that.
293   349   View conversation

- Iranian Ministry of ICT denies Telegram's claims

Iranian Application Habits

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- Security is a low priority
- Usability and Features rank high
- Iranians in general are suspicious, but often think digital security irrelevant next to physical security
- Trusted platforms such as Text Secure/Signal have low user base in Iran

Take Aways

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- Internet control are pervasive, but not sophisticated
- Why does it matter? More arrests and continued imprisonment of netizens than ever before
- Need to enshrine a culture of
- Parliamentary Elections February 26, 2016: monitor connectivity of applications
- Arrests and access problems will likely increase in anticipation of elections

Merci!
Questions? Iran Travel Advice?

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