

新媒體、新思維、新方案
Addressing New Media Issues
with Solution from the New
Paradigm

Response to COIAO Public Consultation from HKISPA
(Text Version - Draft)

Introduction

On 3 October 2008, CEDB announced the first round public consultation of the Control of Obscene and Indecent Articles Ordinance (COIAO).

Discussion set out in Chapter 4, paragraph 2.4 has aroused concerns on introducing pre-censorship mechanism in the Internet.

This paper propose HKISPA's recommended solution framework of web filtering service which should more effectively protects children and youngsters from harmful contents while addressing other social concerns.

Current Issues

- Server Side Filtering

1. Current Server Side Filtering is base on user login name (Login ID) as a control. However, not all ISP require system login, hence this mechanism is not generally applicable in HK.
2. Home Wi-Fi popularity increases everyday. ISP login settings normally stored in the broadband router for convenient. Modify the setting require networking knowledge and there is only one active profile running i.e. all Internet access, parents or children, are treated equally at any one time. It is undesirable.
3. In Server Side Filtering architecture, all web traffic must managed by the filtering system. System workload is proportion to total bandwidth which is independent of the filter list size nor volume of harmful contents being blocked. Resource usage is considered inefficient.

Current Issues

- Filter List Effectiveness

1. No single filter list fits all but current Server Side Filtering service in HK has no option for filter list selection.
2. Filter list maintainers making decisions base on their local culture and standard. Any filter list without localized maintenance could not cope with our needs.
3. Filter list suitability to individual user are deviated due to moral standard discrepancy.

Current Issues

- Social Concerns

1. Mandatory web filtering will introduce infrastructural and operational changes to ISP. Hardware investment, customer support, staff training costs incurred would be tremendous. The costs will inevitably transferred to service charges. Smaller ISP may not able to bare the increment and decided to quit.
2. The society concerns the mandatory web filtering mechanism will be utilized to control freedom of Internet usage in Hong Kong.
3. Most parents are less technically competent than their children, the web filtering could be bypassed without notice.

The Proposed Solution – FiLial2.0

FiLial => short form of Filter List ally: filter lists for various purposes and confidence levels are allied together. (Also, filial, love and respect to our parents and ancestors.)

2.0 => Web2.0 means user generated contents; Filial2.0 supports user contributed filter lists.

FiLial2.0 Framework

- The Building Blocks

- The Portal: front end for all user activities.
- The List System: store and manage filter lists.
- The Logger: record all client side status changes and user activities for monitoring and reporting.
- The Client Program: a simple client side program which blocks web sites according to operation mode and lists selected.

FiLial2.0 Framework

- Functional Req.: The Portal

1. Interface for user account management.
2. Filter list selection.
3. Harmful web sites reporting.
4. Check whether an URL is listed.
5. Online activity reports.
6. Portal for recommended web sites.
7. News Groups / Forums / Blogs.
8. User support information.

FiLial2.0 Framework

- Functional Req.: The List System

1. List storage and ensure data integrity
e.g. verify listed URL accessibility.
2. Administrative interface for List
maintenance.
3. Provide latest lists for remote download
by the Client Program.
4. Automatic synchronization with 3rd
parties provided filter Lists.

FiLial2.0 Framework

- Functional Req.: The Logger

1. Store user account details.
2. Log the Client Program operation status changes
3. All Lists operation.
4. Online ad-hoc report for historical activities and statistics.
5. Generate monthly activity summary.

The FiLial2.0 Framework

- Functional Req.: The Client Prog.

1. The Client Program starts when computer system startup.
2. Easier to use than a common anti-virus PC software. Besides User Account, all configuration has default value. Configuration changes through the Portal.
3. Two operation modes: Protection Mode needs password to turn on/off web filtering feature where Harmony Mode do not require a password to do so. The Client Program starts with web filtering enabled.
4. Synchronize subscribed filter Lists regularly.
5. Redirect blocked web requests to a local HTML file, the file will display which filter List blocked the web and provide a link to the Portal for further assistant.

How FiLial2.0 Works

- User Perspective

1. Create User Account with email address or mobile number for future communication (e.g. get initial password, receive monthly summary)
2. Install the Client Program on computer to be protected.
3. Surf Internet and experience how the system can help.
4. Optionally login the Portal for filter List selection and profile update.
5. Optionally report harmful sites through the Portal.
6. Optionally visit the Portal for contents suitable for children/youngsters.
7. Optionally check usage status/report on the Portal (e.g. total online time, number of sites per list being blocked, last list update, last logon time, the Client Program operation mode changes log).
8. Receive monthly summary report.
9. Getting help from the Portal or calling customer support, if provided.

How FiLial2.0 Works

- List Operation

1. Acquire 3rd party Lists as the base for operation start.
2. Create filter Lists which focus on different areas.
3. Group Lists into different “reliability” levels. E.g. All reported, X different reports within Y days, Verified.
4. All URL on Lists will be checked for accessibility in systematic manner. Non accessible links would be removed from the List automatically.
5. List inspector will verify the contents of URL on any local maintained filter Lists when URL owner raise protest.
6. May consider block “shorter URL” if lot of its contents are verified harmful e.g.
complete URL is “host.domain.com/forum/sex/123.html”,
filtered by “host.domain.com/forum/sex/”

How FiLial2.0 Works

- User Support

Comprehensive supporting facilities are recommended to assist parents without IT background:

- FAQ (Frequently Asked Questions)
- Video guided tour
- Hotline
- Onsite installation (e.g. by volunteers, Youth Pre-employment Training Program 展翅)

How FiLial2.0 Works

- Running the Operation

Some suggestions to minimize costs and generate revenue.
Target to be self sustained.

- Leverage existing NGO resources (e.g. human resources, network infrastructure and IDC hosting...).
- Advertisement fee on the Portal.
- Provide filter List management service for commercial organizations (e.g. Intellectual Property violation).
- Develop value added services with service providers.
- Sell analytical reports for various studies.

How FiLial2.0 Works

- Possible Stage 2 Developments

Initial launch of service is for household users. As the list management platform became mature, it may consider extending the service to other areas:

- School, Library, Government Wi-Fi: not feasible for mandatory client side program installation; gateway based solution should be considered.
- Illegal software download, P2P files exchange, social network web activities, leisure online contents consumes has less positive effect to commercial organizations. Companies may welcome ISP to offer bandwidth/activity management services.

How FiLial2.0 Works

- Costs Components

For the seek of long term saving and total intellectual property control, self developed platform is recommended. Table below estimated the costs for develop and maintaining the system for 4 years. All non-technical staff, marketing and administrative costs excluded.

	1st Year (Dev. Stage)	Average 2nd- 4th Year	Total of initial 4 Years
Hardware & Software	8.0M	0.8M	10.4M
Tech. Mgr x1 Engineer x 2	2.7M	2.2M	9.3M
Hosting + Others	1.0M	1.2M	4.6M
		Total:	24.3M

Issues Addressed

- Technical

- Change of login: the filtering is performed by the Client Program installed in the user computer. It is independent to ISP access method and login ID. User may enable/disable the filter by change status locally.
- System workload (OPEX costs): Unlike Server Side Filtering where system capacity must growth with the user bandwidth usage. FiLial2.0 is a distributed system where workload is proportional to number of users, list volume and user status changes frequency.
- Filter list efficiency: user subscribe to the Lists which suit their needs. More importantly, they can contribute to the filter Lists and make the harmful site being blocked in the next update.

Issues Addressed

- Non-Technical

- **ISP Costs:** the solution is ISP independent and hence will not introduce additional cost.
- **Control of Internet Usage:** blocking action is on client side, on sole user discretion. Although user cannot list out all URL in a filter List, the Client Program will display the corresponding filter list name right after an URL being blocked. The Portal will provide facility for checking whether an URL is on any list.
- **Bypass of Control:** instead of building the Client Program “bullet proof”, we suggest parents to treat their teenage children as partner. So, there is a non password protected “Harmony Mode”. All status changes will be logged in the Logger. User can view monthly summary and online reports to have clear picture on computer usage.

Summary

FiLial2.0 is a web filtering solution with the following objectives in mind:

- No impact to current ISP.
- Users join the service on their own wish and able to decide the most suitable protection.
- Minimal investment and operation costs when compare to mandatory Server Side Filtering.
- Extendibility to wider service scopes.
- “Business” model to self sustained operation.