Piracy as Major Threat for Software Industry
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Abstract:
The focus of this paper is to study the value of genuine software and piracy rate of software industry in India. Also, the paper makes a glance on the factors arising that enhance the software piracy as well as effect of software piracy. The target area is Indian market as the most growing in digital world during the last 5 years. Piracy is crime and software are commonly used by millions of users worldwide like MICROSOFT, ORACLE, and ADOBE. Only regulation of act in law is not a way to Stop Software Piracy. The developers should generate some methods that software has bundled some kind of security that must be based on Clint-server architecture.

Keywords: SLA (Software license agreement), BSA (Business Software Alliance).

I. INTRODUCTION
As we know that Piracy word originated from the acts like stealing, Duplicity of digital data that is wondered by an individual or an organization. The digital data may be of many forms like E-books, triple play (text, audio, and video), Digital Programs .From July 2015, Govt. of India has initiated “DIGITAL INDIA” plan .This is about maximum paper less work. For this purpose the use of computer and smart phones are commonly using by a wide range of consumers in India. At this stage the piracy is major threat for Second largest populated country in world because India has Second largest digital user in the world about 560 M users. This will lead cybercrime rate and need to have some of strict cyber laws. One of the most common crime is piracy of software like their licensing. Software Manufacturer spend a lot of funds on research and development of software but some of unethical programmers release crack files or duplicate license on internet portals. These portals are available on simple search on any search engine. The requirement of today is to prevent genuine services of software vendor as their Right from mislanious distribution on internet not even in India but also worldwide.

II. SOFTWARE PIRACY
Software piracy is the act of stealing software that is legally protected. This stealing includes copying, distributing, modifying or selling the software. Copyright laws were originally put into place so that the people who develop software (programmers, writers, graphic artists, etc.) would get the proper credit and compensation for their work. When software piracy occurs, compensation is stolen from these copyright holders. Software is bundled with SLA to the user that clearly defines the original license ownership of that software. This problem is worldwide. The multinational software companies are facing this problem maximum of country each and every country has is own lows regarding to piracy.

III. REASSONS OF SOFTWARE PIRACY
The targeted of software industry is to facilitate clients with quality software that is not possible with free open source software. This is the only reason why people are using software on pirate state.

A. Currency deflation
Software industry producing quality product that is paid but at international platform currency value varies from each other e.g.: 1$ =74 ₹. The rates of software defects according to country and there resources for income are also variable in different countries.

B. Non flexible terms:
The license may include the long time period like one time purchase for a system. According to the Business ethics customer should provide what they need exactly? Software industry is facilitating customers with their boundaries. Same as small institute and organizations having hundreds of computers in their labs just purchase minimum genuine software license. The reason is to buy genuine licensee is quite expensive for all the computer system.

C. Internet freeware Services
Today internet access is open worldwide. Lot of copies of software are available on freeware on internet. Inbuilt key of any software uploaded on internet is being used by thousands of users. Accept license key a patch file, cracks and activators are available on internet that provides fake encrypted key file that replaces the trial file with other file that never expires the time period of trial package.

D. Demographic effect
It is noticed in many researches that piracy is most popular in young age. Students, learners and newcomers in software learning males are more attractive towards using cost free software. Rather to use free open source software they try to get copies of licensed software as desktop publishing and word processing.

IV. SOURCES OF SOFTWARE PIRACY
There are a lot of platform that Leeds to software piracy in global market it is not possible to lock down these resources,
pandemic is mainly lead by online web stores organized by some  competitive or open source organizations, although it the local vendors for cheep service provision leads to software piracy. More over the customer is also responsible for piracy for free of cost or cheep grabbing of powerful tool software.

V. EFFECT OF SOFTWARE PIRACY

While software are pirated or duplicated on internet this will affect services as well as it leads to crime also. Moreover it affects the business on software industry. Some of the drawbacks of software piracy are:

A. Leads to unemployment of IT professional
A simple rule of Business shows demand is directly proportionate to production. If there is 100% genuine software in market then this will lead to service sector unless IT industry is surviving under limited revenue then there are less resources for research and development of new software.

B. Problem with legal action with pirated customer
The software industry has target to join new client to different software vendor. Being a trial or pirated customer there is a hope that some of them will be a licensed user after some time or trial period. sudden legal action against user may be a stoppage for promotion of that software.

C. Research & Development
World’s biggest market software industries like Microsoft, Oracle and Adobe spent millions of dollars for R&D of software to facilitate customer with full package of office and home tools. To develop a efficient software a process of software engineering is used which may take many months or year to compile its efficiency.

D. Economic factor
Some illegal website or market freelancer sale cracked version or copied license on low cost in the market. All this sold worth is out of tax and manufacturer worth. This may be assumed as direct hit to economic growth of Software industry.

VI. LOSSES TO SOFTWARE INDUSTRY

BSA is global software industries which keep track of different parameters in software industry worldwide as well as analysis country wise. Established by Microsoft in 1988 According to BSA report piracy rate of unsilenced software was 36% in 2003 which worth $29B. China was highest pirate users about 90% and U.S. has lowest pirate rate about 22% at that time. In 2011 piracy rate was 42% costs $63.4 B. In 2013 in revenue loss from Software piracy was $62.7 B with 43% piracy rate. By survey of BSA it is found that, in 2014 the global piracy rate was 43%, in 2015 it drops to 39%. The commercial value was $62 B and $52.2 B in 2014 and 2015 respectively. Later it in 2018 global unsilenced software piracy rate decreases to 37 % worth $46.6 Billion.

VII. SOLUTIONS FOR PREVENT SOFTWARE PIRACY

Software can prevent from piracy by some security techniques. The best solution to software piracy would be one that is completely invisible to the user, and prevents piracy protection methods that are used by software publisher. Many software publishers may be reluctant to rely solely on legal protection because the publisher must find the pirates and a lower cost than the recoverable fines. The cost of litigation against many small infringing pirates may make it impractical to try to find or prosecute them. So, publishers may resort to going after only larger corporate offenders who are worth the cost it takes to enforce the laws. Some of common techniques are discussed in many researches are

A. Protect customer and manufacturer by external network model
The external network will ensure the secure the legal check to the user of the software. the network externality will be strong under three conditions: if the program (1) is complicated and difficult to master, (2) allows or demands extensive user customization, via “macro” programs or other means, or (3) is useful for multiple-user data processing or formal networking. This is the profile of the multi-faceted, high-powered “productivity” packages used for, among other things, spreadsheet analysis, large database assembly and manipulation, complex word processing, and desktop publishing.

B. Legal Action
Many software publishers may be reluctant to rely solely on legal protection because the publisher must find the pirates and a lower cost than the recoverable fines. The cost of litigation against many small infringing pirates may make it impractical to try to find or prosecute them. So, publishers may resort to going after only larger corporate offenders who are worth the cost it takes to enforce the laws.

C. Worm
A new type of copy protection called a worm has been used to protect software. A worm eats the target disk when a user tries to copy the original disk. This can be disastrous if a pirate tries to copy a disk illegally to their hard drive. Because most of the copy protection schemes are designed so that users cannot make a backup of the software users may not have anything to fall back upon if something happens to the single disk.

D. Hardware key
A hardware key is a connector device that attaches to the parallel port on the back of the microcomputer. The software works with the device to limit the number of users who can use the software to the number licensed. Without the device attached, the software will not work. One common software key is a unique password. Until the password is sent to the user, the software limits the number of times the user can access it. Thus, a pirated copy of the software has a very short life.

E. Software key
It is an action trigger, uses some method to validate the authorized use of the software. Usually the software checks the date from DOS and RAM and determines if the user has authorization to use the software. Software uses registration as their primary method of protection. Like licenses, registration is very inexpensive, and it provides publishers several advantages at once. It enables them to make sure that resellers are being honest in their sales, and therefore, the publisher will get their
royalties. It also gives publishers a list of all their customers for use in direct upgrades. Publishers can track the number of registrations returned against the number shipped to validate missing software packages.

VIII. BENEFITS FROM REDUCING SOFTWARE PIRACY RATE

Simple algorithm of business correlated the demand and price ratio of good in market. the principle behind demand and price is that they are inverse proportional to each other when ever demand is less the price is high and vice versa.

\[ P_i = \frac{1}{D_i} \]

Here \( D_i \) is demand \( P_i \) is the price.

Working on this principle if number of licensed user of software increases then the revenue of software industry increases then upcoming prices will be less than last. This principle is workable because software industry has billion of user and global market. Legal and genuine industry can lead to economic growth as well as Career to software professionals. More over software industry has never to face Recession in market until Open source software become powerful then licensed software.

IX. CONCLUSION

From the study it is concluded that software industry requires a simple technique that allows user for limited trial period. after that period user must has flexibility to use license as per his requirement customer should be flexible for time period or machine used by him. Legal action is not possible for billions of worldwide customers. Software industry is the one of biggest industry after telecommunication. This industry is totally based on customer interest. The only way to reduce software piracy to use powerful security for software licensing, we should keep in priority that the trial base to the user should not be affected because only trial usage satisfy user that if he is comfortable on that platform or not.

X. FUTURE SCOPE

We have online services introduced in cloud computing. The software industry can use a part of online service for client-based activation, licensing that must be time flexible means pay for whatever you use like prepaid service as well as machine independent means a single licensed user can migrate from one machine to another using activation/deactivation of machine registration against that license.

XI. REFERENCES


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