NOVEL APPROACH FOR MAKING DIGITAL ARTIFACTS ON SECURITY ESSENTIALS OF WEB VERIFIABLE AND RELIABLE

1, 2, 3, 4, 5 Pursuing B.Tech (CSE) from St. Ann’s College of Engineering & Technology Chirala, Andhra Pradesh - 523 187 INDIA

Ms. K.Lakshmi Sobhana, Assistant Professor (CSE) St. Ann’s College of Engineering & Technology, Chirala, Andhra Pradesh - 523 187 INDIA
Dr. P.Harini, Prof & HOD (CSE) St. Ann’s College of Engineering & Technology Chirala, Andhra Pradesh - 523 187 INDIA

ABSTRACT: There is no actual mechanism to make digital artifacts such as code, text, images verifiable and reliable. For digital artifacts that are supposed to be unchangeable, there is no generally accepted method to encourage this immutability. These results have very negative impact on the ability to reproduce the results of processes that mainly rely on internet resources, which in turn seriously impacts areas such as science and technology where reproducibility is important. To solve this problem, we propose URIs containing cryptographic hash values encoded using base64 algorithm. We prove that how these trusty URIs can be useful for the verification of digital artifacts. We replicate how the contents of these files become unchangeable, including digital artifacts and thereby extending the range of verifiability. Our approach sticks to the core principles of the semantic web, those are openness and decentralized architecture. And these are secured by using the RDF file which are evolved from the semantic web proposed by W3C.

1. INTRODUCTION:

In many areas particular in science where reproducibility is crucial. Unchangeable, verifiable, and permanent digital artifacts are main aspects for making the outcomes of processes reproducible, but the Web now a days offers no commonly accepted methods to ensure these activities. Attempts such as the Semantic Web to publish knowledge in a machine-interpretable manner aggravate this problem. To solve the problems, we propose an approach to make items
A cryptographic hash value is a short random sequence of bytes. If the input is same, it always leads to exactly the same hash value, whereas just little modified input returns a completely different value. There are many number of possible inputs that lead to a given hash value, it is impossible to reconstruct any of the possible inputs just from the hash values that are acquired from the base 64 algorithm. Which means if we give some input and an unmatched hash value, we can be sure that hash value can be obtained from exactly that input. By doing this, our proposed approach goes down to the idea that references can be made completely clear and verifiable if they contain some hash value of the digital artifact. This method will not be applicable to all URI’s, but only to those which are are meant to represent a specific digital artifact.

But there is no mechanism currently to showcase this. This is very well-known that even artifacts that are supposed to be unchangeable will change over the time, by often keeping the same URI reference in the concept. For the approaches like nano publications, it is important to specify exactly on what resource they are based on, and no one should be given the opportunity to modify their published contributions. With the approach, nano publications can be identified with trusty URIs which contains cryptographic hash values calculated on the RDF content. We can simply search for the content on Web without worrying whether the source is trustworthy or not.

### 2. RELATED WORK

The need of creating the digital artifacts which provides the verifiability and permanent factors using the Base 64 algorithm and RDF files. In the process of making digital artifact we create trusty URI’s, which is a combination of both URL and URN. This approach sticks to the main principles of the internet, those are openness and decentralized architecture, and is fully supported with the current standards and protocols. There are many number of existing methods which include hash values in URI’s for verifiability purposes. This sort of reversibility is needed when an existing URI resource containing references should be verified. we have chosen the base64 algorithm for the encryption because it reduces the complexity of creating the URI’s and more secure. To ensure the verifiability these contents are matched against the RDF file which contains all the list of trusty URI’s.
ROPOSED MODEL

System architecture:

3. RESULTS & DISSCUSSIONS:

Figure 1: Home page
Figure 2: login page

![Login Page Image]

Figure 3: Admin adding URIs:

![Admin Adding URIs Image]
Figure 4: Hash codes:

![Hash Codes from RDF File]

Figure 5: View topics page:

![Making Digital Artifacts on Web Verifiable and Reliable]

1.php server
http://localhost/artifactRAVWspZm9yb3BSZXNvdXJjZSBMtb2NhdG9y
4. CONCLUSION & FUTURE WORK

We have proposed trusty URI references to make digital artifacts on the Web verifiable, unchangeable, and permanent. It would have a considerable impact on the structuring and functioning of the semantic web, it would improve the efficiency and reliability of tools using Web resources, and could become an important technical pillar for the Semantic Web, in particular for scientific data, where provenance and verifiability are important. Scientific data analyses, for example, might be conducted in the future in a fully reproducible manner within projects analogous to today’s software projects. Those dependencies in the form of datasets could be automatically retrieved from the Web, but decentralized and verifiable. Web resources, and could become an important technical pillar for the semantic web. In particular for scientific data, where the reliability and verifiability are important.

REFERENCES:

3. Web Database Applications with PHP and MYSQL Hugh E. Williams (Author), David Lane (Author).
4. CSS: The Ultimate Reference Tommy Olsson (Author), Paul O’Brien (Author).