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A SURVEY ON CAPTCHA TECHNIQUE BASED ON DRAG AND DROP MOUSE ACTION

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Abstract—CAPTCHA, Completely Automated Public Turning Test to tell Computers and Humans Apart, it is a one type of test. CAPTCHA is standard internet security they protect online emails and services from being abused by malicious computer program or BOT. CAPTCHA is a one type of test program that protects websites from BOTs on web by generating tests that computer cannot pass but human can easily pass. For web security we are using different type of CAPTCHA. In this paper describe different type of CAPTCHA technique based on drag and drop mouse action because drag and drop mouse action is performed by human not by BOT. This paper is deal with survey and comparison of different technique of CAPTCHA.

Keywords— BOT, CAPTCHA, DDIM CAPTCHA, DnD CAPTCHA, Drag and Drop, Human, Third-party human attack.

I. INTRODUCTION

CAPTCHA stands for Completely Automated Public Turning Test to tell Computers and Humans Apart [5]. It is a one type test that describes which is human or BOT. Now a day's CAPTHCA is internet standard security to secure and protect online emails and services. A CAPTCHA is a test but form of Turing Test that distinguishes human users and computer BOTs automatically. The test is develop according to that human users can answer any questions or challenges easily, but computer-program based imitators face considerably greater difficulty. The quality or correctness of a response from considering, a judge computer can decide whether the tested user is a human or a current computer program. There are so many type of CAPTCHA technique based on drag and drop mouse action.

This paper is organized as follow. In section II, we describe different technique of image based CAPTCHA. In section III, we describe comparative analysis of different technique of CAPTCHA. In section IV, represents conclusion and future work.

II. DIFFERENT TECHNIQUE OF IMAGE BASED CAPTCHA

A. DnD CAPTCHA [3]

'*DnD* CAPTCHA' or 'Drag and Drop CAPTCHA' is comprehensive explanation against optical character recognize (OCR) and laundry attacks [3]. Presents the DnD CAPTCHA technique to differentiate between human and computers whether uses mouse actions. Here Dragging and Dropping familiar action of mouse is uses for items drag and drop in to their specific region according to given CPTCHA. User can not any type of typing on text box for CAPTCHA test but in reverse user has to just simple drag and drop character blocks in to their various blank blocks [3]. Follow in the figure 1 the DnD CAPTCHA image.

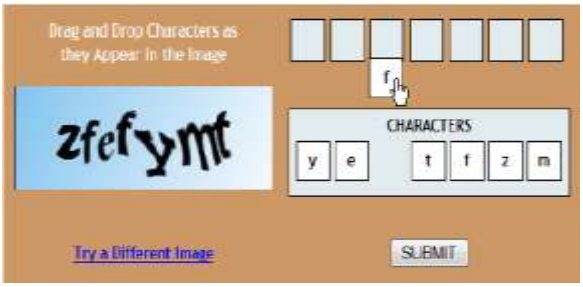

Fig. 1. DnD CAPTCHA[3]

DnD CAPTCHA challenge uses ordinary mouse events to see human interference proof. In this DnD CAPTCHA BOT or malicious computer program knows the key of test but it can not fully pass this DnD CAPTCHA test without human interference.

B. DDIM CAPTCHA[1]

DDIM stands for Drag-n-Drop Interactive Masking CAPTCHA [1]. This DDIM CAPTCHA deal with both the traditional attacks and the third-party human attack.

In DDIM CAPTCHA user collaborate with the system to find the confirmed answers. The main purpose to design this CAPTCHA technique is protection against the third-party human attacks and forces the users do some interactions with real CAPTCHA system, because computer can not performed interaction automatically. They can give principle like Hiding mechanism and interaction and other principles for designing a CAPTCHA to resist the third-party human attacks. Candidate region have many layer like two or three. Candidate region is dividing into several invisible blocks and each block will accommodate a range of numbers of candidates [1].

The DDIM CAPTCHA maintains the basic prerequisites of CAPTCHA and with added interaction and masking properties to the traditional text-based scheme. Following figure 2 is DDIM CAPTCHA.

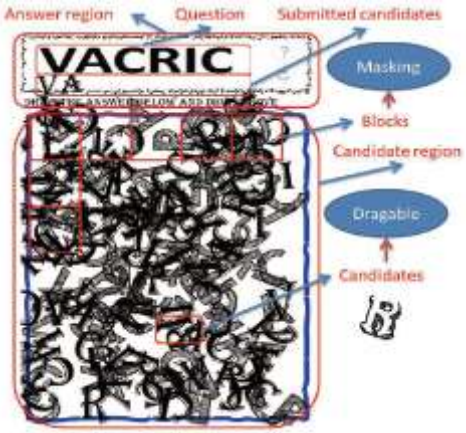

Fig. 2. DDIM CAPTCHA[1]

C. Internet poll MosaHIP[2]

In internet polls are deploy in many websites for collecting information about several topics. So, in this type of websites to stopping automatic voting, cookie-based, and securing internet polls they develop Internet poll MosaHIP CAPTCHA [2].

For internet polls, they have proposed two-phase technique, and it is base on image based CAPTCHA. In this CAPTCHA, users must only drag and drop his or her desired choice on the area of mosaic picture containing the images of footballs [2]. In added on this CAPTCHA have TTS (text-To-Speech) system and that TTS system is optional. Main advantages of TTS system is for children who may unable to read CAPTCHA question. It called is Visual CAPTCHA.

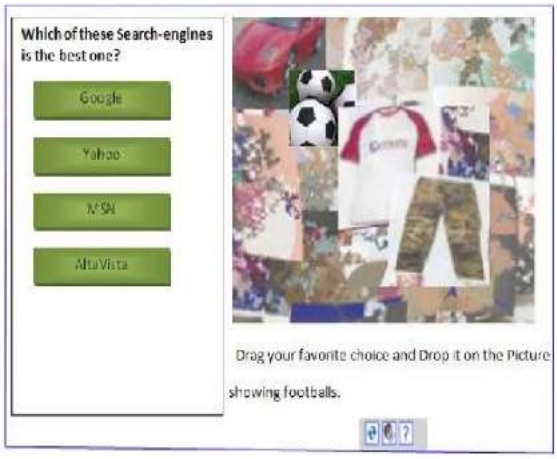

Fig. 3. Internet polls MosaHIP [2]

This CAPTCHA is protecting to automatic voting, securing internet poll.

D. Drag and Drop Image CAPTCHA [4]

In this Drag and Drop Image CAPTCHA technique developing aims to find legitimate users and at the same time does not alienate them [4].

In this CAPTCHA user see CAPTCHA image of a reasonable dimension and resolution. The user has to find to small and simple embedded images (source image and target image) from the shown composite image as asked in the message appearing in the composite image itself [4].

Fig. 4. Drag and Drop Image CAPTCHA [4]

Drag source image and drop it over the target image that work has been prove by user for proof of human interference. Drag and Drop Image CAPTCHA is show in figure 4.

III. Comparativa Anaysis of Different Technique of CAPTCHA

In this section describe comparison of different drag and drop mouse action CAPTCHA techniques which we discuss in section II.

TABLE I. Comparision of Different Technique

Technique	Advantages	Limitation
DnD CAPTCHA	Human can pass this test easily and BOT or computer program can't pass this test.	Third party human attacks can't protect DnD CAPTCHA.
DDIM CAPTCHA	Addition of interaction and masking properties to the traditional text-based scheme on DDIM CAPTCHA. And high scalability.	Test is confusing and hard to solve.
Internet polls MosaHIP	It can be used by all ages and Also visual impaired people using visual CAPTCHA option. The method can considered resistant and robust due to having high level security and strong CAPTCHA properties.	Using dynamic IP address people connect to the Internet.
Drag and Drop Image CAPTCHA	In database each images are store in different places with encoded key within a single database.	It takes more time.

IV. Conclusion and Future Work

In this paper, we have carried out drag and drop mouse action's different technique of CAPTCHA with their advantage and limitation. Comparative analysis of different CAPTCHA technique is also discus. In future we will carry out new CAPTCHA that test is very easy for human but impossible to pass for BOT.

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