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EN- CODING SAFETY AND SECURITY CODE IN DEFENCE GARMENTS

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ABSTRACT

Protective clothing 'hazards caused by extreme changes in physical environment, dangerous working conditions, or enemy action. Protective clothing required to shield or guard the wearer from infectious, toxic, or harmful substances while engaged in employment. Defence forces are the major users of protective textiles. The military wear has to exhibit unique performance characteristics due to the diverse hostile conditions under which it has to function. For this study the data's are collected from defence persons and the data's collected are generated for quick response code for security purpose. Camouflage fabric was selected for this study. Quick response code for developed as data-I, data-II, data-III and data-IV. Based on this codes which was applied using different techniques such as hand embroidery, screen printing, machine embroidery and fabric painting techniques. Among these techniques the DUQRME (Defence uniform quick response code machine embroidery)read's code very quickly, when compared with other techniques, when this code is applied in the defence uniform it can be easily identify the person's identity so that no one can miss use their uniforms which will be secure reliable uniforms for the defence person.

Keywords: Protective clothing, defence, Quick response code, techniques, Camouflage fabric

I .INTRODUCTION

Protective Clothing:

Clothing is an integral part of human life and has number of functions, protection, adornment and status. Kittler-et-al (2003). Protective clothing especially designed, fabricated, or treated to protect personal against hazards caused by extreme changes in physical environment, dangerous working conditions, or enemy action. Sincoe (1984).

Efficiency of a camouflage is to allow clothing and military objects to blend into surrounding environment and blurry the characteristics contours of an object that can no longer be perceived against its background. Gay (2000).

QR – Code:

The "QR Code" stands for " **Quick Response** "coding technology as the codes are designed to be read quickly. QR Codes are two – dimensional barcodes that can be read by many cell phones and smart phones, Quick response scanner, web cameras scanner. Munroe (2010).

II. Development of QR- Codes

Defence persons are identified from the nearby village kalikkampatty and panjampatty their data's are collected such as their name, identification number, address, phone number and their photograph. After collecting their data's using QR code software codes are developed. For generating QR code software used such as QR – stuff and it's of version 5 and data base has 26 characters from A-Z. Camouflage fabric was selected and garment were constructed according to the measurements in the construction lab. Four techniques were implemented for developing QR CODES such as Hand embroidery, Machine embroidery, screen printing and fabric painting

S.No	Data	Application of Alpa numeric character codes for generating QR code	DEVELOPED QR-CODE USING SOFTWARE
1.	Data-I	N a m e : S i v a r a m ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 23 10 22 14 44 28 18 31 10 27 10 22 I D . N O : 4 5 0 6 1 9 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 18 13 42 23 24 44 04 05 00 06 01 09 A D D R E S S : 1 / 1 2 5 w e s t s t e e t ↓ 10 13 13 27 14 28 28 44 01 45 01 02 05 32 14 28 29 28 29 14 14 29 N . P a n j a m P a t t y ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 23 42 25 10 23 19 10 22 25 10 29 29 34 9 D i n d i g u l . ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 14 18 23 13 18 16 30 21 42 P o s t i n g : n a i k ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 25 24 28 29 18 23 16 44 23 10 18 20 P H . N O : 7 3 0 5 0 7 4 7 0 5 ↓ 25 17 42 23 24 44 07 03 00 05 00 07 04 07 00 05 	
2.	Data-II	N a m e : R . S e l v a r a j ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 23 10 22 14 44 25 42 28 14 21 31 10 27 10 19 I D . N O : 2 5 6 6 8 7 0 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 18 13 42 23 24 44 02 05 06 06 08 07 00 A D D R E S S : 1 / 2 2 7 e a s t s t r e e t ↓ 10 13 13 27 14 28 28 44 01 45 02 02 07 14 10 28 29 28 29 27 14 14 29 K a l i k k a m p a t t y . ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 20 10 21 18 20 20 10 22 25 10 29 29 34 42 D i n d i g u l . ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 14 18 23 13 18 16 30 21 42 P o s t i n g : F I G H T E R ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 25 24 28 29 18 23 16 44 15 18 16 17 29 14 27 P H . N O : 8 7 6 0 6 8 5 7 2 9 ↓ 25 17 42 23 24 44 08 07 06 00 06 08 05 07 02 09	

			
3.	Data-III	N a m e : A . T h a n i k o d i ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 23 10 22 14 44 10 42 29 17 10 23 18 20 24 13 18 I D . N O : 7 2 9 2 1 7 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 18 13 42 23 24 44 07 02 09 02 01 07 A D D R E S S : n a d u s t r e e t ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 10 13 13 27 14 28 28 44 23 10 13 30 28 29 27 14 14 29 K a l i k k a m p a t t y . ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 20 10 21 18 20 20 10 22 25 10 29 29 34 42 D i n d i g u l . ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 13 18 23 13 11 18 23 16 42 P o s t i n g : B H M ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 25 24 28 29 18 23 16 44 11 17 22 P H . N O : 9 9 9 4 7 6 3 2 1 9 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 25 17 42 23 24 44 09 09 09 04 07 06 03 02 01 09 	
4.	Data-IV	N a m e : M . R a p h a e l j o h n ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 23 10 22 14 44 22 42 27 10 25 17 10 14 21 19 24 17 23 I D . N O : 3 5 6 8 1 5 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 18 13 42 23 24 44 03 05 06 08 01 05 A D D R E S S : a a r i y a n l l u r , ↓ 10 13 13 27 14 28 28 44 10 10 27 18 34 10 23 21 21 30 27 m u n n i l a i k o t t a i ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 22 30 23 23 18 21 10 18 20 23 929 29 10 18 D i n d i g u l . ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 13 18 23 13 18 16 30 21 42 P o s t i n g : D P M T ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ 25 24 28 29 18 23 16 44 13 25 	

III. Application of various techniques in QR codes in defense uniforms.

After codes are developed it was implemented in Defense uniforms using various techniques such as Hand embroidery, Screen printing, Machine embroidery and fabric painting is shown below.

Hand embroidery **Screen printing**




Machine embroidery **Fabric painting**

IV. Evaluation of Garments by wear study method

The constructed uniforms are evaluated for wear study with different technique such as **using hand embroidery technique**, **Screen printing, Machine embroidery and Fabric painting are evaluated by wear study methods:**

The developed QR- code are applied in the shirt and caps of the uniform, the concern person is wearing the uniform and the QR-code is scanned using scanner which is connected to laptop ,when the code is scanned the data's collected of that defense person will be shown in the screen immediately and the timings and frequency is calculated.


Hand embroidery technique (DUQRHEDI) Screen printing technique (DUQRSPDII)


Machine embroidery Technique (DUQRMEDIII) Fabric painting Technique (DUQRFPDIV)

V. Conclusion:

Reviewing the summary "Application of QR-code in defence uniform" the codes are applied using different techniques such as hand embroidery, screen printing, machine embroidery and fabric painting techniques in which the DUQRSP (Defence Uniform Quick Response code Screen printing) read the code very quickly, when compared with other techniques.

References:

- Ralf kittler, Manfred kayser and mark stoneking (2003)- "Molecular evolution of pediculus humans and the origin of clothing"- Bloomsbury publication- p:p 20-21&24.
- Cott (2002)- "Defence Textiles & camouflage fabrics" - Daubleday publication- p:p-112,133&116
- Gay (2000)- "Art culture and camouflage"- Jaico Publication- p:p-15-80
- Munroe (2010)- "QR code overview and progress of QR code applications"- Nonesuch publication-p:p 9-15.
- Marie- Jo (2003)- " Filet lace, Introduction to the linen stitch- Instruction book to learn how to do embroidery on a knotting Net"- Trafford publication p:p 1-19
- Steven (2008)-"1000 ideas of painting" – Fair publication p:p – 20-23
- Marget (2012)- " Sweat shop paris : a lessons in couture from the sewing cafe "- Andrews MC Meet Publication- p:p -5-7
- Trivedi (2000) – " Berhin work"- Newman publication- p:p -24-25