

# THE G-CODE - CLAIM

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The purpose of the 'THE G-CODE' invention is intended replace any existing dot-code or data-matrix labels like Barcode, Code-128, QR-CODE or any other Data-Matrix Code labels. The G-CODE can support any matrix data size from 8x8 to 64x64 with increment of 4 dots on each size, and 64x64 to 128x128 with increment of 8 dots on each size, and forever extendable size of 16 dots on each size from 128x128 and larger which would be generated by Software Programming Application. The G-CODE is the dot matrix scan-able code which can be used as labels, can be used for photo profiles with picture at the center, can be used as a product icon and even company logos which can be scanned and open the website links that shown in dot data matrix on the G-CODE image. This claim shows the overview figure of this invention which was first submitted on 2021/09/03 with U.S. Only Patent Number 29/806,573; then re-submitted on 2022/02/17 with U.S. PCT/US22/70704 and International PCT/IB2022/000112 Patent Numbers, which can be used as the representing invention drawing to print on the patent frame and the following functions and features of this invention.

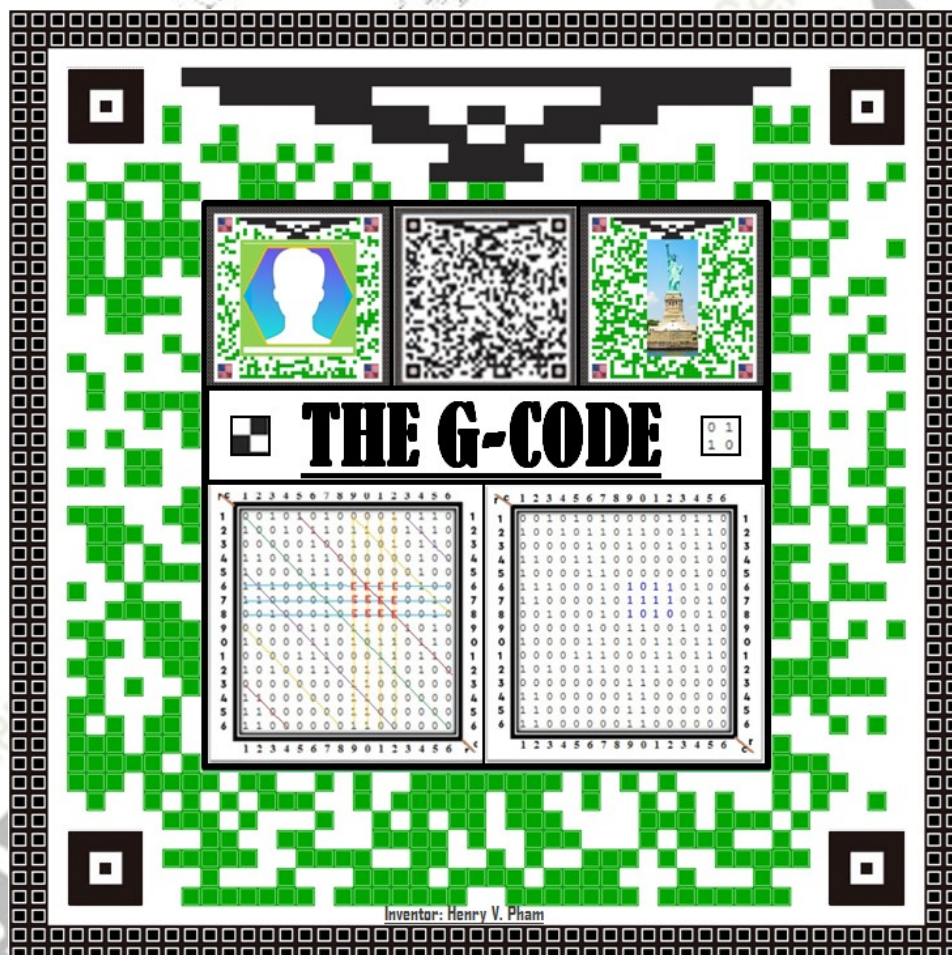


Figure-A: THE G-CODE -- Overview

1. The main apparatus for the G-CODE, comprising:

The G-CODE is the scan-able dot matrix code and comes with square matrix shape with the Eagle symbol on top, 4 identical corners and the square dots matrix data at the center with the Error

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Correction dot codes around. Wherein, the matrix data size from 8x8 to 64x64 with increment of 4 dots on each size, and 64x64 to 128x128 with increment of 8 dots on each size, and forever extendable size of 16 dots on each size from 128x128 and larger to support multi-languages and many different applications in real-life. The G-CODE comes with dot matrix data without image would be used for labels, comes with photo picture at center would be used for photo profiles, product icons, company logos which can be scanned for text description and can open the website links that shown in dot data matrix in the G-CODE image; the data dots would be shuffled for security purposes. The G-CODE Creator application which was written in Java Programming Language in year 2021 and used to create G-CODE labels, profiles or logos would be posted on the website [www.TheGCODECreator.com](http://www.TheGCODECreator.com), plus the G-CODE Utility app that already provided to prepare text data files to support the G-CODE Creator application plus the G-CODE invention documents which were also posted on the website [www.TheCloudOSCenter.com](http://www.TheCloudOSCenter.com) for references.

2. The G-CODE uniqueness layout apparatus for claim 1, further comprising:

The G-CODE comes with square border, 4 identical corners, data dots matrix at center with the Error Correction dots code around plus the Eagle symbol on top of the data matrix square. Wherein, the Eagle symbol would be programmed to draw by the G-CODE Creator application and shown on top of the data matrix square with the wings span and extend with the size of the G-CODE image; the 4 identical corners would come with identical image that were provided by the G-CODE Creator application and can be customized as the application supported; the G-CODE would come with 3 dots lines border which have 1 inner white dots line and 2 outer color dots lines; and the dots around the data matrix square would be used for Error Correction codes.

3. The G-CODE data & language supporting apparatus of claim 1 & 2, further comprising:

The G-CODE comes with dots data matrix which is in binary format that can support any languages. Wherein, the white or blank dot represents for '0' and the color dot represents for '1' in binary data; the G-CODE would support all languages with UTF-8 format and standard English in ASCII table and the new Latin Languages USCLI table for future with Cloud OS.

4. The G-CODE creating functions apparatus of claim 1 & 2, further comprising:

The G-CODE icons would be created by an application with input data text and images provided by the users; the larger the text is provided, the bigger the G-CODE icon is generated. Wherein, the G-CODE labels can be in any size with the dots factor of 4, 8 and 16 as mentioned; the G-CODE profiles with full supported photo size would come with default 32x32 dot data matrix and with 6x info lines and 3x border lines with supported 74 bytes or 85 ASCII characters with the photo image at the center; and the Logos or Product icons with dynamic resize-able image at the center would come with maximum of 212 ASCII characters or 185 bytes for UTF-8 characters. The G-CODE Creator application which was mentioned on the website [www.TheGCODECreator.com](http://www.TheGCODECreator.com) or original website that linked to the same website and was mentioned in the invention document '[www.GCODE-Creator.com](http://www.GCODE-Creator.com)', would be used to create G-CODE labels, G-CODE photo profiles, G-CODE logos and G-CODE product icons.

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5. The G-CODE scanning functions apparatus of claim 1 & 2, further comprising:

The G-CODE icons can be scanned at any directions to obtain the text, description or product serial number that was generated as the dots data without directing the Eagle symbol upward. Wherein, the website [www.TheGCODECreator.com](http://www.TheGCODECreator.com) would provide the G-CODE Scanner API which was written in Java programming language that was mentioned in the original invention document and can be used in 3<sup>rd</sup> party application or on mobile devices to scan the G-CODE from anywhere around the world when the G-CODE is widely used for many different applications such as Product Serial Number labels, Company Logos, Product Icons, Postal Stamps, Home or Office address labels and more which can be scanned and used by robots or AI/ML for automatic searching and sorting services.

6. The G-CODE Error Correction apparatus of claim 1 & 2, further comprising:

The G-CODE comes with great Error Correction Algorithm that can correct the missing dots on the labels. Wherein, the Error Correction Algorithm used the 4-ways checksum of the Row, Column, and the 2 Diagonal lines with condense checksum data of every 4-bits dots data; the backward Diagonal and forward Diagonal checksum calculations applied the "Light-beam" reflection method on every 4-bit data lines to have the great Error Correction ever for the dot data matrix.

7. The G-CODE usage applications of claim 1, 2 & 5, comprising:

The G-CODE with unique and great Look-and-Feel and the great Error Correction Methodology would be widely used in real-life to replace any other dot matrix codes. Wherein, the 4 corners can be the country flag, can be the company logo, can be personal uniqueness icon, or can be any favorite user's iconic. The G-CODE would be used widely not only applications that were mentioned in the claim-5, the G-CODE can be used for secured and scan-able Photo Identification Card, Driver License, Student ID Cards, Passport and much more.

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