

## LIGHTING FIXTURE

### TECHNICAL FIELD

- 5     The present invention relates to a lighting system, and more particularly, to a foldable lighting system for providing lighting for photographing.

### BACKGROUND

- 10    Online Business has significantly increased over the past few years, where it enables users/customers to buy and/or sell products on online stores such as facebook, e-bay, olx and other similar webs. In order to market or sell their products on the online stores often requires users to capture photos of their products and upload the photos to the online stores.

- 15    In order to obtain attractive photos of the products there is need of a professional photographer to highlight the products with attractive photos of it or the user require photographic skills, good knowledge of photo editing software.

- 20    However, in order to capture attractive photos of the products, sufficient and substantially uniform lighting must be provided to the products during photographing, where can be usually archived by using a photo studio facilities, which can be costly, takes-up space and complex to setup, even for a mini studio area as the lights need to be arranged at the correct angles to archive desired  
25    lighting.

Therefore, there is a need of portable studio or portable lighting system for providing lighting for photographing which are simple to setup and can be stored easily.

Thus, the proposed portable lighting system aims to drastically reduce the time spent on photography sessions of these users, while providing them the professionalism they seek in their work.

## 5 SUMMARY OF INVENTION

One aspect of the present invention relates to a photography studio for photographing at least one object comprising; a supporting means; a cover to provide a shade from an external lighting on the object; a light source; and a  
10 plurality of frame member having the light source mounted to provide lighting to the object placed within the studio, wherein all of the frame member being integrally attached to the supporting means in such a way that the frame and the wall is retractable to form the photography studio.

15 Further aspect of the present invention relates to the photography studio having at least one guide frame for mounting the cover to form at least one wall, wherein the guide frame being integrally attached to the supporting means in such a way that the wall is retractable to form the photography studio.

20 Further aspect of the present invention relates to the photography studio includes having at least one camera for capturing photo or video of the object placed within the studio.

Further aspect of the present invention relates to the photography studio having  
25 at least one backdrop to be attached to the support member.

Preferably, the backdrop having one end attached to one part of the supporting member and another end attached to one part of the frame member.

30 Preferably, the supporting means connected to a base to act as a support for the supporting means.

Preferably, the frame member integrally attached on inner area of the supporting means.

- 5 Preferably, the guide frame integrally attached on outer area of the supporting means.

Preferably, the guide frame and the frame member are Hemispherical shaped.

- 10 Preferably, the frame member further houses a connecting means to supply power for any parts mounted on the frame member.

- Preferably, the frame member further houses a connecting means to establish connection between any parts mounted on the frame member and external means.  
15

Preferably, the light source mounted by embedding on to the frame member.

- Preferably, the frame member further houses a connecting means to establish connection between any parts mounted on the frame member and external means.  
20

- Preferably, the frame member further houses a connecting means to establish connection between any parts mounted on the frame member and external means.  
25

Preferably, the photography studio is foldable in such a way that, the supporting means, the frame member and the guide frame are laid flat to form a series of frames.

Preferably, the photography studio is foldable in such a way that, the supporting means, the frame member and the guide frame are laid flat to form a series Hemispherical shaped frames.

- 5 Preferably, the photography studio is foldable in such a way that, the supporting means, the frame member and the guide frame are laid flat to form a series folded frames.

- 10 Preferably, the supporting means, the frame member and the guide frame are arched shaped bar.

Preferably, the arched shaped bar is in inverse U shape.

- 15 The present invention consists of features and a combination of parts hereinafter fully described and illustrated in the accompanying drawings, it being understood that various changes in the details may be made without departing from the scope of the invention or sacrificing any of the advantages of the present invention.

**BRIEF DESCRIPTION OF PREFERRED EMBODIMENT**

To further clarify various aspects of some embodiments of the present invention, a more particular description of the invention will be rendered by references to specific embodiments thereof, which are illustrated in the appended drawings. It is appreciated that these drawings depict only typical embodiments of the invention and are therefore not to be considered limiting of its scope. The invention will be described and explained with additional specificity and detail through the accompanying drawings in which:

10

Figure 1 illustrates overview of one embodiment foldable lighting system.

Figure 2 illustrates overview of another embodiment of a foldable lighting system with light source and camera.

15

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The proposed invention referred as photographic studio which aims to drastically reduce the time spent on photography sessions of these users, while providing  
5 them the professionalism they seek in their work.

An apparatus for photographing at least one object also know as photographic studio or photo studio. FIG. 1 illustrates an exemplary foldable photographic studio or lighting system 100 in an operational mode according to one exemplary embodiment of the present disclosure. In the exemplary  
10 embodiment depicted in FIG. 1, the foldable lighting system 100 may include a plurality inner frame structure 101 and main support frame structure 102 to form a house frame. The house frame may serve as a tent within which at least one object may be placed for photo shooting. The house frame is further attached with at least one guide frame 103 to guide  
15 the position of a shade tent from an external lighting on the object placed within the house frame. Further, the frame member may also have at least one light source or at least one camera 104 mounted on it. Further, the entire frame member may also integrally attached to the main support frame structure 102 in such a way that the house frame and the guide frame 103 is retractable to  
20 form the photography studio 100.

Figure 2 illustrates overview of another embodiment of the present invention, where the present invention relates to a foldable lighting system 200 comprising a plurality inner frame structure 201 and main  
25 support frame structure 202 to form a tent or house frame. The tent may serve as a studio or booth within which an object or objects can be placed for photo shooting. The main support frame structure 202 of the tent is further mounted with at least one guide frame 203a, 203b to steer the

position of a cloth or shade tent from an external lighting on the object placed within the tent. Further, the frame member may also have at least one light source or at least one camera 204 mounted on it. Further, the entire frame member may also integrally mounted to the main support frame structure 202 in such a way that the tent and the guide frame 203a, 203b is retractable to form the photography studio 200. The guide frame 203 is divided into front guide frame 203a and back guide frame 203b. The inner frame structure 201a, 201b, 201c is divided into A-inner frame structure 201a, B-inner frame structure 201b and C-inner frame structure 201c. The main support frame structure 202 further includes a stand 205 to held the main support frame structure 202 in place. Further, the main support frame structure 202 has at least one bracket 206 to interconnect each of the inner frame structure 201. Preferably, the main support frame structure 202 has also front shade stopper 207 and/or caps/ back shade stopper 208 for controlling the shade.

### **Design Outcome**

The selection Material is very crucial for this particular product, as it will greatly affect the user experience such as weight, texture, mobility and setup process.

Environmental-friendly materials can be take into consideration as well, such as heavy card-like materials (>350 gsm). This will greatly reduce the manufacturing cost as most parts were designed in symmetry, but the parts may not be identical because each tubes and connectors may have different height.

Another method of using Modular Strips & Bendable tube can be considered in the design process as well. However, due to the complexity to setup and the

involvement of many custom-made detailed electronics socket, it may not be suitable.

A hemisphere concept was preferred to be used as the most feasible concept due to several of its geometry behavior, such as:

a) The hemisphere provides a huge bird-eye coverage from the top. This allows for flexible camera placement. Tubes can be adjusted to get a wide range of placement options.

b) The chained/semi-fixed-angle tubes allow users to setup the device in one lift. Vice versa for storage.

c) The hemisphere lighting system provides good coverage for the photography session. The round placement gives a smooth light dispersion without any need for light dispersion papers.

Further, the hemisphere concept allows the design to be flat packed into one single component without the need for assembly, except when changing backdrops for more advanced usage.

The advantage of the foldable lighting system is that, it is preferably made based on Hemisphere Concept studio. Preferably the inner frame and the guide frame are in Hemisphere shape, Arch shape, U-shaped, U-shaped formed from two L's, or the inner frame and the guide frame shaped in such way that the frames could be folded flat, where the frames arranged in sequence or Parallel to each other. Further, the inner frame includes all-rounded camera positioned along its frame.

Further, the inner frame includes all-rounded camera positioned along its frame. Further, the guide frame is mounted with a shade or tent, where the guide frame can be adjusted or moved along the perimeter of the foldable lighting system or the main frame where the guide frame is mounted. Further, the foldable lighting system is mounted with a backdrop to one the inner frame on one side and preferably the other side of backdrop mounted on the main frame to form a background or studio backdrop. The size of the backdrop is shaped preferably in

oval where one end is smaller than the other depending on the size of the main frame and the inner frame. Further, the frame houses or mounted with a light source and camera, seamlessly incorporated. Further, the frame houses a hidden cables for connecting the light source and camera. The frame formed from a tube like shape, where the frame has an hollow opening in its center to accommodate mounting any devices or cable connections. The cable connection connected to one end of side of the frame to the other end. The foldable lighting system further includes a controller module that can be connected to the light source and camera via cable. The controller module also know as power brick, where it able to provide power supply for the components connected to the foldable lighting system as well as connection port to communicate such as USB, to a processing unit embedded in the power brick. The processing unit able to process the data received from the components such as photos or videos and able to control the functions of components mounted to the system such as the light source. The controller module further includes an indicator lights to indicate the function of the controller module. The controller module able to act like a computer, where it able to connect via wired or wireless connection to any other electronic devices for transmitting data or signal. The controller module is a portable design where it could be attached or mounted to one side of the frame.

Method of using one embodiment of the foldable lighting system

Step 1- Setup Easy-Studio or foldable lighting system and power up

Step 2- Place the item inside the stage

Step 3- Insert USB drive

Step 4- Press Capture Button

Step 5- Repeat steps 2 to 4 for subsequent items.

\*All images will be stored in the USB drive in .jpeg format.

One example of the foldable lighting system includes

a) At least one 16GB Class 10 SD Card

- b) At least one Power Supply
- c) At least one processing unit such as Raspberry Pi 2
- d) At least one Custom-made shield with switch and at least one LED indicator with the following configuration.

5

Method of using another embodiment of the foldable lighting system

Step 1- Setup Easy-Studio or foldable lighting system and power up

Step 2- Connect to the foldable lighting system via Mobile Phone Wi-Fi

Step 3- Open browser and enter its URL e.g <http://192.168.0.88>

10 Step 4- Place the item inside the stage

Step 5- Follow instructions mentioned on the website

Step 6- Repeat steps 4 and 5 for subsequent items.

\*All images taken can be downloaded to the mobile phone

15 Another example of the foldable lighting system includes

- a) At least one 16GB Class 10 SD Card
- b) At least one Power Supply
- c) At least one processing unit such as Raspberry Pi 2
- d) At least one Portable Wi-Fi Router
- e) At least one Ethernet Cable (4 – 6 cm)
- f) At least one NFC Tag
- g) At least one Multi Camera adapter board for Raspberry Pi
- h) At least one of 50cm 5V LEDs
- i) At least one of 5MP Raspberry Pi Camera Module
- j) At least one of 15cm Ribbon Cable
- k) At least one of 50cm Ribbon Cable
- l) At least one of 1m Ribbon Cable
- m) At least one of 1m Ribbon Cable

25

30 The present invention may be embodied in other specific forms without departing from its essential characteristics. The described embodiments are to be

considered in all respects only as illustrative and not restrictive. The scope of the invention is, therefore indicated by the appended claims rather than by the foregoing description. All changes, which come within the meaning and range of equivalency of the claims, are to be embraced within their scope.

**Claims**

1. A photography studio (100) for photographing at least one object comprising;  
5 a supporting means (102);  
a cover to provide a shade from an external lighting on the object;  
a light source; and  
a plurality of frame member (101) having the light source mounted to provide  
lighting to the object placed within the studio, wherein all of the frame member  
10 (101) being integrally attached to the supporting means (102) in such a way that  
the frame and the wall is retractable to form the photography studio (100).
2. The photography studio (100) as claimed in claim 1, further includes at  
least one guide frame (103) for mounting the cover to form at least one wall,  
15 wherein the guide frame (103) being integrally attached to the supporting means  
(102) in such a way that the wall is retractable to form the photography studio  
(100).
3. The photography studio (100) as claimed in claim 1, further includes at  
20 least one backdrop to be attached to the support member.
4. The photography studio (100) as claimed in claim 1, further includes at  
least one camera (104) for capturing photo or video of the object placed within  
the studio.
- 25 5. The photography studio (100) as claimed in claim 1, further includes at  
least one controller module to control the light source and any other electronic  
components for processing.

6. The photography studio (100) as claimed in claim 1, wherein the backdrop having one end attached to one part of the supporting member and another end attached to one part of the frame member (101).

5 7. The photography studio (100) as claimed in claim 1, wherein the supporting means (102) connected to a base to act as a support for the supporting means (102).

8. The photography studio (100) as claimed in claim 1, wherein the frame  
10 member (101) integrally attached on inner area of the supporting means (102).

9. The photography studio (100) as claimed in claim 1, wherein the guide frame (103) integrally attached on outer area of the supporting means (102).

15 10. The photography studio (100) as claimed in claim 1, wherein the guide frame (103) and the frame member (101) are Hemispherical shaped.

11. The photography studio (100) as claimed in claim 1, wherein the frame member (101) further houses a connecting means to supply power for any parts  
20 mounted on the frame member (101).

12. The photography studio (100) as claimed in claim 1, wherein the frame member (101) further houses a connecting means to establish connection between any parts mounted on the frame member (101) and external means.  
25

13. The photography studio (100) as claimed in claim 1, wherein the light source mounted by embedding on to the frame member (101).

14. The photography studio (100) as claimed in claim 1, wherein the frame  
30 member (101) further houses a connecting means to establish connection between any parts mounted on the frame member (101) and external means.

15. The photography studio (100) as claimed in claim 1, wherein the frame member (101) further houses a connecting means to establish connection between any parts mounted on the frame member (101) and external means.

5

16. The photography studio (100) as claimed in claim 1, wherein the photography studio (100) is foldable in such a way that, the supporting means (102), the frame member (101) and the guide frame (103) are laid flat to form a series of frames.

10

17. The photography studio (100) as claimed in claim 1, wherein the photography studio (100) is foldable in such a way that, the supporting means (102), the frame member (101) and the guide frame (103) are laid flat to form a series Hemispherical shaped frames.

15

18. The photography studio (100) as claimed in claim 1, wherein the photography studio (100) is foldable in such a way that, the supporting means (102), the frame member (101) and the guide frame (103) are laid flat to form a series folded frames.

20

19. The photography studio (100) as claimed in claim 1, wherein the supporting means (102), the frame member (101) and the guide frame (103) are arched shaped bar.

25

20. The photography studio (100) as claimed in claim 1, wherein the arched shaped bar is in inverse U shape.