particular with respect to the physical dimension of the battery, heat management hardware, and the light source.

According to an aspect of the invention, the system further comprises a photoelectric conversion means arranged to convert ambient light into electric energy which is fed into the system. This means could, for example, be a solar cell which converts ambient light into electric energy. This energy is then fed into the system. It could be fed directly to the emission device, but it could also be used to drive the CPU, a memory device, etc. It is also an option to store the energy in the system, as will be explored further below. Given the drastically reduced energy consumption of the screen thanks to only having to drive it for a fraction of the time, using such a solar cell to power the system becomes possible without having to use an excessively large solar cell.

The present inventor recognized that the technology described previously has, in addition to the improved contrast, a potential for a significant reduction in energy. He further recognized that this reduction in energy consumption opens the door for a laptop computer which can be properly driven by solar cells, which was hitherto unpractical.

The realization here is that a strategy of using longer solar charging periods than outdoor operating periods, can be generalized by using shorter operation times of the emission device than the times when the photoelectric conversion means is exposed to ambient light.

In particular it is possible to use the present technology to show the user only short images by strobing the light source in the screen with a small duty cycle and selectively gating these images via shutter glasses to the eyes of the user as we previously described. During this time high screen intensities can be reached, which, as an example may have an intensity 20 times higher than the usual intensity of a

laptop screen would be operated at, resulting in an e.g. 10.000lx peak brightness, that now accounts for the perceived brightness of the screen, with even higher values being feasible.

Importantly, thanks to the lower energy consumption, being exposed to sunlight is no longer a disadvantage for using the system for displaying information. Rather, it leads to a higher production of energy, which can be high enough to have a positive net storage of energy in an energy storage device.

The system thus preferably further comprises an energy storage device. Such a device could be an arrangement of one or more rechargeable batteries. It could also comprise one or more capacitors. This energy storage device is arranged to supply energy to drive the emission device, the energy produced by the photoelectric conversion means being used to store energy in the energy storage device. Such an energy storage device can serve as a buffer between high intensity peak emissions and may also be used to compensate fluctuations in the ambient light intensity.

It is preferred that the energy storage device comprises at least a first and a second energy storage component. Those energy storage components could be rechargeable batteries. They could, however, also be capacitors. The system could be arranged so that one of the first and the second energy storage components charges whilst the respective other one supplies energy to the emission device. The system is arranged to swap the first and the second energy storage components so that the respective energy storage component which previously was charged is now used to supply energy to the emission device whilst the respective other energy storage component is charged. This way of operating the energy storage device is considered advantageous, since the charging operation has an approximately constant or at least slowly varying voltage, which is advantageous for efficient charging a battery. In contrast, thanks to the pulsed way of operating the emission device, the energy storage component

Claims

1. System for displaying information, comprising:

an emission device arranged to emit light so as to display information to a user, the emission device being adapted to emit the light in a pulsed manner so that the intensity of the light varies between a high value and a low value,

a selective viewing device comprising a panel, the panel being adapted so that the user can view the light which is emitted by the emission device through that panel so as to visually perceive the information being displayed, the panel having a variable transparency which can be varied between a state of high transparency and a state of low transparency,

the system being adapted to synchronize the emission device and the selective viewing device so that the states of the emission device emitting light at a high-intensity value and the states of the panel of the selective viewing device of high transparency overlap in time,

the system further comprising a photoelectric conversion means arranged to convert ambient light into electric energy which is fed into the system,

the system further comprising an energy storage device arranged to supply energy to drive the emission device, the energy produced by the photoelectric conversion means being used to store energy in the energy storage device,

wherein the energy storage device comprises at least a first and a second energy storage component, the system being arranged so that one of the first and the second energy storage components is charged whilst the respective other one supplies energy to the emission device, the system being arranged to swap the first and the second energy storage devices so that the respective energy storage component which previously was charged is now used to supply energy to the emission device whilst the respective other energy storage component is charged.

2. System according to claim 1, the photoelectric conversion means comprising a solar cell having an area exposed to ambient light which falls within the range of from 50 cm^2 to 5000 cm^2, preferably 200 to 2000 cm^2, more preferably 400 to 1200 cm^2.

3. System according to claim 1 or 2, the emission device having a duty cycle of less than or equal to 1/20, preferably less than or equal to 1/100 and even more preferably less than or equal to 1/250, wherein the panel of the selective viewing device is configured to operate at essentially the same duty cycle.

4. System according to one of the preceding claims, wherein the emission device is arranged so that an ambient contrast ratio of larger than 1, preferably larger than 4, more preferably larger than 10 is reached.

5. System according to one of the preceding claims, the emission device being arranged so that the intensity at the low value is less than 20%, preferably less than 10% of the intensity of the high level intensity, wherein even more preferably, no light is emitted when the emission device is set to emit light at the low value of the intensity.

6. System according to one of the preceding claims, the system being arranged so that the power consumption of the emission device is less than the power production by the photoelectric conversion means, wherein it is preferably less than 90%, more preferably less than 70% and even more preferably less than 50% of the power production by the photoelectric conversion means.

7. Portable computer system comprising the system according to one of the preceding claims.

8. Portable computer system according to claim 7, the portable computer comprising a screen having a front side and a rear side, the front side comprising the emission device as the display area, the rear side of the screen comprising the photoelectric conversion means, wherein the photoelectric conversion means preferably covers more than 70% and more preferably between 90% to 100% of the area of the rear side of the screen.

9. Portable computer system according to claim 7, wherein the photoelectric conversion means is provided so as to fold out from the portable computer.

10. Portable computer system according to claim 7, wherein the photoelectric conversion means is a component which is separate from the remaining components of the portable computer system and wherein it can be separated from those components without the use of a tool.

11. System according to one of claims 1 to 6, the emission device being a laser projector and/or a video projector.

12. System according to one of claims 1 to 6, the emission device and the photoelectric conversion means being incorporated into a tablet computer.