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DIVIDER SYSTEM AND METHOD FOR AN INTERNAL CABIN OF AN AIRCRAFT

Abstract

A divider system is configured to separate a first section from a second section within an internal cabin of a vehicle. The divider system includes a support bracket, and one or more displays secured to the support bracket. The one or more displays extend downwardly from the support bracket. The one or more displays are configured to show electronic content thereon. The one or more displays are selectively switchable between a transparent mode and an opaque mode.

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Background/Summary

FIELD OF THE DISCLOSURE

[0001] Examples of the present disclosure generally relate to a divider system configured to divide different sections within an internal cabin of an aircraft.

BACKGROUND OF THE DISCLOSURE

[0002] Vehicles such as commercial aircraft are used to transport passengers between various locations. A typical aircraft includes an internal cabin having seats for passengers.

[0003] Internal cabins of many commercial aircraft have different sections, such as a first class section, a business class section, an economy section, and/or the like. Curtains can be used to separate different sections from one another. As an example, a first class section is often set apart from other areas of the internal cabin by curtains. However, certain individuals may find the curtains to be cumbersome to manipulate, and aesthetically undesirable.

SUMMARY OF THE DISCLOSURE

[0004] A need exists for an improved system and method for dividing sections within an internal cabin of a vehicle, such as a commercial aircraft. Further, a need exists for a system and method for providing information to passengers in different sections of an internal cabin of a vehicle.

[0005] With those needs in mind, certain examples of the present disclosure provide a divider system configured to separate a first section from a second section within an internal cabin of a vehicle. The divider system includes a support bracket, and one or more displays secured to the support bracket. The one or more displays extend downwardly from the support bracket. The one or more displays are configured to show electronic content thereon. The one or more displays are selectively switchable between a transparent mode and an opaque mode.

[0006] In at least one example, the vehicle is an aircraft.

[0007] In at least one example, the one or more displays comprise a transparent digital display screen. For example, the one or more displays include a transparent organic light-emitting diode (OLED) screen.

[0008] In at least one example, the divider system is not configured to extend to a floor of the internal cabin.

[0009] In at least one example, a fitting upwardly extends from the support bracket. The fitting is configured to secure the divider system to one or more of a stowage bin, a ceiling or a passenger service unit (PSU) within the internal cabin. For example, the fitting is configured to removably secure the divider system to one or more of the stowage bin, the ceiling, or the PSU.

[0010] In at least one example, a control unit is in communication with the one or more displays. The control unit is configured to control operation of the one or more displays. A user interface can be in communication with the control unit. The user interface is configured to allow an individual to control operation of the one or more displays.

[0011] The one or more displays can include a single display. As another example, the one or more displays include a first display, and a second display. The first display and the second display are oriented back-to-back in relation to one another.

[0012] Certain examples of the present disclosure provide a method for a divider system configured to separate a first section from a second section within an internal cabin of a vehicle, the divider system including: a support bracket; and one or more displays secured to the support bracket, wherein the one or more displays extend downwardly from the support bracket, wherein the one or more displays are configured to show electronic content thereon, and wherein the one or more displays are selectively switchable between a transparent mode and an opaque mode, the method includes: showing electronic content on the one or more displays; and selectively switching the one or more displays between the transparent mode and the opaque mode.

[0013] Certain examples of the present disclosure provide an aircraft including an internal cabin having a first section and a second section, and a divider system separating the first section from the second section, as described herein.

Description

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] FIG. 1 illustrates a block diagram of a divider system within an internal cabin of a vehicle, according to an example of the present disclosure.

[0015] FIG. 2 illustrates a simplified side view of the divider system, according to an example of the present disclosure.

[0016] FIG. 3 illustrates a simplified side view of the divider system, according to an example of the present disclosure.

[0017] FIG. 4 illustrates a perspective front view of an aircraft, according to an example of the present disclosure.

[0018] FIG. 5 illustrates a perspective interior view of an internal cabin of an aircraft, according to an example of the present disclosure.

[0019] FIG. 6 illustrates a perspective front view of a divider system having a display in a transparent mode, according to an example of the present disclosure.

[0020] FIG. 7 illustrates a perspective front view of the divider system having the display showing electronic content thereon, according to an example of the present disclosure.

[0021] FIG. 8 illustrates a perspective front view of the divider system having the display showing electronic content thereon, according to an example of the present disclosure.

[0022] FIG. 9 illustrates a perspective front view of the divider system having the display showing electronic content thereon, according to an example of the present disclosure.

[0023] FIG. 10 illustrates a perspective front view of the divider system having the display showing electronic content thereon, according to an example of the present disclosure.

DETAILED DESCRIPTION OF THE DISCLOSURE

[0024] The foregoing summary, as well as the following detailed description of certain embodiments will be better understood when read in conjunction with the appended drawings. As used herein, an element or step recited in the singular and preceded by the word “a” or “an” should be understood as not necessarily excluding the plural of the elements or steps. Further, references to “one embodiment” are not intended to be interpreted as excluding the existence of additional embodiments that also incorporate the recited features. Moreover, unless explicitly stated to the contrary, embodiments “comprising” or “having” an element or a plurality of elements having a particular condition can include additional elements not having that condition.

[0025] FIG. 1 illustrates a block diagram of a divider system **100** within an internal cabin **102** of a vehicle **104**, according to an example of the present disclosure. In at least one example, the vehicle **104** is a commercial aircraft, and the divider system **100** is within a passenger seating area of the internal cabin **102**. The divider system **100** can be configured to separate a first section **103** from a second section **105**. As an example, the first section **103** can be a first class section or business class section, and the second section **105** can be the business class section or an economy class section. In at least one example, the divider system **100** separates different class sections of the internal cabin **102** from one another. That is, the divider system **100** provides a defined and unmistakable separating indicator between two different sections. Optionally, the divider system **100** may not be configured to separate different sections. Also, optionally, the divider system **100** can be used with various other types of vehicles, such as automobiles, vans, buses, train cars, watercraft, spacecraft, or the like.

[0026] The divider system **100** includes a support bracket **106** that retains one or more displays **108**, such as electronic monitors, screens, or the like. The display(s) **108** can be or otherwise include televisions. In at least one example, the display **108** is a transparent digital display screen. As a further example, the display **108** is an ultra-thin, lightweight transparent organic light-emitting diode (OLED) screen. The display **108** is transparent in that it is clear and visible therethrough,

such as when in a transparent mode of operation. As a further example, the display **108** is sized and shaped to be easily secured to and removed from (such as for maintenance) the support bracket **106**.

[0027] The display(s) **108** extend downwardly from the support bracket **106**. The support bracket **106** suspends the display(s) **108** downwardly therefrom. In at least one example, the divider system **100** does not extend to a floor of the internal cabin **102**. As an example, the display(s) **108** do not extend to a floor of the internal cabin **102**. In at least one example, the display(s) **108** do not extend to a plane defined by an uppermost surface of seats within the internal cabin **102**. The divider system **100** is not secured to a wall within the internal cabin **102**. The display(s) **108** is secured to a wall within in the internal cabin **102**.

[0028] The support bracket **106** can further include, or be integrally formed with, a fitting **110**. The fitting **110** is configured to be secured within a receptacle **112** within the internal cabin **102**. In at least one example, the receptacle **112** is formed on or in a stowage bin **114** extending downwardly from a ceiling **116** of the internal cabin **102**. As another example, the receptacle **112** is formed on or in a passenger service unit (PSU) **118** extending downwardly from the ceiling **116**. As another example, the receptacle **112** is formed on or within a rail extending between the stowage bin **114** and the PSU **118**. As another example, the receptacle is formed on or in the ceiling **116**. As another example, the receptacle is formed on or in the stowage bin **114**, the ceiling **116**, and the PSU **118**.

[0029] In at least one example, the fitting **110** is configured to be removably coupled to the receptacle **112**. In this manner, the fitting **110** allows the divider system **100** to be selectively secured to, and removed from the receptacle **112**. As an example, the fitting **110** can be a plug that is configured to be removably secured to the receptacle **112**, which can be a reciprocal socket that removably receives and retains the fitting **110**. By allowing the divider system **100** to be selectively secured to and removed from one or more of the stowage bin **114**, the ceiling **116**, and/or the PSU **118**, the divider system **100** can be selectively positioned within the internal cabin **102** depending on a desired configuration of one or more sections of the internal cabin **102**. Optionally, the divider system **100** can be integrally and permanently secured to one or more of the stowage bin **114**, the ceiling **116**, and/or the PSU **118**.

[0030] The fitting **110** and the receptacle **112** include mechanical couplings that allow for the divider system **100** to be secured to one or more of the stowage bin **114**, the ceiling **116**, and/or the PSU **118**. The fitting **110** and the receptacle **112** can further include electrical couplings that allow for power and data signals to be received by the display(s) **108**.

[0031] In at least one example, a control unit **120** is in communication with the display(s) **108**, such as through one or more wired or wireless connections. The control unit **120** is also in communication with a user interface **122**, such as through one or more wired or wireless connections. The user interface **122** includes a display **124** in communication with an input device **126**, such as through one or more wired or wireless connections. In at least one example, the display **124** is an electronic device configured to electronically show images, videos, text, and/or the like. The display **124** can be a monitor, screen, television, touchscreen, and/or the like. The input device **126** can include a keyboard, mouse, stylus, touchscreen interface (that is, the input device **126** can be integral with the display **124**), and/or the like. The display **124** is configured to show visual graphics, videos, text, and/or the like. The user interface **122** can be an attendant control panel.

[0032] The control unit **120** and the user interface **122** can be located within the internal cabin **102**, such as within a galley or attendant area. As another example, the control unit **120** and the user interface **122** can be in a flight deck or cockpit of an aircraft. In at least one example, the control unit **120** and the user interface **122** are part of a computer workstation within the internal cabin **102**. As another example, the control unit **120** and the user interface **122** can be part of a handheld device, such as an electronic tablet, a smartphone, or the like.

[0033] An individual can operate the display(s) **108** to show content including various messages,

graphics, and the like on the display(s) **108** through inputs of the user interface **122**, which are provided to the display(s) **108** through the control unit **120**, which controls operation of the display(s) **108**.

[0034] The display(s) **108** is configured to display various types of electronic content, such as text, images, video, and/or the like. As an example, the display(s) **108** is configured to be operated and controlled, such as by the control unit **120**, to be transparent during taxi, take off, and landing to meet regulatory requirements (such as promulgated by the United States Federal Aviation Administration (FAA)) that require a flight attendant, while seated in an attendant seat, to have a direct line-of-sight view of passengers along the length of the internal cabin (FAR 25.785 (h)—Direct View Requirements).

[0035] For example, the control unit **120** can operate the display(s) **108** to show initial boarding messages, such as a boarding welcome, and boarding status. As another example, the control unit **120** can operate the display(s) **108** to show instructions during flight, such as seatbelt fastening instructions before the aircraft departs an airport.

[0036] As described herein, the divider system **100** is configured to separate a first section from a second section within the internal cabin **102** of the vehicle **104**. The divider system **100** includes the support bracket **106**, and one or more displays **108** secured to the support bracket **106**. The display(s) **108** extend downwardly from the support bracket **106**. The display(s) **108** are configured to show electronic content thereon. The display(s) **108** are selectively switchable between a transparent mode and an opaque mode (which can include modes therebetween, such as a semi-transparent mode and/or a semi-opaque mode).

[0037] In at least one example, the control unit **120** can be in communication with a cabin lighting system, and configured to coordinate electronic content shown on the display(s) **108** with operation of the cabin lighting system. The control unit **120** can also be in communication with fasten seat belt lighted signs, and configured to coordinate electronic content shown on the display(s) **108** with fasten seat belt indications. The control unit **120** can also be in communication with a flight computer, for example, and configured to coordinate electronic content shown on the display(s) **108** with flight information. In at least one example, the control unit **120** can also be configured to show closed captioning information on the display(s) **108**, such as for individuals with hearing difficulties.

[0038] FIG. 2 illustrates a simplified side view of the divider system **100**, according to an example of the present disclosure. As shown, the divider system **100** includes a single display **108** supported by, and extending downwardly from, the support bracket **106**.

[0039] FIG. 3 illustrates a simplified side view of the divider system **100**, according to an example of the present disclosure. In at least one example, the divider system **100** includes a first display **108a** and a second display **108b** supported by, and extending downwardly from, the support bracket **106**. The first display **108a** and the second display **108b** are oriented back-to-back in relation to one another. Referring to FIGS. 1 and 3, the control unit **120** operates the first display **108a** and the second display **108b** so that electronic content shown on the first display **108a** and the second display **108b** is displayed the same to individuals viewing from a first position **128** (such as in front of the divider system **100**) and individuals viewing from a second position **130**, which is opposite from the first position **128** (such as behind the divider system **100**). In this manner, an individual passing from the first position **128** to the second position **130** does not view inverted content on the display **108a**. Similarly, an individual passing from the second position **130** to the first position **128** does not view inverted content on the display **108b**.

[0040] FIG. 4 illustrates a perspective front view of an aircraft **200**, according to an example of the present disclosure. The aircraft **200** is an example of the vehicle **104** shown in FIG. 1. The aircraft **200** includes a propulsion system **212** that includes engines **214**, for example. Optionally, the propulsion system **212** may include more engines **214** than shown. The engines **214** are carried by wings **216** of the aircraft **200**. In other examples, the engines **214** may be carried by a fuselage **218**

and/or an empennage **220**. The empennage **220** may also support horizontal stabilizers **222** and a vertical stabilizer **224**.

[0041] The fuselage **218** of the aircraft **200** defines an internal cabin **230**, which includes a flight deck or cockpit, one or more work sections (for example, galleys, personnel carry-on baggage areas, and the like), one or more passenger sections (for example, first class, business class, and coach sections), one or more lavatories, and/or the like. The internal cabin **230** is an example of the internal cabin **102** shown in FIG. **1**.

[0042] Alternatively, instead of an aircraft, examples of the present disclosure may be used with various other vehicles, such as automobiles, buses, locomotives and train cars, watercraft, spacecraft, and the like.

[0043] FIG. **5** illustrates a perspective interior view of an internal cabin **230** of an aircraft, according to an example of the present disclosure. The internal cabin **230** is an example of the internal cabin **102** shown in FIG. **1**. The internal cabin **230** includes outboard walls **232** and a ceiling **234**. Windows **236** may be formed within the outboard walls **232**. A floor **238** supports rows of seats **240**. As shown in FIG. **5**, a row **242** may include three seats **240** on either side of an aisle **243**. However, the row **242** may include more or fewer seats **240** than shown. Additionally, the internal cabin **230** may include more aisles than shown.

[0044] As used herein, the term “outboard” means a position that is further away from a central longitudinal plane **250** of the internal cabin **230** as compared to another component. The term “inboard” means a position that is closer to the central longitudinal plane **250** of the internal cabin **230** as compared to another component.

[0045] As shown, stowage bins **260** and PSUs **262** extend downwardly from the ceiling **234**. Referring to FIGS. **1** and **5**, the display(s) **108** extend downwardly from the support bracket **106**. The divider system **100** extends downwardly in relation to the ceiling **234**. The support bracket **106** suspends the display(s) **108** downwardly therefrom. The display(s) **108** do not extend to the floor **238** of the internal cabin **230**. In at least one example, the display(s) **108** do not extend to a plane defined by an uppermost surface **264** of the seats **240**.

[0046] Referring to FIGS. **1-5**, the control unit **120** is configured to operate the display(s) **108**. In this manner, the display(s) **108** can be controlled in real time, and based on phases of flight of the aircraft, for example.

[0047] The display(s) **108** can be used to provide content management and content delivery. Passengers benefit from contextual content, as shown on the display(s) **108**, based on destination, time of day and weather, and the like. The control unit **120** operates the display(s) **108** to provide real-time contextual content, while also aiding cabin operations for the crew. For example, during boarding, the display(s) **108** can present welcoming, informative guidance. During takeoff/taxi/landing, the display(s) **108** can offer a direct, transparent view therethrough for the crew to see without impediment. That is, the control unit **120** can operate the display(s) **108** to selectively switch between an opaque mode (in which electronic content is shown on an opaque screen that may not provide a clear view therethrough), a semi-transparent mode (in which electronic content is shown on a screen that is at least partially visible therethrough), and a transparent mode (in which the display(s) **108** are clear to allow viewing therethrough). Electronic content can also be shown on the display(s) **108** in the transparent mode. As an example, during flight, the display(s) **108** can be operated to create unique and desirable environments for all classes.

[0048] As used herein, the term “control unit,” “central processing unit,” “CPU,” “computer,” or the like may include any processor-based or microprocessor-based system including systems using microcontrollers, reduced instruction set computers (RISC), application specific integrated circuits (ASICs), logic circuits, and any other circuit or processor including hardware, software, or a combination thereof capable of executing the functions described herein. Such are exemplary only, and are thus not intended to limit in any way the definition and/or meaning of such terms. For

example, the control unit **120** may be or include one or more processors that are configured to control operation, as described herein.

[0049] The control unit **120** is configured to execute a set of instructions that are stored in one or more data storage units or elements (such as one or more memories), in order to process data. For example, the control unit **120** may include or be coupled to one or more memories. The data storage units may also store data or other information as desired or needed. The data storage units may be in the form of an information source or a physical memory element within a processing machine.

[0050] The set of instructions may include various commands that instruct the control unit **120** as a processing machine to perform specific operations such as the methods and processes of the various examples of the subject matter described herein. The set of instructions may be in the form of a software program. The software may be in various forms such as system software or application software. Further, the software may be in the form of a collection of separate programs, a program subset within a larger program, or a portion of a program. The software may also include modular programming in the form of object-oriented programming. The processing of input data by the processing machine may be in response to user commands, or in response to results of previous processing, or in response to a request made by another processing machine.

[0051] The diagrams of examples herein may illustrate one or more control or processing units, such as the control unit **120**. It is to be understood that the processing or control units may represent circuits, circuitry, or portions thereof that may be implemented as hardware with associated instructions (e.g., software stored on a tangible and non-transitory computer readable storage medium, such as a computer hard drive, ROM, RAM, or the like) that perform the operations described herein. The hardware may include state machine circuitry hardwired to perform the functions described herein. Optionally, the hardware may include electronic circuits that include and/or are connected to one or more logic-based devices, such as microprocessors, processors, controllers, or the like. Optionally, the control unit **120** may represent processing circuitry such as one or more of a field programmable gate array (FPGA), application specific integrated circuit (ASIC), microprocessor(s), and/or the like. The circuits in various examples may be configured to execute one or more algorithms to perform functions described herein. The one or more algorithms may include aspects of examples disclosed herein, whether or not expressly identified in a flowchart or a method.

[0052] As used herein, the terms “software” and “firmware” are interchangeable, and include any computer program stored in a data storage unit (for example, one or more memories) for execution by a computer, including RAM memory, ROM memory, EPROM memory, EEPROM memory, and non-volatile RAM (NVRAM) memory. The above data storage unit types are exemplary only, and are thus not limiting as to the types of memory usable for storage of a computer program.

[0053] FIG. **6** illustrates a perspective front view of the divider system **100** having the display **108** in a transparent mode, according to an example of the present disclosure. As shown, the fitting **110** extends upwardly from the support bracket **106**. The display **108** extends downwardly from the support bracket **106**, opposite from the fitting **110**. The display **108** can be longer than the support bracket **106**. Optionally, the support bracket **106** can be longer than the display **108**. The fitting **110**, the support bracket **106**, and the display **108** can be sized and shaped differently than shown.

[0054] Referring to FIGS. **1-6**, when the display **108** is in the transparent mode, an individual is able to see through the display **108**. For example, an individual viewing from a front perspective is able to view through a front face **170** of the display **108** and through a second face **172** of the display **108** to see an object, such as a hand **174**, behind the second face **172**.

[0055] FIG. **7** illustrates a perspective front view of the divider system **100** having the display **108** showing electronic content **180** thereon, according to an example of the present disclosure.

Referring to FIGS. **1** and **7**, the electronic content **180** can include text, graphics, or video regarding a particular entity, such as The Boeing Company. The control unit **120** operates the

display **108** to be in a semi-transparent mode, in which the electronic content **180** is shown on the display **108**, but an object, such as the hand **174** can still be seen through the display **108**.

Optionally, the control unit **120** can operate the display **108** to be in an opaque mode, in which the object cannot be seen through the display **108**.

[0056] FIG. **8** illustrates a perspective front view of the divider system **100** having the display **108** showing electronic content **180** thereon, according to an example of the present disclosure. In this example, the electronic content **180** can include an electronic image or video, such as showing a city skyline (such as the skyline of a city in proximity to an airport). The display **108** can show the electronic content **180** in an opaque mode, a semi-transparent mode, or a transparent mode.

[0057] FIG. **9** illustrates a perspective front view of the divider system **100** having the display **108** showing electronic content **180** thereon, according to an example of the present disclosure. In this example, the electronic content **180** can include an electronic image or video showing a horizon during a particular time of day. The display **108** can show the electronic content **180** in an opaque mode, a semi-transparent mode, or a transparent mode. The electronic image or video can be coordinated with a cabin lighting system, so when the internal cabin is dimmed to allow for sleep (for example, a night mode) an image can be displayed that is in keeping with, or themed with the mode of lighting (for example, a night sky and/or starry sky),

[0058] FIG. **10** illustrates a perspective front view of the divider system **100** having the display **108** showing electronic content **180** thereon, according to an example of the present disclosure. In this example, the electronic content **180** can include an instruction for a flight, such as a fasten seat belt image. The display **108** can show the electronic content **180** in an opaque mode, a semi-transparent mode, or a transparent mode. The electronic image or video can be coordinated with fasten seat belt lighted signs, and can interrupt other content shown on the display **108**.

[0059] Referring to FIGS. **1-10**, as an example, a flight attendant prepares the internal cabin **102** for a particular phase of flight operation, such as taxi, take-off, landing, or the like. During such preparation, the flight attendant engages the user interface **122** to switch the display(s) **108** into a fully transparent mode, thereby allowing full viewing through the display(s) **108**. Thus, in particular phases of flight, such as during taxi, take-off, and landing, the display(s) **108** provide a fully transparent, unobstructed view therethrough. At a different phase of flight, such as cruise, the flight attendant can engage the user interface **122** to operate the display(s) **108** to show various types of electronic content **180**, such as in a transparent mode, a semi-transparent mode, and/or an opaque mode of operation. In at least one example, in the event of a fault or power disruption, the display(s) **108** is configured to automatically default to a full transparent mode (thereby maintaining compliance with FAR **25.785 (h)**).

[0060] Further, the disclosure comprises examples according to the following clauses: [0061] Clause 1. A divider system configured to separate a first section from a second section within an internal cabin of a vehicle, the divider system comprising: [0062] a support bracket; and [0063] one or more displays secured to the support bracket, wherein the one or more displays extend downwardly from the support bracket, wherein the one or more displays are configured to show electronic content thereon, and wherein the one or more displays are selectively switchable between a transparent mode and an opaque mode. [0064] Clause 2. The divider system of Clause 1, wherein the vehicle is an aircraft. [0065] Clause 3. The divider system of Clauses 1 or 2, wherein the one or more displays comprise a transparent digital display screen. [0066] Clause 4. The divider system of any of Clauses 1-3, wherein the one or more displays comprise a transparent organic light-emitting diode (OLED) screen. [0067] Clause 5. The divider system of any of Clauses 1-4, wherein the divider system is not configured to extend to a floor of the internal cabin. [0068] Clause 6. The divider system of any of Clauses 1-5, further comprising a fitting upwardly extending from the support bracket, wherein the fitting is configured to secure the divider system to one or more of a stowage bin, a ceiling or a passenger service unit (PSU) within the internal cabin. [0069] Clause 7. The divider system of Clause 6, wherein the fitting is configured to removably

secure the divider system to one or more of the stowage bin, the ceiling, or the PSU. [0070] Clause 8. The divider system of any of Clauses 1-7, further comprising a control unit in communication with the one or more displays, wherein the control unit is configured to control operation of the one or more displays. [0071] Clause 9. The divider system of Clause 8, further comprising a user interface in communication with the control unit, wherein the user interface is configured to allow an individual to control operation of the one or more displays. [0072] Clause 10. The divider system of any of Clauses 1-9, wherein the one or more displays comprises a single display. [0073] Clause 11. The divider system of any of Clauses 1-8, wherein the one or more displays comprise: [0074] a first display; and [0075] a second display, [0076] wherein the first display and the second display are oriented back-to-back in relation to one another. [0077] Clause 12. A method for a divider system configured to separate a first section from a second section within an internal cabin of a vehicle, the divider system comprising: [0078] a support bracket; and [0079] one or more displays secured to the support bracket, wherein the one or more displays extend downwardly from the support bracket, wherein the one or more displays are configured to show electronic content thereon, and wherein the one or more displays are selectively switchable between a transparent mode and an opaque mode, [0080] the method comprising: [0081] showing electronic content on the one or more displays; and [0082] selectively switching the one or more displays between the transparent mode and the opaque mode. [0083] Clause 13. The method of Clause 12, wherein the one or more displays comprise a transparent organic light-emitting diode (OLED) screen. [0084] Clause 14. The method of Clauses 12 or 13, further comprising removably securing the divider system to one or more of a stowage bin, a ceiling, or a passenger service unit (PSU) within the internal cabin. [0085] Clause 15. The method of any of Clauses 12-14, further comprising controlling, by a control unit in communication with the one or more displays, operation of the one or more displays. [0086] Clause 16. An aircraft comprising: [0087] an internal cabin having a first section and a second section; and [0088] a divider system separating the first section from the second section, the divider system comprising: [0089] a support bracket; and [0090] one or more displays secured to the support bracket, wherein the one or more displays extend downwardly from the support bracket, wherein the one or more displays are configured to show electronic content thereon, and wherein the one or more displays are selectively switchable between a transparent mode and an opaque mode. [0091] Clause 17. The aircraft of Clause 16, wherein the one or more displays comprise a transparent organic light-emitting diode (OLED) screen. [0092] Clause 18. The aircraft of Clauses 16 or 17, wherein the divider system further comprises a fitting upwardly extending from the support bracket, wherein the fitting is configured to removably secure the divider system to one or more of a stowage bin, a ceiling or a passenger service unit (PSU) within the internal cabin. [0093] Clause 19. The aircraft of any of Clauses 16-18, wherein the divider system further comprises: [0094] a control unit in communication with the one or more displays, wherein the control unit is configured to control operation of the one or more displays; and [0095] a user interface in communication with the control unit, wherein the user interface is configured to allow an individual to control operation of the one or more displays. [0096] Clause 20. The aircraft of any of Clauses 16-19, wherein the one or more displays comprise: [0097] a first display; and [0098] a second display, [0099] wherein the first display and the second display are oriented back-to-back in relation to one another.

[0100] As described herein, examples of the present disclosure improved systems and methods for dividing sections within an internal cabin of a vehicle, such as a commercial aircraft. Further, examples of the present disclosure provide systems and methods for providing information to passengers in different sections of an internal cabin of a vehicle.

[0101] While various spatial and directional terms, such as top, bottom, lower, mid, lateral, horizontal, vertical, front and the like can be used to describe embodiments of the present disclosure, it is understood that such terms are merely used with respect to the orientations shown in the drawings. The orientations can be inverted, rotated, or otherwise changed, such that an upper

portion is a lower portion, and vice versa, horizontal becomes vertical, and the like.

[0102] As used herein, a structure, limitation, or element that is “configured to” perform a task or operation is particularly structurally formed, constructed, or adapted in a manner corresponding to the task or operation. For purposes of clarity and the avoidance of doubt, an object that is merely capable of being modified to perform the task or operation is not “configured to” perform the task or operation as used herein.

[0103] It is to be understood that the above description is intended to be illustrative, and not restrictive. For example, the above-described embodiments (and/or aspects thereof) can be used in combination with each other. In addition, many modifications can be made to adapt a particular situation or material to the teachings of the various embodiments of the disclosure without departing from their scope. While the dimensions and types of materials described herein are intended to define the parameters of the various embodiments of the disclosure, the embodiments are by no means limiting and are exemplary embodiments. Many other embodiments will be apparent to those of skill in the art upon reviewing the above description. The scope of the various embodiments of the disclosure should, therefore, be determined with reference to the appended claims, along with the full scope of equivalents to which such claims are entitled. In the appended claims and the detailed description herein, the terms “including” and “in which” are used as the plain-English equivalents of the respective terms “comprising” and “wherein.” Moreover, the terms “first,” “second,” and “third,” etc. are used merely as labels, and are not intended to impose numerical requirements on their objects. Further, the limitations of the following claims are not written in means-plus-function format and are not intended to be interpreted based on 35 U.S.C. § 112 (f), unless and until such claim limitations expressly use the phrase “means for” followed by a statement of function void of further structure.

[0104] This written description uses examples to disclose the various embodiments of the disclosure, including the best mode, and also to enable any person skilled in the art to practice the various embodiments of the disclosure, including making and using any devices or systems and performing any incorporated methods. The patentable scope of the various embodiments of the disclosure is defined by the claims, and can include other examples that occur to those skilled in the art. Such other examples are intended to be within the scope of the claims if the examples have structural elements that do not differ from the literal language of the claims, or if the examples include equivalent structural elements with insubstantial differences from the literal language of the claims.

Claims

1. A divider system configured to separate a first section from a second section within an internal cabin of a vehicle, the divider system comprising: a support bracket; and one or more displays secured to the support bracket, wherein the one or more displays extend downwardly from the support bracket, wherein the one or more displays are configured to show electronic content thereon, and wherein the one or more displays are selectively switchable between a transparent mode and an opaque mode.
2. The divider system of claim 1, wherein the vehicle is an aircraft.
3. The divider system of claim 1, wherein the one or more displays comprise a transparent digital display screen.
4. The divider system of claim 1, wherein the one or more displays comprise a transparent organic light-emitting diode (OLED) screen.
5. The divider system of claim 1, wherein the divider system is not configured to extend to a floor of the internal cabin.
6. The divider system of claim 1, further comprising a fitting upwardly extending from the support bracket, wherein the fitting is configured to secure the divider system to one or more of a stowage

bin, a ceiling or a passenger service unit (PSU) within the internal cabin.

7. The divider system of claim 6, wherein the fitting is configured to removably secure the divider system to one or more of the stowage bin, the ceiling, or the PSU.

8. The divider system of claim 1, further comprising a control unit in communication with the one or more displays, wherein the control unit is configured to control operation of the one or more displays.

9. The divider system of claim 8, further comprising a user interface in communication with the control unit, wherein the user interface is configured to allow an individual to control operation of the one or more displays.

10. The divider system of claim 1, wherein the one or more displays comprises a single display.

11. The divider system of claim 1, wherein the one or more displays comprise: a first display; and a second display, wherein the first display and the second display are oriented back-to-back in relation to one another.

12. A method for a divider system configured to separate a first section from a second section within an internal cabin of a vehicle, the divider system comprising: a support bracket; and one or more displays secured to the support bracket, wherein the one or more displays extend downwardly from the support bracket, wherein the one or more displays are configured to show electronic content thereon, and wherein the one or more displays are selectively switchable between a transparent mode and an opaque mode, the method comprising: showing electronic content on the one or more displays; and selectively switching the one or more displays between the transparent mode and the opaque mode.

13. The method of claim 12, wherein the one or more displays comprise a transparent organic light-emitting diode (OLED) screen.

14. The method of claim 12, further comprising removably securing the divider system to one or more of a stowage bin, a ceiling, or a passenger service unit (PSU) within the internal cabin.

15. The method of claim 12, further comprising controlling, by a control unit in communication with the one or more displays, operation of the one or more displays.

16. An aircraft comprising: an internal cabin having a first section and a second section; and a divider system separating the first section from the second section, the divider system comprising: a support bracket; and one or more displays secured to the support bracket, wherein the one or more displays extend downwardly from the support bracket, wherein the one or more displays are configured to show electronic content thereon, and wherein the one or more displays are selectively switchable between a transparent mode and an opaque mode.

17. The aircraft of claim 16, wherein the one or more displays comprise a transparent organic light-emitting diode (OLED) screen.

18. The aircraft of claim 16, wherein the divider system further comprises a fitting upwardly extending from the support bracket, wherein the fitting is configured to removably secure the divider system to one or more of a stowage bin, a ceiling or a passenger service unit (PSU) within the internal cabin.

19. The aircraft of claim 16, wherein the divider system further comprises: a control unit in communication with the one or more displays, wherein the control unit is configured to control operation of the one or more displays; and a user interface in communication with the control unit, wherein the user interface is configured to allow an individual to control operation of the one or more displays.

20. The aircraft of claim 16, wherein the one or more displays comprise: a first display; and a second display, wherein the first display and the second display are oriented back-to-back in relation to one another.
