IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Utility Patent Application (Provisional)

TITLE: Robot Taxi Reinvented.

INVENTOR: Bechir Ben Hassen Trabelsi

FIELD OF THE INVENTION

[0001] This invention relates to the field of autonomous driving technology in particular driverless ride sharing.

BACKGROUND OF THE INVENTION

[0002] Autonomous vehicles came with highly advanced computers and technology that can facilitate easier and more efficient carpooling and ride sharing which can reduce traffic congestion. One of most significant advantages of autonomous vehicles is enhanced road safety. Unfortunately, it has two major problems. The first one is public acceptance. While people trust the autonomous driving software ability to drive safely, they cannot predict the behavior of the car in a crash. The second problem is that Ride sharing solution like Robot Taxi does not give users significant advantage over existing solutions like Uber.

Hence, there remains a need for an improved solution that brings more enhanced road safety in the case of car crash and more advanced and superior features to the customer as well as Robot Taxi fleet company.

SUMMARY OF THE DISCLOSURE

[0003] The present disclosure describes a novel way to reinvent the body and exterior design of the Autonomous Vehicle that will revolutionize the ride sharing service and allow a high end full-featured Robo Taxi. The current invention proposes to reinvent the windshield, rear window, and/or all the side windows and doors. It proposes one body without windows with windshield, only one side door. And replace them by virtual windows using a system of external cameras and in vehicle video projection set. The whole body will look like a mini van without windows, nor windshield. This gives more interior space. And drastically improve the roadside safety. By removing the windshield and all the windows and adding side and enhanced front and back bumpers, the vehicle achieves near military grade roadside safety and unprecedented level of safety in the case of a crash. The passengers will experience a high-end VIP ride, virtual but real sunroof view, side views , front views as if the whole body turned to one big window. The video captured by the cameras on the roof will be projected to the ceiling in real time. The same for the side cameras, front cameras. The exterior of the vehicles will be used to stream advertisements and hence generate revenues in particular location-based advertisements along the ride. On top of that, it will decrease the complexity and cost of assembly process. Hence, this invention, bring more roadside safety, offers to passengers high end ride share experience, decrease the production cost and generates significant advertising revenues for the Robo Taxi fleet company.

BRIEF DESCRIPTION OF THE DRAWINGS

[0004] FIG. 1 illustrates an exemplary block diagram of a reinvented Robo Taxi.

[0005] FIG. 2A-2C illustrate an exemplary call flow diagram of virtual windshield, virtual sunroof and virtual rear window.

[0005] FIG. 3 illustrates an exemplary call flow diagram of location-based advertising where two thirds of the exterior body of the vehicle turned to advertising panels.

DETAILED DESCRIPTION OF THE INVENTION

[0006] In preferred embodiments, FIG. 1 illustrates an example of block diagram of an upper view for the reinvented Robo Taxi. Passengers receive WIFI very comfy workspace with an outstanding view of the surrounding traffic and the sky view. In addition, they can optionally ask for movies, video games. Mini bar storage , armrests and cabinets.

[0007 FIG. 2A-2C illustrate an exemplary call flow diagram of virtual windshield, virtual sunroof and virtual rear window. In FIG. 2A the front cameras capture the video and send it back to be projected on the front projection screen that replaces the windshield. FIG.2B does the same thing in the opposite side where the rear cameras capture the rear view to be projected on the rear projection screen . Finally, the FIG. 2C illustrates a virtual sunroof view using the video coming from the top of the car’s cameras and projected inside the car on the ceiling.

[0008] FIG. 3 illustrates an exemplary call flow diagram of location-based advertising. Since the body gives a compact large exterior area. It is very convenient to mount big advertising screens and use turn the whole Robo Taxi fleet into an advertising mobile platform.

CLAIMS

What is claimed is:

1. A virtual windshield , virtual windows and virtual sunroof based on a system of external camera streaming outside view video to interior projection area via in vehicle projector replace real windshield, window and sunroof. The vehicle can be any type of vehicle in particular electric vehicle and autonomous vehicle.
2. Using the exterior body of the ride sharing vehicle or robot taxi to play advertising videos using location-based advertising or any other similar advertising technique.
3. Turning the robot taxi interior area into a high-end comfy workspace with VIP services like high-speed internet, video gaming , movie, mini bar…

ABSTRACT

[0009] The present disclosure describes a novel way to reinvent the body and exterior design of the Autonomous Vehicle that will revolutionize the ride sharing service and allow a high end full-featured Robo Taxi. The current invention proposes to reinvent the windshield, rear window, and/or all the side windows and doors. It proposes one body without windows with windshield, only one side door. And replace them by virtual windows using a system of external cameras and in vehicle video projection set. The whole body will look like a minivan without windows, nor windshield. This gives more interior space. And drastically improve the roadside safety. By removing the windshield and all the windows and adding side and enhanced front and back bumpers, the vehicle achieves near military grade roadside safety and unprecedented level of safety in the case of a crash. The passengers will experience a high-end VIP ride, virtual but real sunroof view, side views , front views as if the whole body turned to one big window. The video captured by the cameras on the roof will be projected to the ceiling in real time. The same for the side cameras, front cameras. The exterior of the vehicles will be used to stream advertisements and hence generate revenues in particular location-based advertisements along the ride. On top of that, it will decrease the complexity and cost of assembly process. Hence, this invention, bring more roadside safety, offers to passengers high end ride share experience, decrease the production cost and generates significant advertising revenues for the Robo Taxi fleet company.

DRAWINGS

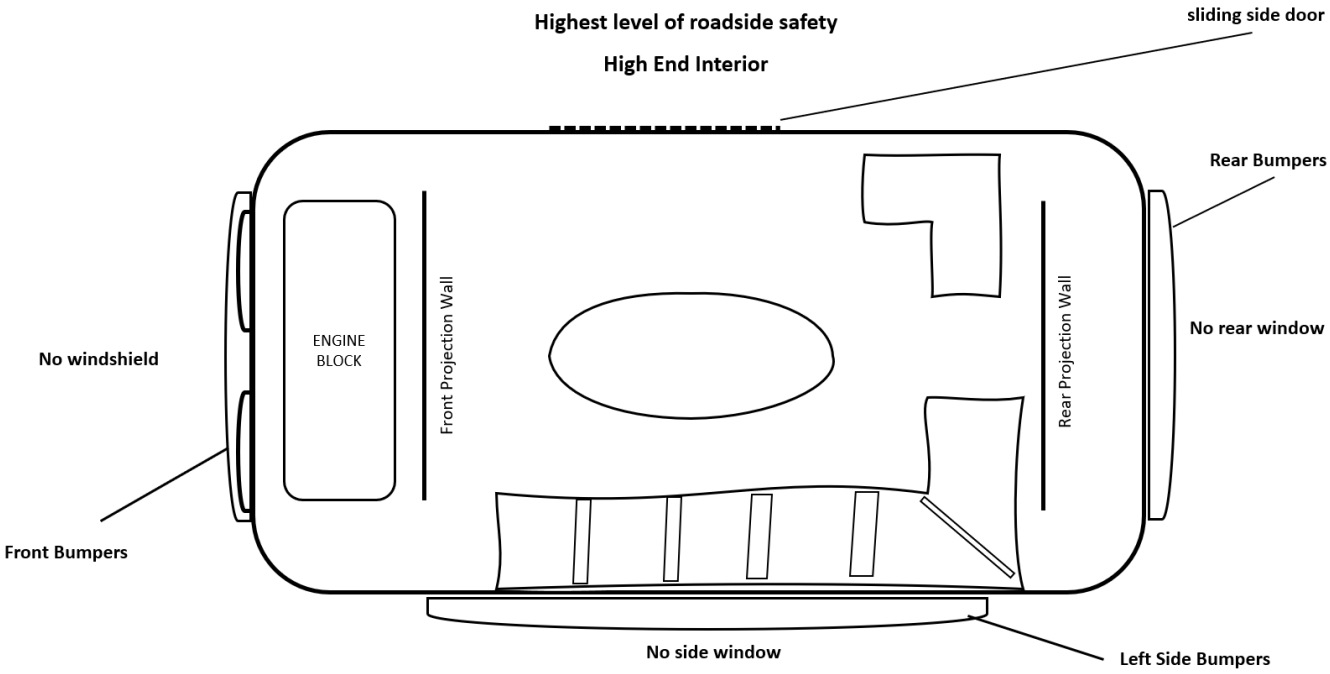

FIG. 1

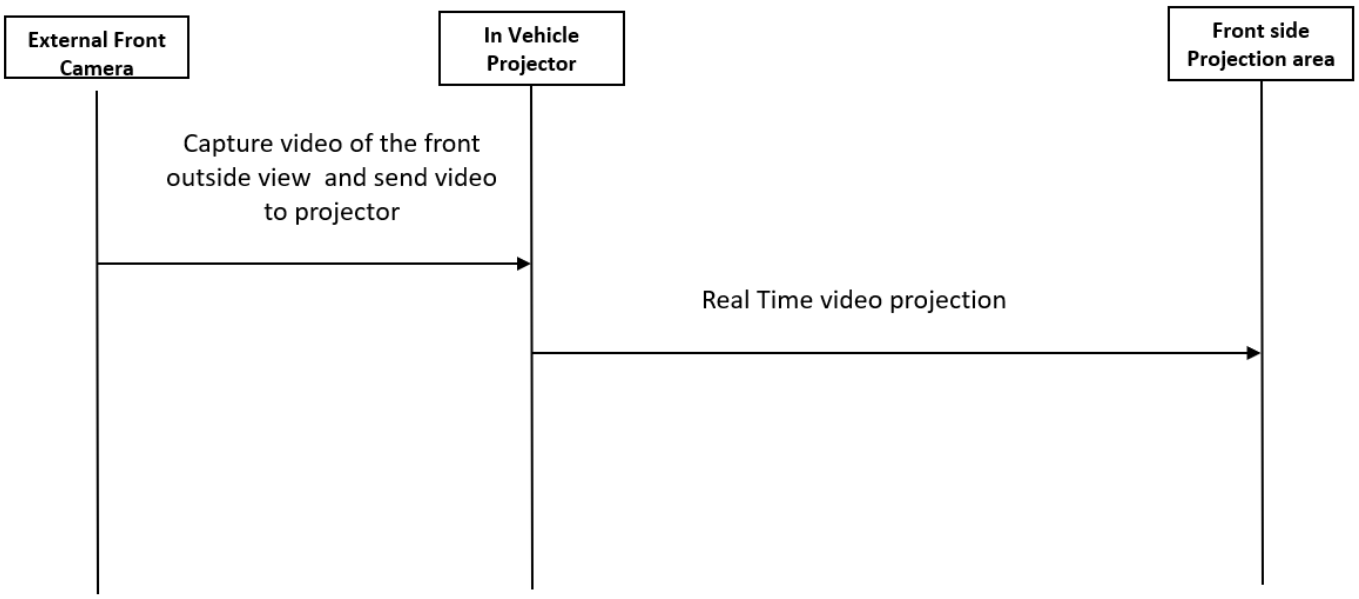
External Front Camera
In Vehicle Projector
Front side Projection area
Capture video of the front outside view and send video to projector
Real Time video projection

FIG. 2A

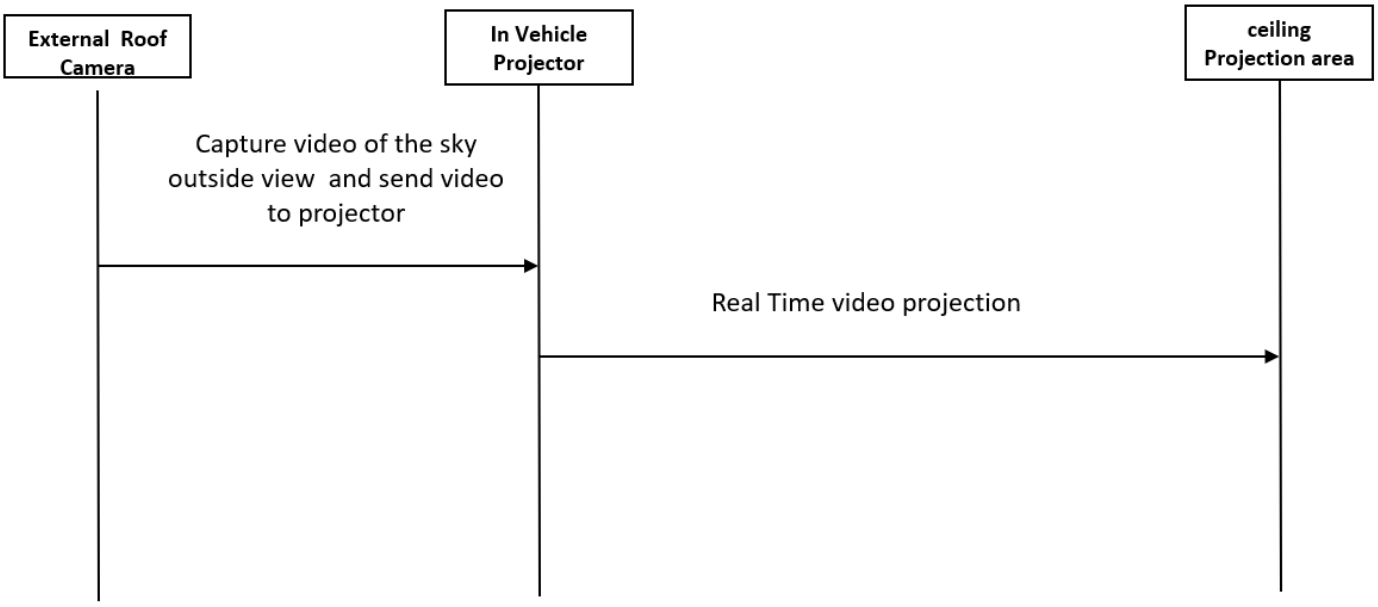
External Roof Camera
In Vehicle Projector
ceiling Projection area
Capture video of the sky outside view and send video to projector
Real Time video projection

FIG. 2B

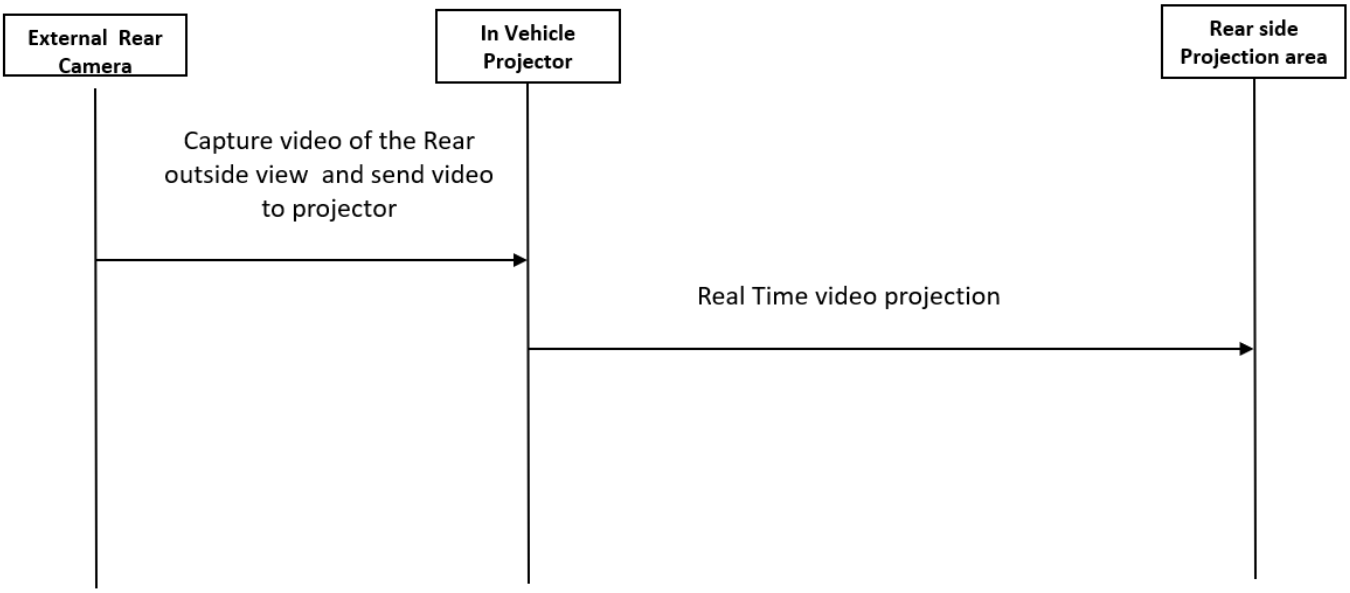
External Rear Camera
In Vehicle Projector
Rear side Projection area
Capture video of the Rear outside view and send video to projector
Real Time video projection

FIG. 2C

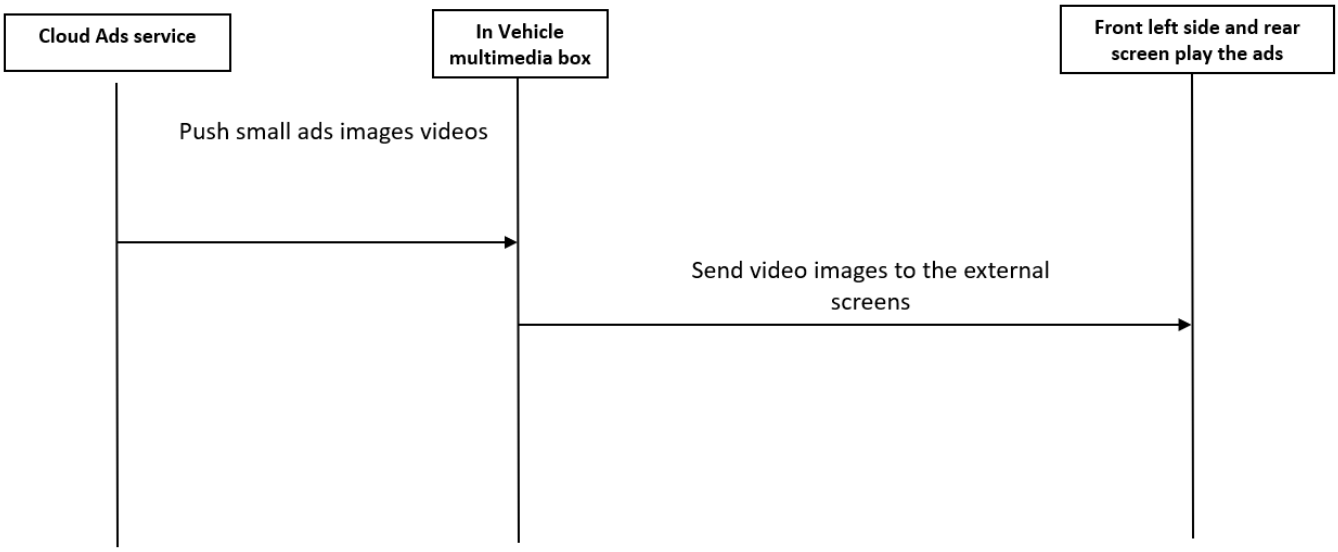
Cloud Ads service
In Vehicle multimedia box
Front left side and rear screen play the ads
Push small ads images videos
Send video images to the external screens

FIG. 3