"Context Aware Vehicle Applications"
Next Generation Vehicle Server Technology

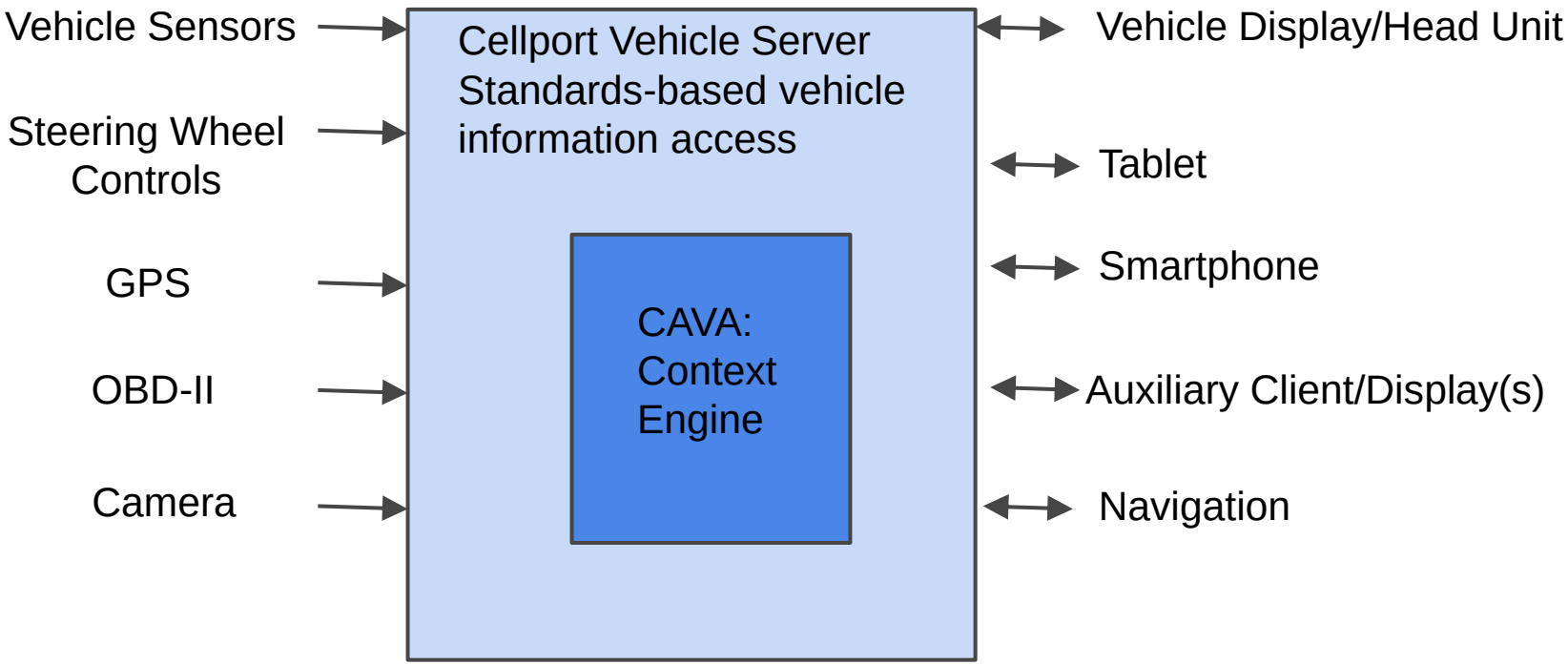
Cellport Vehicle Server Technology

Cellport Systems pioneered vehicle server technology over 15 years ago.

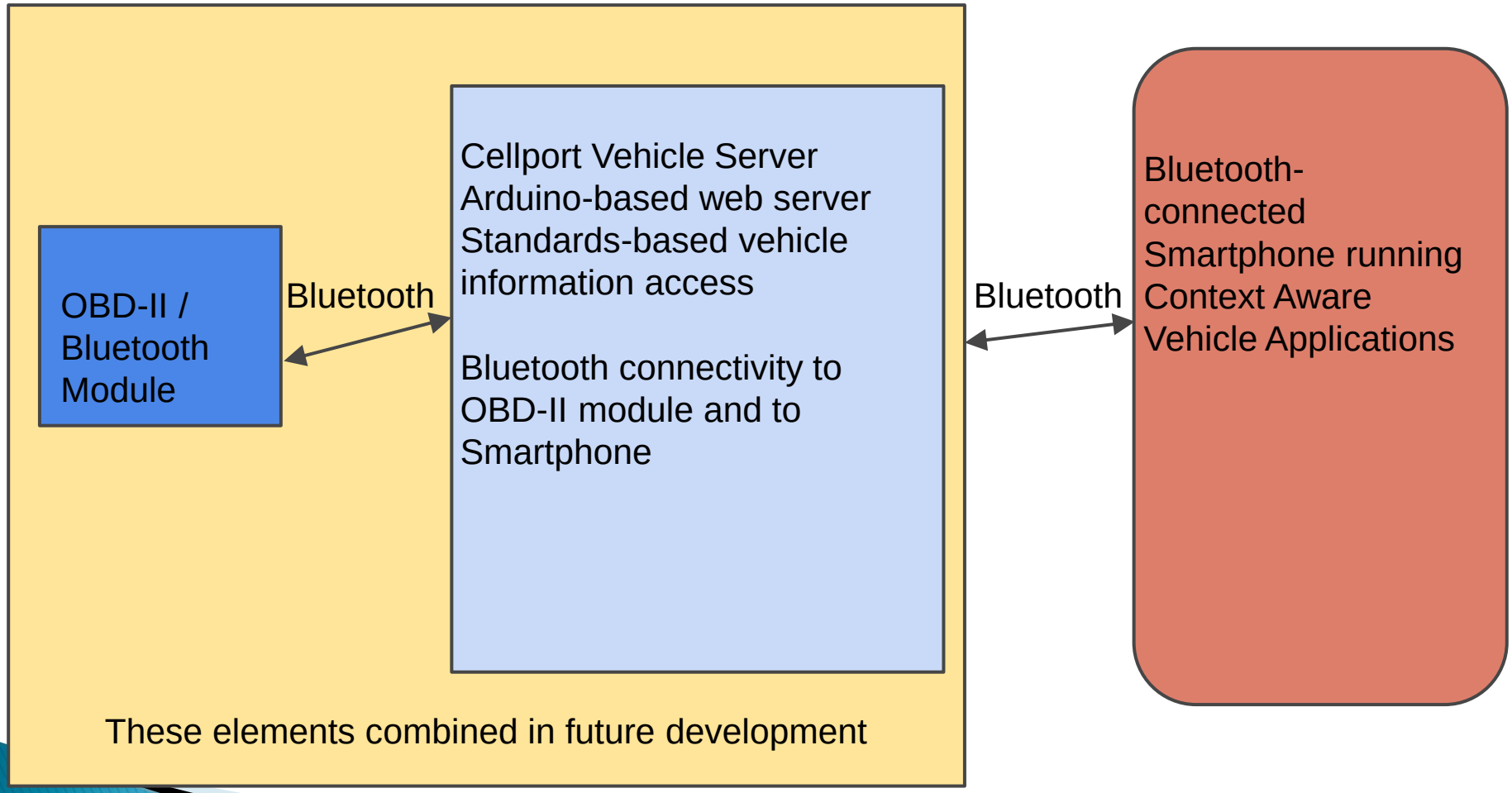
Cellport continues to advance vehicle server technologies with "CAVA", enabling applications to be intelligent and aware of the current vehicle and driver situation.

Working in concert with the vehicle server, the CAVA Context Engine enables the server to intelligently respond to information requests, and to provide notifications and alarms in a safe and effective way.

Vehicle Server + CAVA Architecture



Vehicle Server + CAVA Architecture Development System Components



Distracted Driving - A Real Killer

US Government statistics state that in 2010 almost 4000 people were killed by distracted drivers, and near half a million were injured. (www.distraction.gov)

Your time in the vehicle is important, Cellport's CAVA can help you make the most of it in a safe manner.

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Distraction Factors

Some of the most common distractions are:
Texting
Using on a cellphone or smartphone
Eating and drinking
Talking to passengers
Grooming
Reading, including maps
Using a navigation system
Watching a video
Adjusting a radio, CD player or MP3 player

CAVA - I

Context Aware Vehicle Applications can take into account the workload of the driver before providing information.

CAVA Context Engine provides both Vehicle Server-based applications and external app's (such as smartphone-based app's) with real-time vehicle context information. Context information can include:

PRNDL – Transmission Status

Speed

Day/Night

Traffic (heavy/light)

Navigation – Nearness to a turnoff, necessary lane change, or other point in the drive where driver attention is critical

Vehicle state: Fuel level, engine performance, tire pressure, # of occupants, etc.

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CAVA - II

The CAVA Context Engine functions under the control of the Cellport Vehicle Server. CAVA services are utilized by the vehicle server in servicing information and control requests. These requests can be "approved" to receive responses when the driver context allows.

CAVA context services can also be provided to outside applications, such as those running on a smartphone or tablet. In this case the context engine provides a driver load level and a window during which this load is expected to apply. For example a text message my have arrived and can be read to the driver. However if the driver is nearing a critical point in the route where a couple of turns are required, by checking with the context engine, the app will delay reading the message until the critical navigation point is passed.

CAVA can also analyze current driving and determine if the driver may be distracted. Long periods between steering control inputs followed abrupt inputs can indicate that driver attention is wandering. Applications on the smartphone, headunit and other vehicle displays can behave appropriately and/or alert the driver to this situation.

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CAVA - III

With the cabin camera and Cellport's Driver Attention Algorithms, CAVA can determine when a driver's eyes are on the road, and when the driver shows evidence of distraction (little eye movement, "glazed" look). When the driver is not paying attention CAVA can "nudge" the driver back to paying attention by an audible warning or by pausing any application(s) causing the distraction.

The interval of allowed distraction is adjusted based on the driver "work load". If traffic and/or navigation requires more attention the interval is shortened. If you're driving across Nebraska you can read a book.

Cockpit can also determine when a driver is texting or talking on the phone. In rental and commercial vehicles this may be helpful – violation of rental agreement or employment policy.

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