



AAA CENTER FOR DRIVING SAFETY & TECHNOLOGY



2017 CADILLAC XT5 LUXURY

INFOTAINMENT SYSTEM* DEMAND RATING

High Demand



The Cadillac XT5 Luxury Cadillac User Experience (CUE) infotainment system generated high demand on drivers when placing phone calls and programming the navigation system. The Cadillac XT5's voice system was accurate and simple to use. However, the touch screen generates very high cognitive (mental) and visual (eyes-off-road) demand.

Standard and Optional Features in the 2017 Cadillac XT5

	XT5	Luxury	Premium Luxury	Platinum
○ Optional				
● Standard				
Android Auto			●	●
Apple CarPlay			●	●
Mobile App Support	●	●	●	●
Text Messaging	●	●	●	●
Navigation		○	●	●
Touch Screen	●	●	●	●
Gesture Control				
Heads-Up Display				
Voice Commands	●	●	●	●
Console Control				

ABOUT THE STUDY

Researchers evaluated 30 new 2017 vehicles' infotainment systems* to measure overall demand** placed on a driver when using voice command, touch screen and other interactive technologies to make a call, send a text message, tune the radio or program navigation, all while driving down the road.

STRENGTHS

- Voice command system understands natural speech with accuracy.

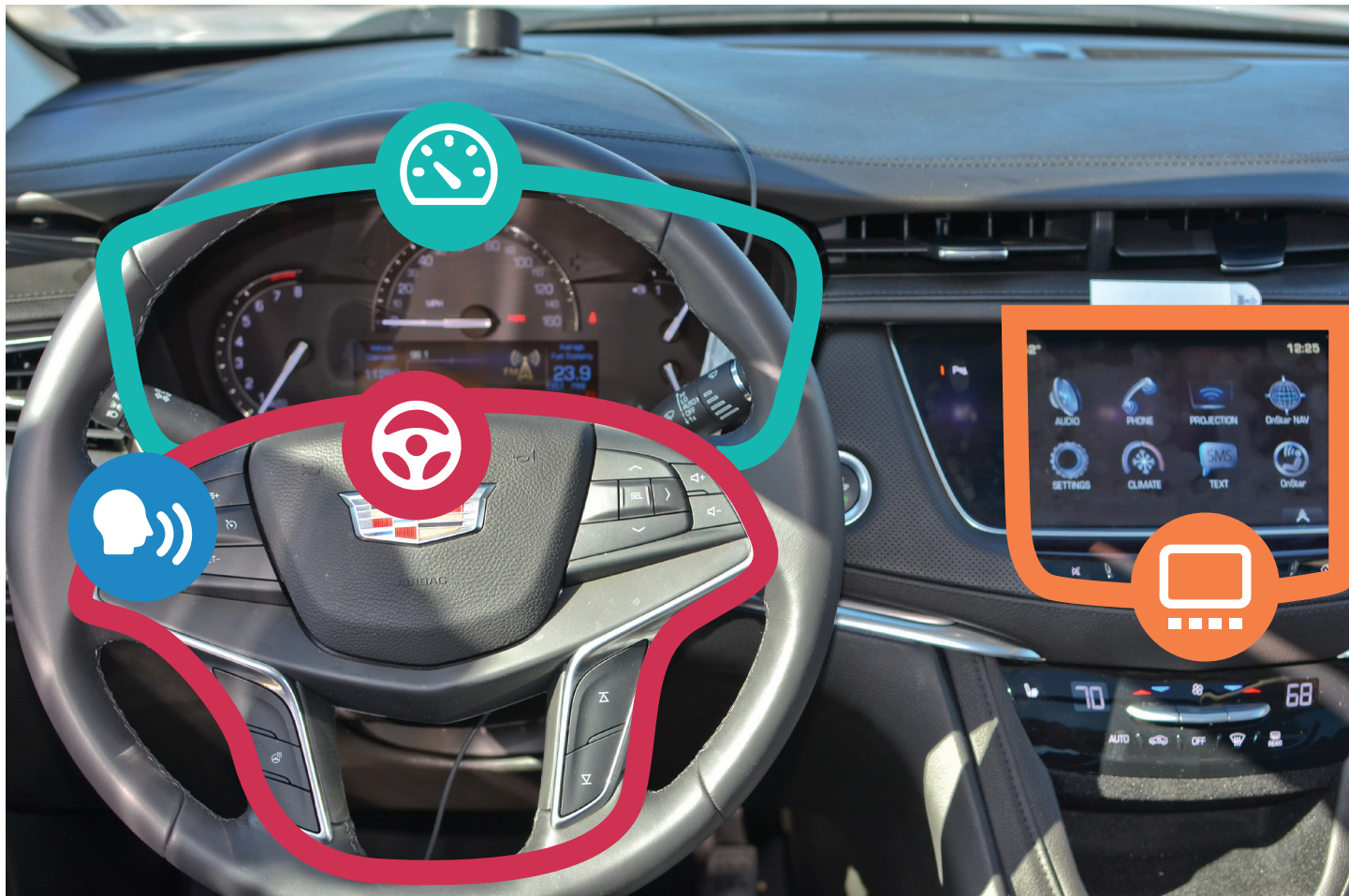
WEAKNESSES

- Calling and dialing submenus are dense with text, creating a high visual demand in order to execute a task.
- The volume bar, located directly below the touch screen, is extremely sensitive and causes drivers to unintentionally adjust the audio volume when using the touch screen.
- Audio and calling menus presented on the touch screen require multiple steps for simple interactions.

* Infotainment System: Vehicle system that combines entertainment and information content

**Overall demand measured: visual (eyes-off road), cognitive (mental) and time-on-task

VEHICLE OVERVIEW: CONTROLS AND DISPLAYS



VOICE COMMANDS



STEERING WHEEL COMMANDS



INSTRUMENT CLUSTER



CENTER STACK

INFOTAINMENT SYSTEM

The Cadillac User Experience (CUE)[®] Infotainment System offers the following features:

CALLING AND DIALING



The Cadillac XT5 Luxury CUE infotainment system allows drivers to access calling and dialing functions through the center stack touch screen and the voice command system. When a phone is paired, drivers can call contacts and dial numbers while the vehicle is in motion.

Using voice commands to place calls took participants 18 seconds[♦] on average. While visual (eyes-off-road) demand was moderate, the cognitive (mental) demand was high. With intuitive commands, efficient processing and helpful prompts when needed, voice interactions were quick and simple.

In the on-road assessment, accessing phone functions through the center stack touch screen was efficient, though it required very high cognitive (mental) and visual (eyes-off-road) demand. Researchers[^] found accessing these functions through the touch screen quick and simple, but each submenu was dense with icons and small text. The touch screen's dial pad has well-spaced numbers, helping drivers choose the correct button, but still required very high visual (eyes-off-road) attention to complete a task, as most interactions required multiple steps to complete.

Overall, calling and dialing placed high demand on drivers.

AUDIO ENTERTAINMENT



The audio entertainment system includes: AM, FM, and XM radio; USB; and Bluetooth; as well as other audio applications supported through Android Auto and Apple CarPlay. Drivers can access audio using voice commands, the touch screen and limited interactions with steering wheel buttons.

In the on-road study, audio interactions through the touch screen lasted 21 seconds[♦] on average, but required very high visual (eyes-off-road) and cognitive (mental) demand from the driver. While researchers[^] found the direct tune pad useful for tuning to a specific radio station, other seemingly simple functions, such as exploring media libraries from a USB device or changing the radio source, required multiple steps to complete. Additionally, drivers often unintentionally adjusted volume because of the sensitivity of the volume bar and its placement directly below the touch screen.

Voice command interactions were better at keeping drivers' eyes on the forward roadway, in contrast to using the touch screen. Voice commands for audio entertainment gave drivers an expedited interaction time, albeit with very high cognitive (mental) and high visual (eyes-off-road) demand. Researchers[^] found the voice system to be intuitive with highly accurate processing. In combination with the simple commands accepted, drivers can quickly complete a desired action.

Audio functions in the Cadillac XT5 had an overall high demand on drivers.

[♦] Compared to a recommended maximum of 24 seconds.

[^] Researchers with expertise about how humans interact with technology evaluated the usability of the infotainment system in stationary vehicles.

VEHICLE CONTROLS AND DISPLAYS

VOICE COMMANDS



Drivers can press the designated voice command button on the steering wheel to speak a voice command. Voice commands give drivers access to phone, audio and third party OnStar navigation controls.

INSTRUMENT CLUSTER



The XT5's instrument cluster, located behind the steering wheel, has two familiar physical dials and two gauges. In the center of the cluster is a 5.7-inch LCD display that shows vehicle information, current audio or any phone function in use.

STEERING WHEEL CONTROLS



The steering wheel houses 16 dedicated buttons that control cruise control, activate the voice command system, link to the cluster's LCD display, and turn on the steering wheel heating.

CENTER STACK



The center stack features an 8-inch touch screen that gives drivers access to phone, audio and climate control, as well as OnStar turn-by-turn navigation and infotainment system settings. Just below the touch screen is a volume bar and home screen button. A combination of standard and touch-sensitive climate control buttons is located on the lower dashboard.

VEHICLE SALES SUMMARY

The 2017 Cadillac XT5 is the 180th best-selling vehicle in the United States, with 7,208 vehicles sold between June 2015 and June 2016¹.

¹Source: Automotive News at autonews.com; Wall Street Journal at wsj.com – data updated to 11/25/2016