HxGN MineOperate OP Pro
UI Specification
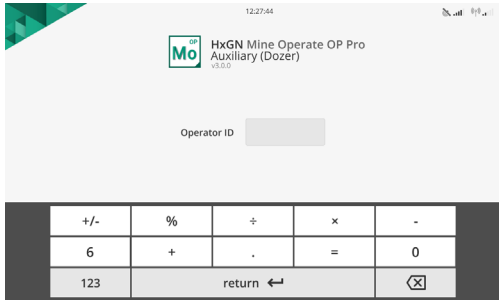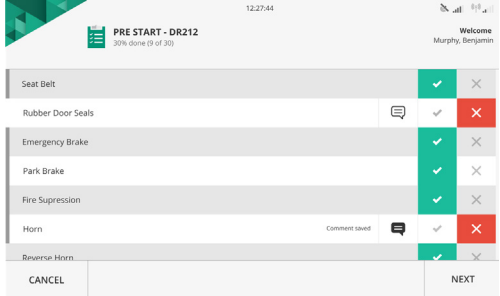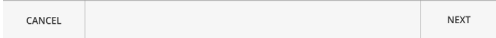

AUTHOR: John Nielsen
DATE: 05/05/2019
VERSION: 1.0 (NIEJ)

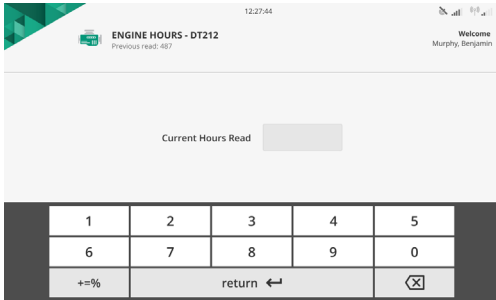| GIVEN	WHEN	THEN	SCREENSHOT

Login, Prestart, Engine Hours
LOGIN

GIVEN	WHEN	THEN	SCREENSHOT
Login Screen	The screen boots	The operator login screen will appear • The login screen will display the proper branding • The login screen will show user keyboard • The login screen will show input bar for user login	
Prestart Screen	The user successfully logins to panel	The operator prestart screen will appear • The prestart will show prestart progress • Prestart items will consist of mandatory and non-mandatory items • Mandatory items will have a bar on left side of list item • Mandatory items require comments • Non-mandatory items will have optional comments	
Mandatory Prestart Item	The user fails a mandatory prestart item	• Message bar will appear to enter in required comment • When comment is entered, equipment will enter configured down status	
Submitted Prestart Comment	When user submits a prestart comment	Message bubble will display dark fill and have text "comment saved" for the list item	

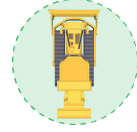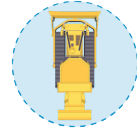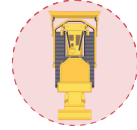| GIVEN	WHEN	THEN	SCREENSHOT
Completed Prestart	When user completes all listed prestart items	The next button will become active to progress to the engine hour screen	CANCEL ... NEXT

ENGINE HOURS
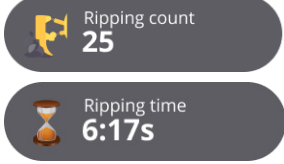
GIVEN	WHEN	THEN	SCREENSHOT
Engine Hours	When user completes prestart, and clicks the next button	• Engine hours screen will appear • Engine hours will be pre-populated if an engine hour capable interface is configured and working • Manual entered engine hours will be validated against previous values	
Out of Range Engine hours	Operator enters out of range engine hours	Notification will give appropriate minimum value for hours	

ACTIVITY CYCLE

Activity Wheel and Color Associations

GIVEN	WHEN	THEN	SCREENSHOT
Activity Wheel	User is transitioning from one activity to another	The wheel will gradually rotate until the next activity is reached	

GIVEN	WHEN	THEN	SCREENSHOT
Ready Status	User changes to ready status	The middle portion of the wheel will turn green to reflect ready status	
Delay Status	User changes to delay status	The middle portion of the wheel will turn orange to reflect delay status	
Standby Status	User changes to standby status	The middle portion of the wheel will turn blue to reflect standby status	
Down Status	User changes to down status	The middle portion of the wheel will turn red to reflect the down status	

TRAVELING

Traveling Activity	The user goes into traveling activity	• The traveling time widget will appear showing the time spent traveling	

GIVEN	WHEN	THEN	SCREENSHOT

PUSHING

Pushing Activity	The user goes into pushing activity	• The level widgets will appear showing level in feet • The pushing time widget will appear displaying the time spent pushing • The pushing distance will appear showing the distance pushed in feet • The RPM widget will appear showing the revolutions per minute	Level **7020 ft** Pushing time **1:01s** Pushing distance **5 ft** RPM **1500**

RIPPING

Ripping Activity	The user goes into ripping activity	• The ripping count widget will appear showing the count • The ripping time will appear showing the time ripping	Ripping count **25** Ripping time **6:17s**

REVERSING

Reversing Activity	The user goes into reversing activity	• The reversing time will appear showing the time reversing	Reversing time **6:17s**

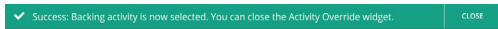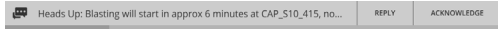| GIVEN	WHEN	THEN	SCREENSHOT

Notifications
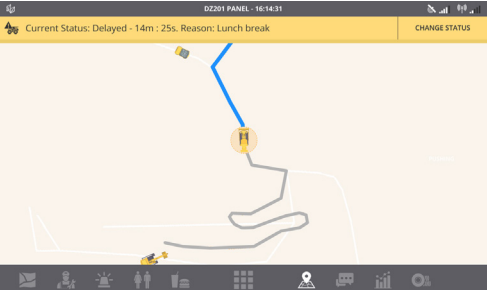## CRITICAL

Critical Event Notification (System)	A critical system event happens that has critical impact on the system. (GPS coverage)	• The critical persistent notification will appear • The critical notification will only disappear when event has passed • Details button will appear to investigate event further	Maps, Routes and Navigation Assistance will not work till GPS connection gets restored. DETAILS
Critical Event Notification (Operation)	A critical operational event happens that has critical impact on operations. (Misroutes)	The critical dismissible notification will appear • The time till dismissal bar will appear and load • Notification will dismiss when bar reaches the end Acknowledge button will be present to dismiss notification	? Activity Failed: Tipping at unknown location ACKNOWLEDGE

WARNING

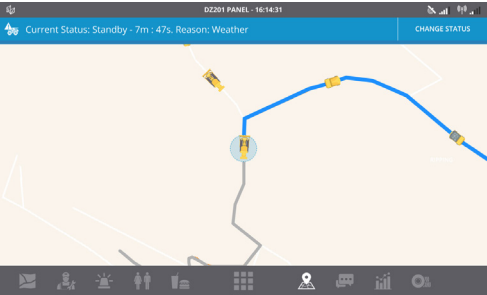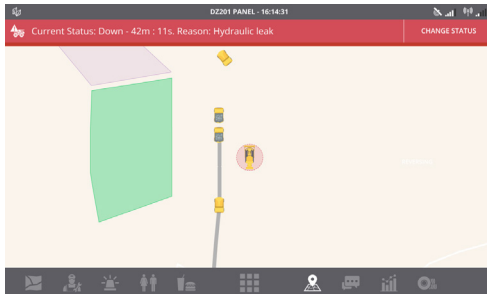|			
Warning Notification	A operational event happens that will have negative impact on operations. (Tire warning)	• The persistent warning notification will appear • Warning will not be dismissed until warning event has passed • Details button will be present to further investigate the warning	Warning: Tire temperature slightly out of Range. DETAILS

GIVEN	WHEN	THEN	SCREENSHOT

INFORMATION

Information Notification	An informative event occurs (New assignment, New material, etc)	• An information notification will appear • The time till dismissal bar will appear and load • Notification will dismiss when bar reaches the end • The information notification will have an acknowledge button to dismiss the notification	⊙ Assigned to CAP_S12_400 ACKNOWLEDGE

SUCCESS

Success Notification	User successfully changes state within the system (Changes Activity)	• The success notification will appear • The time till dismissal bar will appear and load • Notification will dismiss when bar reaches the end • The close button will also appear with the notification, to dismiss the notification	✔ Success: Backing activity is now selected. You can close the Activity Override widget. CLOSE

MESSAGE

Default Message	A message comes through making a statement	• Default message notification will appear • The time till dismissal bar will appear and load • Notification will dismiss when bar reaches the end • The notification will have a reply button to reply • The notification will have a acknowledge button to dismiss the notification	Heads Up: Blasting will start in approx 6 minutes at CAP_S10_415, no... REPLY ACKNOWLEDGE

GIVEN	WHEN	THEN	SCREENSHOT
Pre Defined Message	A message comes through asking a question	• Pre-defined message notification will appear • The time till dismissal bar will appear and load • Notification will dismiss when bar reaches the end • The notification will have a yes or no response message • Clicking on the message itself will allow user to create custom message	

Map
STATUS

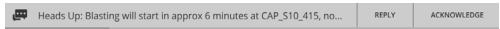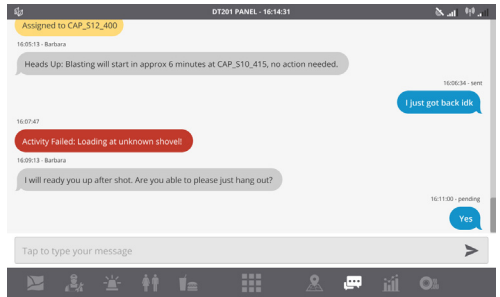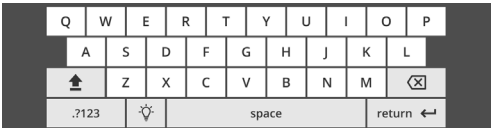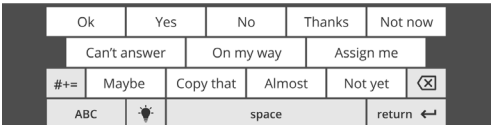| GIVEN	WHEN	THEN	SCREENSHOT
Ready Status	The user puts the equipment in Ready status	The middle area of the wheel will turn green	
Delayed Status	The user puts the equipment in Delay status	• The activity wheel will disappear • Status event notification will appear and be persistent until status is changed • Notification will show time delayed and have a button to change status • Status event notification will be colored orange to represent delayed status • Radius around truck will be colored orange to represent delayed status	
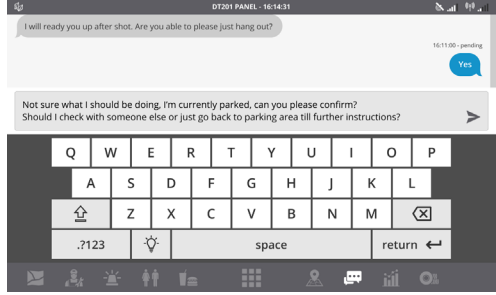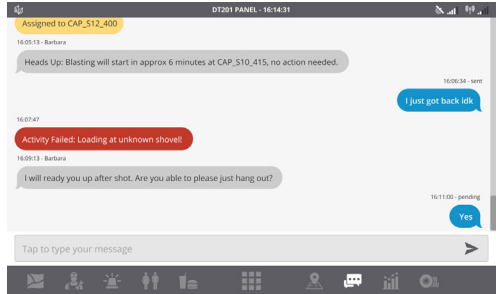
GIVEN	WHEN	THEN	SCREENSHOT
Standby Status	The user puts the equipment in Satndby status	• The activity wheel will disappear • Status event notification will appear and be persistent until status is changed • Notification will show time in standby and have a button to change status • Status event notification will be colored blue to represent standby status • Radius around truck will be coloured blue to represent standby status	
Down Status	The user puts the equipment in Standby status	• The activity wheel will disappear • Status event notification will appear and be persistent until status is changed • Notification will show time in standby and have a button to change status • Status event notification will be coloured red to represent down status • Radius around truck will be colored red to represent down status	

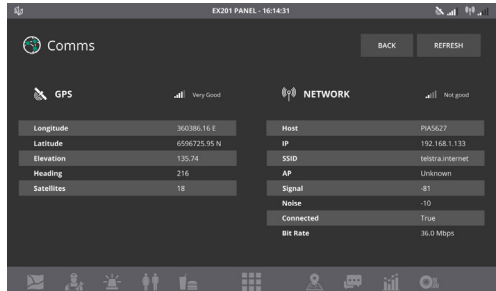| GIVEN	WHEN	THEN	SCREENSHOT

Messages
VIEW

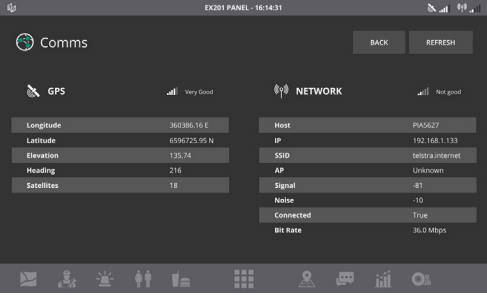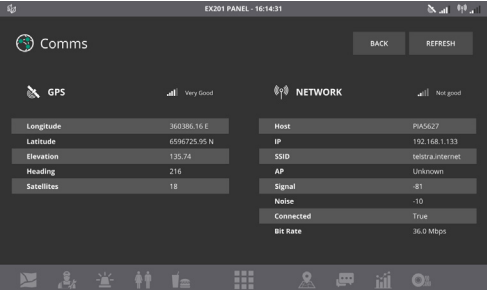| GIVEN	WHEN	THEN	SCREENSHOT
New Message Notification	A new message is received	• New message notification will appear • If message is dismissed the messages icon in the dock will show number of unread messages	
Messages View	User clicks reply or the messages icon in the dock	• Message view will appear • Message view will show previous messages • Message view will show previous notifications • Message view will have Input bar for typing and sending replies	
Keyboard	User clicks the message input bar	• Keyboard will be displayed • Keyboard will be qwerty style • Keyboard will have standard keys along with a lightbulb key	
Keyboard Light Bulb Key	User clicks the lightbulb key	Canned messages will appear	

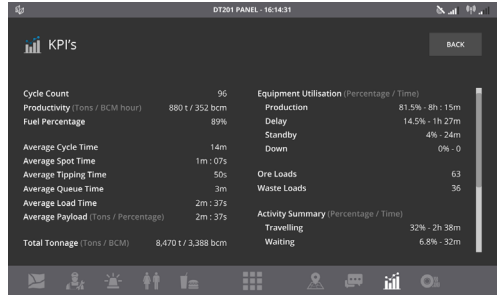| GIVEN	WHEN	THEN	SCREENSHOT
Message Input	User types or enters canned messages	Input will support single and multiline input	
Sent Message	User presses the send button	• Message will appear in the messages screen with its status • Unsent messages will show pending next to message and time sent • Sent messages will show sent next to message and time sent	

Communications

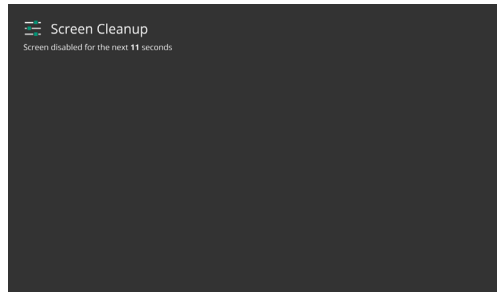|			
Critical communications notification or tire icon	User presses the details button on a critical communications notification or presses the tire icon in the dock	• Communications view will appear • Communications view will have a back and refresh button • Communications should show Realtime data	

GIVEN	WHEN	THEN	SCREENSHOT
Communications view	Communications view appears	GPS and Network sections will appear	
Communications view	User presses the back button	User will be brought back to map screen	
Communications view	User presses refresh button	• Screen will attempt to refresh • Screen should be automatically refreshing, but the refresh will show feedback, queuing the user that the system is out of communications • This will also be apparent on the screen in the network section	

GIVEN	WHEN	THEN	SCREENSHOT

KPI's

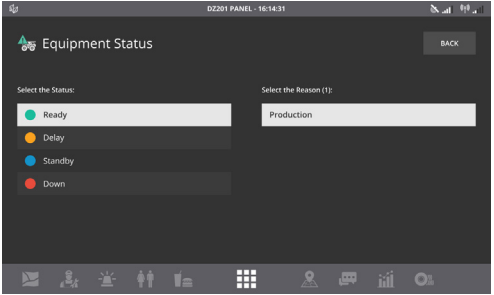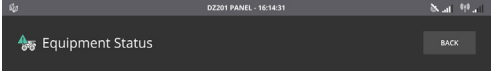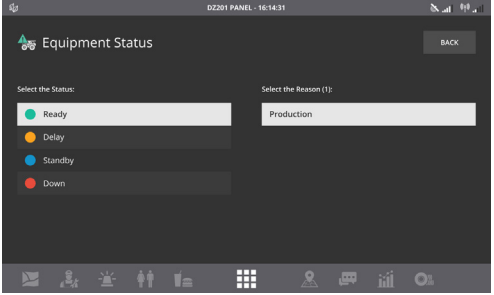|			
KPI Icon in dock	User presses the KPI icon in the dock	KPI view will appear	
KPI View	KPI view appears	• User defined KPIS will be available to view • A back button will be present	
KPI View	Back button is pressed	The user will be brought back to the MAP screen	

Screen Clean-up
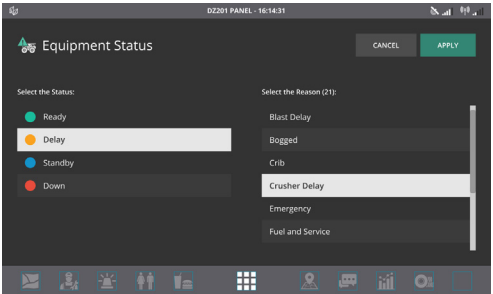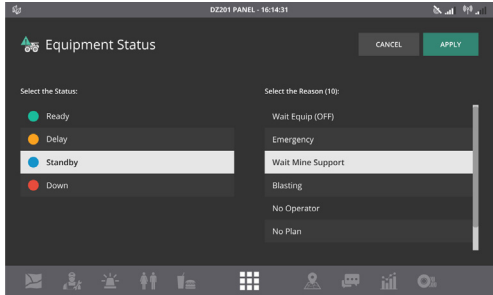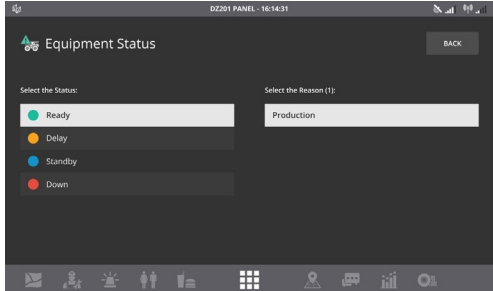
Enable screen clean-up button in preferences view	Enable screen clean-up item is toggled	Screen clean-up screen will appear	
Screen clean-up view	Screen clean-up view appears	Screen disabled count down will show up	

GIVEN	WHEN	THEN	SCREENSHOT

Menu
EQUIPMENT STATUS

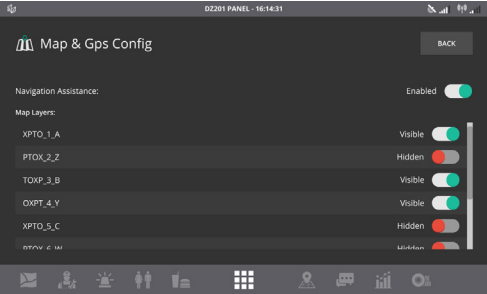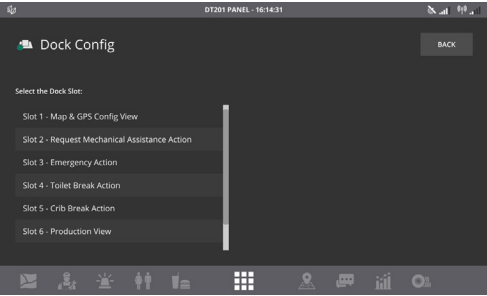|			
Equipment Status View	Equipment status view	• List of Status will appear • Current status and reason will be present and highlighted • Back button will be present	
Equipment Status View	User clicks back button	• User will be brought back to the main menu if that is where the view was accessed from • User will be brought back to the map if status was changed from status notification	
Equipment Status Ready	User clicks on ready status	• Status will highlight • The list of available ready reasons will appear	
Equipment Ready Reason	User clicks on ready reason	• Status will remained highlighted • Reason will highlight • Apply button will appear	

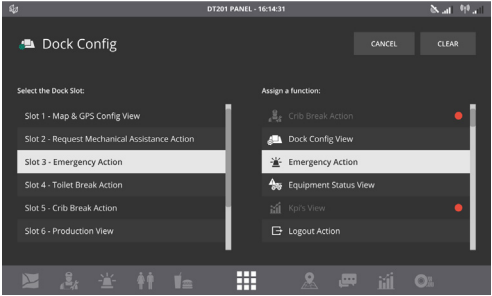| GIVEN	WHEN	THEN	SCREENSHOT
Equipment Status Delay	User clicks on Delay Status	• Status will highlight • The list of available delay reasons will appear	
Equipment Delay Reason	User clicks on delay reason	• Status will remain highlighted • Reason will highlight • Apply button will appear	
Equipment Status Standby	User clicks on Standby Status	• Status will highlight • The list of available standby reasons will appear	
Equipment Standby Reason	User clicks on standby reason	• Status will remain highlighted • Reason will highlight • Apply button will appear	
Equipment Status View	User clicks on apply button	• Status and reason will be changed when allowed by the system or dispatcher • User will be brought back to map screen if accessed from status notification • User will be brought back to system menu view if accessed from the menu view	

GIVEN	WHEN	THEN	SCREENSHOT

Map & GPS

Map & GPS Config	Map & GPS view appears	Back button will appear along with map layers to enable	
Map & GPS Config	Back button is pressed	The user will brought back to the menu view	
Map & GPS Config	Map layer is toggled	• Enabled layers will show green and a text of visible • Disabled layers will show red and a text of Hidden	
Dock Config View Initial	Dock config appears for first time. (No slots configured)	• Dock slot column will appear on the left • Dock slot will be populated with number of slots with placeholder values • Dock assigned column will appear on the right • Dock assigned column will be blank. (none configured) • Back button will appear	
Dock Config View	Back button is pressed	User will be brought back to the menu view	

GIVEN	WHEN	THEN	SCREENSHOT
Dock Config View	Slot item is pressed	• Slot item will highlight • Cancel will appear • Clear button will appear • List of functions will appear • If slot is configured, its highlighted function will be represented	
Dock Config View	Clear button is pressed	• Slot and assigned function will be cleared • Slot and assigned function will no longer be highlighted	
Dock Config View	Cancel Button is pressed	• All input will not be saved • User will be brought back to the menu view	
Dock Config View	Apply Button is pressed	• All input will be saved • User will be brought back to the menu screen	

GIVEN	WHEN	THEN	SCREENSHOT

Preferences

Preferences View	Preferences view appears	• Preference view will show a back button • Preference view will show the list of available preferences	
Preference View	Back button is pressed	ser will be brought back to the main menu	
Preference View	Preference item is toggled	• Item will have green toggle switch when enabled • Item will have red toggle switch when enabled	
Preference View	Enable screen clean-up item is toggled	Screen clean-up screen will appear	

KPI's Config

KPI Config View	KPI config view appears	• Kpi config view will show back button • Kpi config view will show a list of available KPIS	
KPI Config View	Back button is pressed	User will be brought back to the main menu	
KPI Config View	KPI item is toggled	• Item will have green toggle switch when enabled • Item will have red toggle switch when enabled	

About Hexagon

Hexagon is a global leader in digital solutions that create Autonomous Connected Ecosystems (ACE), a state where data is connected seamlessly through the convergence of the physical world with the digital, and intelligence is built in to all processes.

Hexagon's industry-specific solutions leverage domain expertise in sensor technologies, software, and data orchestration to create Smart Digital Realities™ that improve productivity and quality across manufacturing, infrastructure, safety and mobility applications.

Hexagon's Mining division solves surface and underground challenges with proven technologies for planning, operations, and safety.

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