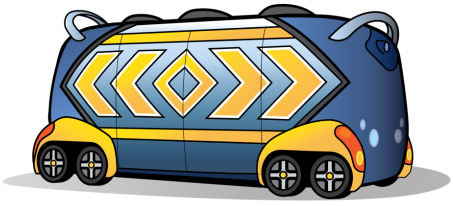
SCALED AGILE®

PI Planning Simulation

Features and Starter Stories for Alice



Instructions:

- Print out (single-sided) and cut out the features and the starter stories
- Participants may find it easiest to cut out the stories and tape them to the appropriate color of the Sticky Note (see Color Coding Sticky Notes Legend below)
- Some Stories are Enablers such as spikes, refactors, or defects
- Features are already prioritized

NOTE: The stories for the simulation are Starter Stories. Keep in mind that many are missing, some need to be broken down, or are duplicates in other teams' backlogs.

Color Coding Sticky Notes Legend

Green	Orange	Yellow	Purple	Red/Pink	Red/Pink
User Stories	Infrastructure /Enablers	Exploration Enablers	Maintenance	Risks and Dependencies	ADDRESSED Risks and Dependencies

© Scaled Agile, Inc.

FEATURE: Follow Unmarked, Virtual Roads

PRIORITY: 1
DESCRIPTION: Make vehicle follow virtual roads based on GPS location in addition to following roads marked by lines

As a vehicle control
I can be encoded with the GPS coordinates for virtual roads at an installation
So that they are included in route planning

SIZE:

As a vehicle control
I can use the virtual roads for route planning
So that I can use them when driving to destinations

SIZE:

As a vehicle control
I can be encoded with the GPS locations where cross traffic is likely to exist
so that the vehicle will treat those locations like other intersections

SIZE: 3

As a vehicle control
I can be encoded with virtual GPS road locations where a stop is required
so that the vehicle will treat those locations as stop signs

SIZE: 3

As a vehicle control
I can be encoded with GPS hard boundaries in the virtual road environment
so that I will never let the vehicle enter those areas

SIZE: 3

As a vehicle control
I can include virtual stop signs in route planning
So that I avoid routes with many stops when selecting the optimum route

SIZE: 5

As a vehicle control
I can ensure I stop at all virtual stop signs
So that I avoid accidents at those locations

SIZE: 5

As a vehicle control
I can use hard boundaries in the virtual road environment in route planning
So that I avoid large detours when selecting the optimum route

SIZE: 5

As a vehicle control engineer
I can encode virtual data for the test track
So that I can validate the vehicle will follow virtual routes on the test track

SIZE: 3

© Scaled Agile, Inc.

FEATURE: Request Delivery

PRIORITY: 2

DESCRIPTION: Request a delivery on the mobile app

As a mobile app requestor
I can enter the pickup location
So that the vehicle knows where navigate to retrieve the cargo

SIZE:

As a mobile app supplier
I can be notified of the items in the request
So that I can prepare them before the vehicle arrives

SIZE:

As a mobile app requestor
I can enter the delivery location as an address
So that the vehicle knows where to deliver the cargo

SIZE: 1

As a mobile app requestor
I can enter the items I am requesting
So that the vehicle can notify my supplier

SIZE: 2

As a mobile app requestor
I can enter the delivery location as a GPS coordinate
So that the vehicle knows where navigate to retrieve the cargo for locations that have no address

SIZE: 3

As a mobile app supplier
I can be notified the anticipated arrive time when a request is made for my destination
So that I can have the cargo ready for pickup
NOTE: requires GPS expertise to calculate time

SIZE: 3

As a mobile app requestor
I can be told an approximate travel time to deliver my cargo
So that plan my pickup accordingly
NOTE: requires GPS expertise to calculate time

SIZE: 3

As a mobile app requestor
I can be notified if a request is cancelled
So that I am not waiting for a request that will never arrive

SIZE: 5

As a mobile app supplier
I can cancel a request if I do not have the proper supplies
So that the vehicle does not make a useless trip

SIZE: 3

As a mobile app requestor
I can save entire orders including delivery location, pickup location, and requested cargo
So that I can order with a single click

SIZE: 5

As a mobile app requestor
I can save my previous delivery locations
So that I do not have to reenter them

SIZE: 2

© Scaled Agile, Inc.

FEATURE: Parallel Park

PRIORITY: 3

DESCRIPTION: At destination, locate appropriate parallel parking space and park there

As a sensor management
I can detect parallel parking locations with lines when there are no vehicles in adjacent spaces
So that I can park using only lines and a curb as reference points

SIZE:

As a vehicle control
I can parallel park the car using only parking lines and the curb as my guide
So that I can park the vehicle

SIZE:

As a sensor management
I can detect an appropriate parallel parking location when other vehicles are parked in adjacent spaces
So that I can park using other vehicles as a reference

SIZE: 3

As a vehicle control
I can center the vehicle between the lines of my parking space
So that I do not block adjacent vehicles from leaving

SIZE: 3

As a vehicle control
I can adjust centering if one vehicle parked too close to our shared line
So that I do not block adjacent vehicles from leaving

SIZE: 2

As a sensor management
I can detect an appropriate parking location where lines and other vehicles are involved
So that I can park in spaces using both lines and other vehicles as a reference

SIZE: 3

As a vehicle control
I can put the vehicle into park and turn the vehicle off after successfully parking
So that the requester can safely retrieve their items

SIZE: 3

As a vehicle control
I can detect a red curb
So that I ensure I only park in legal parking locations

SIZE: 1

As a sensor management
I can detect when a parking space has sufficient room but would straddle a parking line
So that I can exclude that spot to ensure I always park legally

SIZE**: 3**

As a vehicle control
I can parallel park at a curb where there are no lines or vehicles
So that I can park on any street for a requester to retrieve their items

SIZE: 2

As a vehicle test track
I can be configured with lines and mock vehicles
So that we can validate parallel parking scenarios on the test track

SIZE: 2

© Scaled Agile, Inc.

FEATURE: Notify Delivery Arrival

PRIORITY: 4

DESCRIPTION: Notify requester of delivery arrival via smartphone app

As a mobile app requester
I can register for delivery notifications on the mobile application
So that I know when my delivery is arriving

SIZE:

As a vehicle control
I can determine how much time remains until arrival at the delivery destination
So that vehicle communications knows when to notify the requester

SIZE:

As a vehicle communications
I can send a notification to the requester's mobile app
So that the requester knows the current delivery status

SIZE: 2

As a mobile app requester
I can set the time by which to be notified
So that I can be notified of delivery arrival earlier or later than the default value

SIZE: 5

As a mobile app requester
I can have the delivery time continually sent
So that I am always aware of the remaining time until delivery

SIZE: 3

As a mobile app supplier
I can be notified when the delivery is complete
So that I know the requester has their cargo

SIZE: 1

ENABLER (TECHNICAL SPIKE): Assess the bandwidth necessary to support continually streaming the vehicle's position to the mobile app so that the delivery vehicle can be shown on a real-time map.

SIZE: 5

As a mobile app requester
I can have my credentials authenticated when interacting with delivery notifications
So that so that only someone with my credentials is authorized to receive and configure delivery notifications

SIZE: 2

ENABLER (TECHNICAL SPIKE): Show real-time vehicle tracking on the mobile application.
Use a test double to proxy for the real vehicle position.

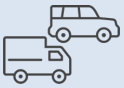
SIZE: 5

© Scaled Agile, Inc.

FEATURE: Fleet Management

PRIORITY: 5

DESCRIPTION: Manage a fleet of autonomous vehicles



As a fleet manager
I can assign the time and days which a vehicle is in operation
So that I balance the work load for each vehicle books

SIZE:

As a fleet manager
I can restrict vehicles to different areas within a facility
So that vehicles do not all congregate in one area of the facility and starve other areas of deliveries

SIZE:

As a fleet manager
I can know the location and status of all my vehicles
So that see know if I have good delivery coverage and if a vehicle is part of an active delivery

SIZE: 3

As a fleet manager
I can see a live map of all my vehicles and their delivery routes
So that know their current delivery patterns

SIZE: 5

As a fleet manager
I can know the total operation time, distance traveled, and cargo weight hailed for each vehicle
So that manage the vehicle maintenance schedule

SIZE: 2

As a fleet manager
I can see a map of all deliveries made in the past day, week, and month
So that look for patterns to adjust the vehicles' area restrictions and operation times to provide better service

SIZE: 5

As a fleet manager
I can recall a vehicle from the fleet
So that I can take the vehicle offline for maintenance

SIZE: 1

As a vehicle communications
I can send the time, weight, and distance traveled to operations control at the end of each delivery
So that my maintenance can be tracked

SIZE: 2

As a vehicle communications
I can send my location
So that fleet management can know the location of all vehicles to optimize coverage

SIZE: 2

As a vehicle communications
I can send pickup request data (pick location, delivery location, cargo) when a delivery request is made
So that fleet management can track deliveries

SIZE: 2

© Scaled Agile, Inc.

FEATURE: Smooth Driving with Fully Loaded Vehicle

PRIORITY: 6

DESCRIPTION: Eliminate erratic movements and smooth acceleration and turning when vehicle is fully loaded

As a vehicle control
I can change the acceleration from a stop
So that the vehicle accelerates more smoothly from a stop

SIZE:

As a sensor management
I can better predict the behavior of obstacles in front of the vehicle
So that the vehicle control can respond to deceleration needs in a timelier manner

SIZE:

As a sensor management
I can know the total vehicle weight, including cargo
So that the vehicle control will know how smooth or aggressive it can drive the vehicle

SIZE: 3

As a vehicle control
I can track obstacles at a further distance
So that I can anticipate movement and respond more quickly to obstacles

SIZE: 3

As a sensor management
I can identify road marking at a further distance
So that the vehicle control can better anticipate turns and stops

SIZE: 2

As a vehicle control
I can adjust how aggressively I brake
So that the vehicle slows more smoothly

SIZE: 3

As a vehicle control
I can take turns more slowly with heavy cargo loads
So that to eliminate the current instability on turns

SIZE: 3

As a vehicle control
I can use cargo weight to determine when the decelerate and brake
So that deceleration and stopping can begin earlier with heavy cargo loads

SIZE: 5

As a test vehicle on the test track
I can test the deceleration and braking adjustments
So that validate smoother stopping with heavy cargo loads

SIZE: 5

© Scaled Agile, Inc.

FEATURE: Obey Unique Lane Markings

PRIORITY: 7

DESCRIPTION: Detect and obey unique road markings found in special (for example government) facilities

As a sensor management
I can know the unique road markings at government installations that indicate roadways
So that vehicle control can use them for navigation

SIZE:

As a vehicle control
I can identify unique road markings from sensor management for navigating
So that I follow them during delivery

SIZE:

As a sensor management
I can know the unique road markings at government installations that indicate yielding to traffic
So that vehicle control will know to yield in those locations

SIZE: 2

As a sensor management
I can know the unique road markings at government installations that indicate stopping the vehicle
So that vehicle control will know to stop

SIZE: 3

As a vehicle control
I can yield to traffic at the unique road markings from sensor management
So that I yield at the appropriate locations

SIZE: 3

As a vehicle control
I can stop at the unique road markings from sensor management
So that I stop at the appropriate locations

SIZE: 5

As a sensor management
I can know the unique road marking at a tarmac indicating no vehicles allowed
So that I do not interfere with flight operations

SIZE: 1

As a sensor management
I can detect signs at government installations that indicate loading zones
So that I know the appropriate locations to park

SIZE: 2

As a vehicle control
I can de-conflict traditional roadway markings from those found in government installations
So that I make correct navigation decisions

SIZE: 5

© Scaled Agile, Inc.

FEATURE: Avoid Obstacles Unique to Government Installations

PRIORITY: 8

DESCRIPTION: Characterize sensor's ability to detect and process obstacles unique to government installations

As a sensor management
I can track a single obstacle that continually changes speed and directions like carts, pedestrians, fork lifts, etc.
So that vehicle control can respond to the obstacle's dynamic behavior

SIZE:

ENABLER (TECHNICAL SPIKE): Characterize how sensor management recognizes obstacles that approach differently from vehicles on streets as may occur in large, opens spaces

SIZE:

As a sensor management
I can detect obstacles whose mass is raised above the ground (e.g., aircraft)
So that the vehicle will avoid the entire object so as not interfere with its operation

SIZE: 5

As a sensor management
I can detect and avoid overhead obstacles such as propellers and aircraft wings on a flight line
So that the vehicle avoids collisions with them

SIZE: 3

As a sensor management
I can detect obstacles that operate at higher speeds than found in common traffic
So that the vehicle avoids collisions with them

SIZE: 3

As a sensor management
I can track three obstacles that independently and continually changes speed and direction
So that vehicle control can respond to the object's dynamic behavior

SIZE: 5

As a sensor management
I can detect railings mounted in the ground
So that the vehicle does not collide with them

SIZE: 3

As a sensor management
I can detect speed bumps
So that the vehicle can slow down for them to not damage the cargo

SIZE: 2

As a sensor management
I can detect imperfections in the road
So that vehicle control can slow down or avoid them and not damage the cargo

SIZE: 3

ENABLER (TECHNICAL SPIKE): Characterize how sensors responds to more than 3 independent objects that continually changing directions and speeds simulating dynamic objects that would be found on a busy flight line or dock

SIZE: 5

© Scaled Agile, Inc.