

NGOS

Author(s):el2jo

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<u>Requirement Set: NGOS</u>	3
<u>1</u>	4
<u>1.1</u>	4
<u>1.2</u>	4
<u>1.3</u>	4
<u>1.4</u>	4
<u>1.5</u>	4
<u>2</u>	4
<u>2.1</u>	4
<u>2.1.1</u>	4
<u>2.1.2</u>	5
<u>2.1.3</u>	5
<u>2.1.4</u>	5
<u>2.1.5</u>	5
<u>2.2</u>	5
<u>2.2.1</u>	5
<u>2.2.2</u>	5
<u>3</u>	5
<u>3.1</u>	5
<u>3.1.1</u>	6
<u>3.1.1.1</u>	6
<u>3.1.2</u>	6
<u>3.1.3</u>	6
<u>3.2</u>	6
<u>3.2.1</u>	6
<u>3.3</u>	6
<u>3.3.1</u>	6
<u>3.3.2</u>	6
<u>4</u>	7
<u>4.1</u>	7
<u>4.1.1</u>	7
<u>4.1.2</u>	7
<u>4.1.3</u>	7
<u>4.2</u>	7
<u>4.2.1</u>	7
<u>4.3</u>	7
<u>4.3.1</u>	7
<u>4.3.2</u>	8
<u>4.4</u>	8
<u>4.4.1</u>	8

<u>5</u>	8
<u> 5.1</u>	8
<u> 5.1.1</u>	8
<u> 5.2</u>	8
<u> 5.2.1</u>	8
<u> 5.3</u>	9
<u> 5.3.1</u>	9
<u> 5.3.2</u>	9
<u> 5.3.2.1</u>	9
<u> 5.3.2.2</u>	9
<u> 5.3.2.3</u>	9
<u> 5.3.3</u>	9
<u> 5.4</u>	9
<u> 5.4.1</u>	9

Requirement Set: NGOS

Description

Need: Our vehicle is for abled body college students between 5'6" and 6'4" ft, with a max weight limit of 300 lbs.

The ideal geography is in mid-Atlantic urban areas, and it is used for commuting only 10 miles a day via this bike.

The vehicle will be used for small grocery runs, going to and from class, and going for brief leisure rides.

It will withstand elements such as rain and snow and have a sporty aspect that is conducive to driving.

The vehicle will have sensing capabilities to relay the vehicle's performance to the driver.

1

Requirement Type Functional

ID Mid-Atlantic Weather/Geography Conditions

Description

The goal is to ride in the same conditions as a car in the DMV Area.

1.1

Requirement Type Functional

ID Rain

Description

1.2

Requirement Type Functional

ID Snow

Description

1.3

Requirement Type Functional

ID Heat

Description

1.4

Requirement Type Functional

ID Mud

Description

1.5

Requirement Type Functional

ID Hills

Description

2

Requirement Type Functional

ID Enhanced Driver Situational Awareness

Description

2.1

Requirement Type Functional

ID Sensors

Description

2.1.1

Requirement Type Functional

ID Wattage

Description

2.1.2

Requirement Type Functional

ID Temperature

Description

2.1.3

Requirement Type Functional

ID Battery / Voltage level

Description

2.1.4

Requirement Type Functional

ID Speed

Description

2.1.5

Requirement Type Functional

ID Sensor Operation Validation

Description

The Idea here is to indicate whether or not a sensor is working "in condition" or in other words, providing accurate measurements. (TLDR: Working or faulty)

2.2

Requirement Type Functional

ID Ergonomic Indicators

Description

The ability to see the system diagnostics at a glance

2.2.1

Requirement Type Functional

ID Speed

Description

T

2.2.2

Requirement Type Functional

ID Battery Level

Description

3

Requirement Type Functional

ID Flexible anthropology of a person

Description

3.1

Requirement Type Functional

ID Height Compensation

Description

5' - 6' 4"

3.1.1

Requirement Type Functional

ID Fit in seat

Description

3.1.1.1

Requirement Type Functional

ID Lower Lumbar Support

Description

3.1.2

Requirement Type Functional

ID Comfortable Handlebars

Description

3.1.3

Requirement Type Functional

ID Reaching pedals

Description

3.2

Requirement Type Functional

ID Weight Compensation

Description

<275 lbs

3.2.1

Requirement Type Functional

ID Structure is Unable deform under 275 lbs load

Description

3.3

Requirement Type Functional

ID Endurance / Strength Compensation

Description

3.3.1

Requirement Type Functional

ID Pedal Strength Compensation

Description

Force needed to do work on the pedals

3.3.2

Requirement Type Functional

ID Steering Compensation

- Description**
- 4**
- Requirement Type** Functional
- ID** Built for Urban Destinations
- Description**
- 4.1**
- Requirement Type** Functional
- ID** Travel to class
- Description**
- 4.1.1**
- Requirement Type** Functional
- ID** Be able to secure the vehicle when not in operation
- Description**
- 4.1.2**
- Requirement Type** Functional
- ID** Sleek Design
- Description**
- We dont want to look
- 4.1.3**
- Requirement Type** Functional
- ID** Comfortably move around people
- Description**
- Ability to comfortably move around people
- 4.2**
- Requirement Type** Functional
- ID** Sport Driving Conditions
- Description**
- Speeds reach 20+mph
- 4.2.1**
- Requirement Type** Functional
- ID** Must reach a velocity of 30mph forward
- Description**
- 4.3**
- Requirement Type** Functional
- ID** Small Grocery Runs
- Description**
- 4.3.1**
- Requirement Type** Functional
- ID** Cargo Compartment

Description

4.3.2

Requirement Type Functional

ID Secured Cargo

Description

Being able to

4.4

Requirement Type Functional

ID Leisure Riding Conditions

Description

4.4.1

Requirement Type Functional

ID Minimal Effort for Actuation

Description

5

Requirement Type Functional

ID Safety

Description

5.1

Requirement Type Functional

ID Rollover and Fall Protection

Description

R0: 90deg+ of falling tilt

Fall: Up to 90 deg of falling tilt

5.1.1

Requirement Type Functional

ID Driver immovability

Description

When is in a crash, we dont want them to move out of their seat or for their head to experience too much whiplash.

5.2

Requirement Type Functional

ID Electrical Protection

Description

5.2.1

Requirement Type Functional

ID Component Preservation

Description

Some components may overheat or draw too much current. We need to mitigate that.

5.3

Requirement Type Functional

ID Health Safety

Description

5.3.1

Requirement Type Functional

ID Preventing Cuts

Description

5.3.2

Requirement Type Functional

ID Legal Health Aspects

Description

5.3.2.1

Requirement Type Functional

ID Head Safety

Description

5.3.2.2

Requirement Type Functional

ID Leg Safety

Description

5.3.2.3

Requirement Type Functional

ID Arm Safety

Description

5.3.3

Requirement Type Functional

ID Driver Ingress and Egress

Description

5.4

Requirement Type Functional

ID Road Safety

Description

5.4.1

Requirement Type Functional

ID Road Visibility

Description

To see and be seen