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| Artifact ID:  CE-001 | Artifact Title:  Concept Set Evaluation | |  |
| Revision:  1.0 | Revision Date:  23 OCT 2019 | |
| Prepared by:  Nick Merriman | | Checked by:  Checker |
| Purpose:  The purpose of this artifact is to assess the novelty, variety, quantity, and quality of the concepts brainstormed by the team. | | |

# Revision History

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| --- | --- | --- | --- |
| Revision: | Revised by: | Checked by: | Date: |
| 1.0 | Nick Merriman | Checker | 23 OCT 2019 |

# References

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| Artifact ID: | Revision: | Title: |
| CD-001 | 1.2 | Brainstorm Notes |

# Requirement Breakdown

# Evaluation Process

At the beginning of the concept development stage the team gathered together and brainstormed ideas for the radar positioning system. The system was broken down into three primary subsystems and ideas were then brainstormed for each one. The subsystems include processor, positioner/mount, and GUI. The complete list of brainstormed ideas can be viewed in the brainstorm notes artifact (CD-001).

Each of the concept lists were then evaluated for novelty, variety, quantity, and quality. The results of the evaluation are provided below. Ideas that were deemed infeasible were eliminated, and ideas worth further consideration were identified.

# Processor Concepts Evaluation

This section presents the evaluation for the concepts developed for the processor subsystem. See artifact CD-001 for the list of brainstormed concepts.

|  |  |
| --- | --- |
| **Processor** | **Scores** |
| Quantity | 13 |
| Novelty | 2 |
| Variety | 3 |
| Quality | 4 |

The score for quantity represents the total number of ideas generated. The remaining scores for novelty, variety, and quality are on a scale from 1-5, with 5 being the highest (i.e. most novel, greatest variety, highest quality).

Most of the ideas generated revolved around using various off the shelf computers to perform the actual processing. Most ideas weren’t extremely novel, this is in large part because we feel it unnecessary to try to recreate the computer. There were some ideas related to how we will communicate with the processor and how we can make it an easier user experience. Even though the there wasn’t too much variety or novelty, we feel that our concepts will provide a quality solution.

For more information on the concepts selected for further development see artifact XXX.

# Positioner/Mount Concepts Evaluation

This section presents the evaluation for the concepts generated for the positioner and camera mount subsystem. This subsystem deals primarily with the physical hardware that will move the antenna and evolved to include different ways to mount a camera, both for testing and potentially permanently. For a complete list of ideas see CD-001.

|  |  |
| --- | --- |
| **Positioner/Mount** | **Scores** |
| Quantity | 13 |
| Novelty | 4 |
| Variety | 4 |
| Quality | 3 |

The scoring system is the same as that used for the processor subsystem. The concepts generated had more variety and novelty than the processor, but many of them were deemed infeasible or outside the scope of this project. However, many good concepts were also developed, and we believe will provide a good solution.

For more information on the concepts selected for further development see artifact XXX.

# GUI Concepts Evaluation

This section presents the evaluation for the concepts generated for the GUI subsystem. For a complete list of brainstormed concepts see CD-001.

|  |  |
| --- | --- |
| **GUI** | **Scores** |
| Quantity | 11 |
| Novelty | 3 |
| Variety | 3 |
| Quality | 4 |

The same scoring system as the previous two systems was used here. The brainstorming process resulted in a good discussion of elements that we want to include in our user interface. We believe that this practice will help us to develop an effective and functional user interface that will result in a good product.

For more information on the concepts selected for further development see artifact XXX.