

Concept Selection

P11015: Mobile Landmark ID

Possible Concepts

A-6:B-2:C-7

Part 1: Bus Identification Methods

| Selection Criteria | Public Assistance | Long-Range RFID Tag (On the Bus) | LED Billboard (Text-to-Speech) | Image Processing | GPS | Remote Personal Assistance | RTS GPS Database |
|------------------------|-------------------|----------------------------------|--------------------------------|------------------|-----|----------------------------|------------------|
| | A-0 | A-1 | A-2 | A-3 | A-4 | A-5 | A-6 |
| Detection Range | 0 | + | + | 0 | + | 0 | + |
| Weatherproof | 0 | + | + | - | + | - | + |
| Accuracy | 0 | 0 | 0 | - | 0 | 0 | 0 |
| Repeatability | 0 | + | 0 | 0 | + | + | + |
| Low Expense | 0 | - | - | - | - | - | - |
| Simple to Integrate | 0 | 0 | 0 | - | - | - | 0 |
| Independently Reliable | 0 | + | + | + | + | + | + |
| Fast Identification | 0 | + | + | - | + | - | + |
| Database Cost | 0 | - | 0 | - | - | 0 | 0 |
| Net Score | 0 | 3 | 3 | -5 | 2 | -2 | 4 |

Part 2: Communication Methods (System to-from User)

| Selection Criteria | N/A | Talking Bus Station | Portable User Device |
|--------------------------|-----|---------------------|----------------------|
| | B-0 | B-1 | B-2 |
| Noise Immunity | 0 | - | + |
| Need not carry | 0 | + | - |
| Disturb another user | 0 | - | + |
| Repeatability | 0 | - | + |
| Additional Features Cap. | 0 | - | + |
| Net Score | 0 | -3 | 3 |

Part 3: Navigation Methods

| Selection Criteria | Dog/Cane | Monster Guide Roomba | 2 IR Stations | 2 Laser Stations | Computer Vision w/ GPS System | RFID RADAR System | Augmented RFID With GPS |
|---------------------------|----------|-------------------------|---------------|------------------|----------------------------------|----------------------|----------------------------|
| | C-1 | C-2 | C-3 | C-4 | C-5 | C-6 | C-7 |
| Likelihood of success | 0 | + | ++ | ++ | ++ | + | ++ |
| Time to Code | 0 | -- | - | - | - | - | - |
| Startup cost | 0 | 0 | - | - | - | -- | - |
| Reliability | 0 | + | ++ | ++ | ++ | ++ | + |
| Repeatability | 0 | 0 | ++ | ++ | ++ | ++ | ++ |
| Time to Build | 0 | -- | - | - | - | -- | - |
| Accuracy of Bus Detection | 0 | 0 | + | ++ | + | ++ | + |
| WeatherProof | 0 | - | -- | -- | - | + | ++ |
| Obstacles | 0 | 0 | -- | -- | - | + | + |
| Ability to interface | 0 | 0 | + | + | + | + | + |
| Range | 0 | 0 | + | + | + | 0 | + |
| Implement elsewhere | 0 | - | 0 | 0 | 0 | + | ++ |
| Marginal Cost | 0 | 0 | -- | -- | -- | - | 0 |
| Number of Failure Points | 0 | - | - | - | - | - | - |
| Work Dispersal | 0 | ++ | + | + | - | + | + |
| Ease to test | 0 | - | - | - | + | -- | - |
| Absence Factor | 0 | - | 0 | 0 | - | 0 | 0 |
| Net Score | 0 | -5 | -1 | 1 | 0 | 3 | 9 |