Raymond JNC Cruz

ITM189 – X

Parking Lot Management System – Cost Benefit Analysis

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | | **Cost(Monthly)** | |
|  | Development | | Production | |
| Server | Php2,500.00 | |  | |
| Workstation | Php1,666.67 | |  | |
| Infrared Sensors | Php10.42 | |  | |
| Microcontrollers | Php3,304.17 | |  | |
| Cabling | Php527.04 | |  | |
| Personnel |  | | Php13,500.00 | |
|  |  | | **Benefit(Monthly)** | | | |  |
| **Students** |  | |  | | |  |  |
| *Total* | 8000 | |  | | |  |  |
|  |  | |  | | |  |  |
| **Category** | **Total units per category** | | **Estimated Sales** | | | **Tuition Rate Increase** | **Revenue per Month** |
|  |  | |  | | |  |  |
| Students | 8000 | | Php133,333,333.33 | | | 0.1% | Php133,333.33 |
|  |  | |  | | |  |  |
|  |  | |  | | |  |  |
| Total Benefit (Monthly) | | |  | | |  | **Php133,333.33** |
| Development Period | | | 8 |
| Interest rate | |  | 0.05 |
| Projected Changes(Annual) | | |  |
| Production Cost | |  | 0.04 |
| Production Benefit | | | 0.06 |

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| --- | --- | --- | --- | --- | --- | --- |
| Projected Costs |  |  |  |  |  |  |
|  | Year 0 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| Server | 20000.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Workstation | 13333.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Infrared Sensors | 83.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Microcontrollers | 26433.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Cabling | 4216.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Personnel | 0.00 | 162000.00 | 168480.00 | 175219.20 | 182227.97 | 189517.09 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Annual Costs | 64066.33 | 162000.00 | 168480.00 | 175219.20 | 182227.97 | 189517.09 |
| NPV of Annual Costs | 64066.33 | 154285.71 | 152816.33 | 151360.93 | 149919.40 | 148491.60 |
| NPV of Cumulative Costs | 64066.33 | 218352.05 | 371168.37 | 522529.31 | 672448.71 | 820940.30 |
| Projected Benefits |  |  |  |  |  |  |
|  | Year 0 | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| Annual Gross | 0 | 1600000.00 | 1696000.00 | 1797760.00 | 1905625.60 | 2019963.14 |
| NPV of Annual Gross | 0 | 1523809.52 | 1538322.00 | 1552972.68 | 1567762.90 | 1582693.97 |
| NPV of Cumulative Gross | 0 | 1523809.52 | 3062131.52 | 4615104.20 | 6182867.10 | 7765561.07 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Annual Net | (64066.33) | 1438000.00 | 1527520.00 | 1622540.80 | 1723397.63 | 1830446.05 |
| NPV of Annual Net | (61015.56) | 1304308.39 | 1319529.21 | 1401611.75 | 1417843.50 | 1434202.38 |
| NPV of Cumulative Net | (61015.56) | 1243292.83 | 2562822.04 | 3964433.79 | 5382277.29 | 6816479.66 |