# Computer Project Resources

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Embry-Riddle Aeronautical University

Project Management 501

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**Contents**

## Budget

The budget for the project is outlined in the chart below. Each item is allocated a particular duration in days and an amount of money. No extra days are allotted to the duration as this will be a time-constrained project. The managers reserve for this project is the aggregate total difference between the three estimates of normal, optimistic, and pessimistic. This amount, we will see later, will cover the ability to crash the project a total of two days without further upper management approval or oversight.

| ID | NAME | DUR | BUDGET |
|---|---|---|---|
| 1.1.1.1 | Hardware | 3 | $ 40,000 |
| 1.1.1.2 | Software | 3 | $ 40,000 |
| 1.1.1.3 | Cost | 3 | $ 40,000 |
| 1.1.1.4 | Schedule | 3 | $ 40,000 |
| 1.1.1.5 | Make or buy decision | 2 | $ 40,000 |
| 1.2.1.1 | Customer interview | 2 | $ 136,000 |
| 1.2.2.1.1 | Cost | 2 | $ 9,520 |
| 1.2.2.1.2 | Schedule | 2 | $ 9,520 |
| 1.2.2.1.3 | Selection | 2 | $ 456,960 |
| 1.2.3.1.1 | Cost | 2 | $ 14,960 |
| 1.2.3.1.2 | Schedule | 2 | $ 14,960 |
| 1.2.3.1.3 | Selection | 2 | $ 718,080 |
| 1.3.1 | Customer interview | 4 | $ 200,000 |
| 1.4.1 | Integrate SWHW | 7 | $ 1,440,000 |
| 1.4.2 | Test prototype | 5 | $ 160,000 |
| 1.5.1 | Customer feedback | 2 | $ 120,000 |
| 1.6.1 | Customer interview | 2 | $ 20,000 |
| 1.6.2 | Adjustment Integration | 5 | $ 380,000 |
| 1.7.1 | Test adjusted prototype | 5 | $ 120,000 |
| **COST BASELINE** | | | **$ 4,000,000** |
| **MANAGEMENT RESERVE** | | | **$ 105,033** |
| **TOTAL BUDGET** | | | **$ 4,105,033** |

## Resource categories

Our resource categories for this project are engineers for hardware and software development, sales staff for customer interaction, and administrative staff for scheduling and costs. Due to the technological nature of this project and the need of the customer to have the system developed and built on-time, a time constrained project is desired for our team.

The schedule and budget baseline developed in the initial stages was developed using a parallel model. Any changes made by a change request will be used to adjust this baseline.

## Time-phased budget and cash flow plan

In order to track the budget, especially in the early phases of the project during the highest costs, a biweekly time-phased budget and cash flow plan is included below. Costs for the first four weeks of the project will incur a majority of the income. However, a majority of the budgeted time can be saved in the later stages of the project by adding more engineers to critical tasks.

| ID | DUR | BUDGET | 0-1 | 1-2 | 2-3 | 3-4 | 4-5 | 5-6 | 6-7 | 7-8 | 8-9 | 9-10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.1.1.1 | 3 | $ 40,000 | $13,333 | $13,333 | $13,333 | | | | | | | |
| 1.1.1.2 | 3 | $ 40,000 | $13,333 | $13,333 | $13,333 | | | | | | | |
| 1.1.1.3 | 3 | $ 40,000 | $13,333 | $13,333 | $13,333 | | | | | | | |
| 1.1.1.4 | 3 | $ 40,000 | $13,333 | $13,333 | $13,333 | | | | | | | |
| 1.1.1.5 | 2 | $ 40,000 | | | | $ 20,000 | $ 20,000 | | | | | |
| 1.2.1.1 | 2 | $ 136,000 | | | | | | $ 68,000 | $ 68,000 | | | |
| 1.2.2.1.1 | 2 | $ 9,520 | $ 4,760 | $ 4,760 | | | | | | | | |
| 1.2.2.1.2 | 2 | $ 9,520 | $ 4,760 | $ 4,760 | | | | | | | | |
| 1.2.2.1.3 | 2 | $ 456,960 | | | | | | | | $228,480 | $228,480 | |
| 1.2.3.1.1 | 2 | $ 14,960 | $ 7,480 | $ 7,480 | | | | | | | | |
| 1.2.3.1.2 | 2 | $ 14,960 | $ 7,480 | $ 7,480 | | | | | | | | |
| 1.2.3.1.3 | 2 | $ 718,080 | | | | | | | | $359,040 | $359,040 | |
| 1.3.1 | 4 | $ 200,000 | | | | | | | | | | $ 50,000 |
| 1.4.1 | 7 | $1,440,000 | | | | | | | | | | |
| 1.4.2 | 5 | $ 160,000 | | | | | | | | | | |
| 1.5.1 | 2 | $ 120,000 | | | | | | | | | | |
| 1.6.1 | 2 | $ 20,000 | | | | | | | | | | |
| 1.6.2 | 5 | $ 380,000 | | | | | | | | | | |
| 1.7.1 | 5 | $ 120,000 | | | | | | | | | | |
| **TOTAL** | | **$4,000,000** | **$77,813** | **$77,813** | **$53,333** | **$ 20,000** | **$ 20,000** | **$ 68,000** | **$ 68,000** | **$587,520** | **$587,520** | **$ 50,000** |
| | | | | | | | | | | | | **2-WEEK TOTAL** |
| | | | | | | | | | | | **$** | **1,610,000** |

| ID | DUR | BUDGET | 10-11 | 11-12 | 12-13 | 13-14 | 14-15 | 15-16 | 16-17 | 17-18 | 18-19 | 19-20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.1.1.1 | 3 | $ 40,000 | | | | | | | | | | |
| 1.1.1.2 | 3 | $ 40,000 | | | | | | | | | | |
| 1.1.1.3 | 3 | $ 40,000 | | | | | | | | | | |
| 1.1.1.4 | 3 | $ 40,000 | | | | | | | | | | |
| 1.1.1.5 | 2 | $ 40,000 | | | | | | | | | | |
| 1.2.1.1 | 2 | $ 136,000 | | | | | | | | | | |
| 1.2.2.1.1 | 2 | $ 9,520 | | | | | | | | | | |
| 1.2.2.1.2 | 2 | $ 9,520 | | | | | | | | | | |
| 1.2.2.1.3 | 2 | $ 456,960 | | | | | | | | | | |
| 1.2.3.1.1 | 2 | $ 14,960 | | | | | | | | | | |
| 1.2.3.1.2 | 2 | $ 14,960 | | | | | | | | | | |
| 1.2.3.1.3 | 2 | $ 718,080 | | | | | | | | | | |
| 1.3.1 | 4 | $ 200,000 | $50,000 | $50,000 | $50,000 | | | | | | | |
| 1.4.1 | 7 | $1,440,000 | | | | $205,714 | $205,714 | $205,714 | $205,714 | $205,714 | $205,714 | $205,714 |
| 1.4.2 | 5 | $ 160,000 | | | | | | | | | | |
| 1.5.1 | 2 | $ 120,000 | | | | | | | | | | |
| 1.6.1 | 2 | $ 20,000 | | | | | | | | | | |
| 1.6.2 | 5 | $ 380,000 | | | | | | | | | | |
| 1.7.1 | 5 | $ 120,000 | | | | | | | | | | |
| **TOTAL** | | **$4,000,000** | **$50,000** | **$50,000** | **$50,000** | **$205,714** | **$205,714** | **$205,714** | **$205,714** | **$205,714** | **$205,714** | **$205,714** |
| | | | | | | | | | | | | **2-WEEK TOTAL** |
| | | | | | | | | | | | **$** | **1,590,000** |

| ID | DUR | BUDGET | 20-21 | 21-22 | 22-23 | 23-24 | 24-25 | 25-26 | 26-27 | 27-28 | 28-29 | 29-30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.1.1.1 | 3 | $ 40,000 | | | | | | | | | | |
| 1.1.1.2 | 3 | $ 40,000 | | | | | | | | | | |
| 1.1.1.3 | 3 | $ 40,000 | | | | | | | | | | |
| 1.1.1.4 | 3 | $ 40,000 | | | | | | | | | | |
| 1.1.1.5 | 2 | $ 40,000 | | | | | | | | | | |
| 1.2.1.1 | 2 | $ 136,000 | | | | | | | | | | |
| 1.2.2.1.1 | 2 | $ 9,520 | | | | | | | | | | |
| 1.2.2.1.2 | 2 | $ 9,520 | | | | | | | | | | |
| 1.2.2.1.3 | 2 | $ 456,960 | | | | | | | | | | |
| 1.2.3.1.1 | 2 | $ 14,960 | | | | | | | | | | |
| 1.2.3.1.2 | 2 | $ 14,960 | | | | | | | | | | |
| 1.2.3.1.3 | 2 | $ 718,080 | | | | | | | | | | |
| 1.3.1 | 4 | $ 200,000 | | | | | | | | | | |
| 1.4.1 | 7 | $1,440,000 | | | | | | | | | | |
| 1.4.2 | 5 | $ 160,000 | $32,000 | $32,000 | $32,000 | $ 32,000 | $ 32,000 | | | | | |
| 1.5.1 | 2 | $ 120,000 | | | | | | $ 60,000 | $ 60,000 | | | |
| 1.6.1 | 2 | $ 20,000 | | | | | | | | $ 10,000 | $ 10,000 | |
| 1.6.2 | 5 | $ 380,000 | | | | | | | | | | $ 76,000 |
| 1.7.1 | 5 | $ 120,000 | | | | | | | | | | |
| **TOTAL** | | **$4,000,000** | **$32,000** | **$32,000** | **$32,000** | **$ 32,000** | **$ 32,000** | **$ 60,000** | **$ 60,000** | **$ 10,000** | **$ 10,000** | **$ 76,000** |
| | | | | | | | | | | | | **2-WEEK TOTAL** |
| | | | | | | | | | | | **$** | **376,000** |

| ID | DUR | BUDGET | 30-31 | 31-32 | 32-33 | 33-34 | 34-35 | 35-36 | 36-37 | 37-38 | 38-39 | 39-40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.1.1.1 | 3 | $ 40,000 | | | | | | | | | | |
| 1.1.1.2 | 3 | $ 40,000 | | | | | | | | | | |
| 1.1.1.3 | 3 | $ 40,000 | | | | | | | | | | |
| 1.1.1.4 | 3 | $ 40,000 | | | | | | | | | | |
| 1.1.1.5 | 2 | $ 40,000 | | | | | | | | | | |
| 1.2.1.1 | 2 | $ 136,000 | | | | | | | | | | |
| 1.2.2.1.1 | 2 | $ 9,520 | | | | | | | | | | |
| 1.2.2.1.2 | 2 | $ 9,520 | | | | | | | | | | |
| 1.2.2.1.3 | 2 | $ 456,960 | | | | | | | | | | |
| 1.2.3.1.1 | 2 | $ 14,960 | | | | | | | | | | |
| 1.2.3.1.2 | 2 | $ 14,960 | | | | | | | | | | |
| 1.2.3.1.3 | 2 | $ 718,080 | | | | | | | | | | |
| 1.3.1 | 4 | $ 200,000 | | | | | | | | | | |
| 1.4.1 | 7 | $1,440,000 | | | | | | | | | | |
| 1.4.2 | 5 | $ 160,000 | | | | | | | | | | |
| 1.5.1 | 2 | $ 120,000 | | | | | | | | | | |
| 1.6.1 | 2 | $ 20,000 | | | | | | | | | | |
| 1.6.2 | 5 | $ 380,000 | $76,000 | $76,000 | $76,000 | $ 76,000 | | | | | | |
| 1.7.1 | 5 | $ 120,000 | | | | | $ 24,000 | $ 24,000 | $ 24,000 | $ 24,000 | $ 24,000 | |
| **TOTAL** | | **$4,000,000** | **$76,000** | **$76,000** | **$76,000** | **$ 76,000** | **$ 24,000** | **$ 24,000** | **$ 24,000** | **$ 24,000** | **$ 24,000** | **$ -** |
| | | | | | | | | | | | | **2-WEEK TOTAL** |
| | | | | | | | | | | | **$** | **424,000** |

## Human resource plan

| ID | NAME | DUR | 0-1 | 1-2 | 2-3 | 3-4 | 4-5 | 5-6 | 6-7 | 7-8 | 8-9 | 9-10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.1.1.1 | Hardware | 3 | E | E | E | | | | | | | |
| 1.1.1.2 | Software | 3 | E | E | E | | | | | | | |
| 1.1.1.3 | Cost | 3 | A | A | A | | | | | | | |
| 1.1.1.4 | Schedule | 3 | A | A | A | | | | | | | |
| 1.1.1.5 | Make or buy decision | 2 | | | | A | A | | | | | |
| 1.2.1.1 | Customer interview | 2 | | | | | | S | S | | | |
| 1.2.2.1.1 | Cost | 2 | A | A | | | | | | | | |
| 1.2.2.1.2 | Schedule | 2 | A | A | | | | | | | | |
| 1.2.2.1.3 | Selection | 2 | | | | | | | | E | E | |
| 1.2.3.1.1 | Cost | 2 | A | A | | | | | | | | |
| 1.2.3.1.2 | Schedule | 2 | A | A | | | | | | | | |
| 1.2.3.1.3 | Selection | 2 | | | | | | | | E | E | |
| 1.3.1 | Customer interview | 4 | | | | | | | | | | S |
| 1.4.1 | Integrate SWHW | 7 | | | | | | | | | | |
| 1.4.2 | Test prototype | 5 | | | | | | | | | | |
| 1.5.1 | Customer feedback | 2 | | | | | | | | | | |
| 1.6.1 | Customer interview | 2 | | | | | | | | | | |
| 1.6.2 | Adjustment Integration | 5 | | | | | | | | | | |
| 1.7.1 | Test adjusted prototype | 5 | | | | | | | | | | |
| **Total** | **Engineer Staff** | | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 2 | 2 | 0 |
| | **Admin Staff** | | 6 | 6 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| | **Sales Staff** | | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 1 |

| ID | NAME | DUR | 10-11 | 11-12 | 12-13 | 13-14 | 14-15 | 15-16 | 16-17 | 17-18 | 18-19 | 19-20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.1.1.1 | Hardware | 3 | | | | | | | | | | |
| 1.1.1.2 | Software | 3 | | | | | | | | | | |
| 1.1.1.3 | Cost | 3 | | | | | | | | | | |
| 1.1.1.4 | Schedule | 3 | | | | | | | | | | |
| 1.1.1.5 | Make or buy decision | 2 | | | | | | | | | | |
| 1.2.1.1 | Customer interview | 2 | | | | | | | | | | |
| 1.2.2.1.1 | Cost | 2 | | | | | | | | | | |
| 1.2.2.1.2 | Schedule | 2 | | | | | | | | | | |
| 1.2.2.1.3 | Selection | 2 | | | | | | | | | | |
| 1.2.3.1.1 | Cost | 2 | | | | | | | | | | |
| 1.2.3.1.2 | Schedule | 2 | | | | | | | | | | |
| 1.2.3.1.3 | Selection | 2 | | | | | | | | | | |
| 1.3.1 | Customer interview | 4 | S | S | S | | | | | | | |
| 1.4.1 | Integrate SWHW | 7 | | | | E | E | E | E | E | E | E |
| 1.4.2 | Test prototype | 5 | | | | | | | | | | |
| 1.5.1 | Customer feedback | 2 | | | | | | | | | | |
| 1.6.1 | Customer interview | 2 | | | | | | | | | | |
| 1.6.2 | Adjustment Integration | 5 | | | | | | | | | | |
| 1.7.1 | Test adjusted prototype | 5 | | | | | | | | | | |
| **Total** | **Engineer Staff** | | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | **Admin Staff** | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | **Sales Staff** | | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| ID | NAME | DUR | 20-21 | 21-22 | 22-23 | 23-24 | 24-25 | 25-26 | 26-27 | 27-28 | 28-29 | 29-30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.1.1.1 | Hardware | 3 | | | | | | | | | | |
| 1.1.1.2 | Software | 3 | | | | | | | | | | |
| 1.1.1.3 | Cost | 3 | | | | | | | | | | |
| 1.1.1.4 | Schedule | 3 | | | | | | | | | | |
| 1.1.1.5 | Make or buy decision | 2 | | | | | | | | | | |
| 1.2.1.1 | Customer interview | 2 | | | | | | | | | | |
| 1.2.2.1.1 | Cost | 2 | | | | | | | | | | |
| 1.2.2.1.2 | Schedule | 2 | | | | | | | | | | |
| 1.2.2.1.3 | Selection | 2 | | | | | | | | | | |
| 1.2.3.1.1 | Cost | 2 | | | | | | | | | | |
| 1.2.3.1.2 | Schedule | 2 | | | | | | | | | | |
| 1.2.3.1.3 | Selection | 2 | | | | | | | | | | |
| 1.3.1 | Customer interview | 4 | | | | | | | | | | |
| 1.4.1 | Integrate SWHW | 7 | | | | | | | | | | |
| 1.4.2 | Test prototype | 5 | E | E | E | E | E | | | | | |
| 1.5.1 | Customer feedback | 2 | | | | | | E | E | | | |
| 1.6.1 | Customer interview | 2 | | | | | | | | E | E | |
| 1.6.2 | Adjustment Integration | 5 | | | | | | | | | | E |
| 1.7.1 | Test adjusted prototype | 5 | | | | | | | | | | |
| **Total** | **Engineer Staff** | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | **Admin Staff** | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | **Sales Staff** | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| ID | NAME | DUR | 30-31 | 31-32 | 32-33 | 33-34 | 34-35 | 35-36 | 36-37 | 37-38 | 38-39 | 39-40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.1.1.1 | Hardware | 3 | | | | | | | | | | |
| 1.1.1.2 | Software | 3 | | | | | | | | | | |
| 1.1.1.3 | Cost | 3 | | | | | | | | | | |
| 1.1.1.4 | Schedule | 3 | | | | | | | | | | |
| 1.1.1.5 | Make or buy decision | 2 | | | | | | | | | | |
| 1.2.1.1 | Customer interview | 2 | | | | | | | | | | |
| 1.2.2.1.1 | Cost | 2 | | | | | | | | | | |
| 1.2.2.1.2 | Schedule | 2 | | | | | | | | | | |
| 1.2.2.1.3 | Selection | 2 | | | | | | | | | | |
| 1.2.3.1.1 | Cost | 2 | | | | | | | | | | |
| 1.2.3.1.2 | Schedule | 2 | | | | | | | | | | |
| 1.2.3.1.3 | Selection | 2 | | | | | | | | | | |
| 1.3.1 | Customer interview | 4 | | | | | | | | | | |
| 1.4.1 | Integrate SWHW | 7 | | | | | | | | | | |
| 1.4.2 | Test prototype | 5 | | | | | | | | | | |
| 1.5.1 | Customer feedback | 2 | | | | | | | | | | |
| 1.6.1 | Customer interview | 2 | | | | | | | | | | |
| 1.6.2 | Adjustment Integration | 5 | E | E | E | E | | | | | | |
| 1.7.1 | Test adjusted prototype | 5 | | | | | E | E | E | E | E | |
| **Total** | **Engineer Staff** | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| | **Admin Staff** | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | **Sales Staff** | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

**Bibliography**

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