**Project Solutions**

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**Part 1**

**1-When is the project estimated to be completed? How long will the project take? Will it meet the June 25 deadline?**

* Estimated Finish of project is 06/19/2020.
* Project completes in 248 days.
* Yes, project meets the June 25, 2020 deadline.

**2- What is the critical path for the project?**

* Critical path is

2🡪5🡪11🡪17🡪19🡪21🡪22🡪23🡪24🡪25🡪26🡪28🡪29🡪30🡪31

**3- Which activity has the greatest amount of slack?**

* Activity Barcode Reader has the greatest Slack.

**4- Include a printout of the network diagram (set it up to fit into two pages). Name the file ‘Part1\_Network’.**

**Part 2**

1. **Which if any resources are overallocated?**

* Design and Development resources are overallocated.

1. **File named to ‘Part2A’. Assume project is time constrained and try to resolve any overallocation problem by levelling within the slack. What happens? Discuss changes in resource needs and how that impacts the network sensitivity.**

* After leveling within the slack, all the design resources are leveled, and the Start Finish dates are changed for tasks that are associated with these overallocated design resources.
* Some of the development resource is still overallocated.
* The change in the project schedule made the change in the network sensitivity. This has added multiple critical paths as well as reducing the slack days of activities.

**3- Create another copy of ‘Part2’ file and name it ‘Part2B’. Assume that the project is resource constrained. How long will the project take given the resources assigned? (No splitting allowed).**

* If the project is resource constrained, then the Project completes in 269 days

**Part 3**

1. **Using ‘Part3A’ file, determine how much will the project cost. Include a monthly cash flow chart of the project with your answer (copy and paste in the word document).**

* The Project cost to the total of $199,120.00

1. **Which is the most expensive activity?**

* Feature specifications and Database are most expensive activities.

**3- Copy of ‘Part3B’ with Assume today is 8/30/2019.**

1. **How is the project progressing in terms of cost and schedule? What are CV, SV, CPI and SPI?**

* In terms of cost, The Earned value work is less than the Planned value work. The amount of work done is less than planned work. This means the project is currently over the budgeted or baseline amount.
* In terms of schedule, the project is currently behind the schedule.
* CV = -$11,520.00
* SV= -$7,0008.00
* CPI= 0.84
* SPI= 0.9

1. **Which activities have gone well and which have not?**

By considering both Scheduled Variance (SV) and Cost Variance (CV), **Architectural Decisions** and **Microphone/soundcard** activities have gone well because they both are on schedule and on budget.

* In terms of only Scheduled Variance (SV)
* Below activities are gone well
* Architectural decisions, Feature specifications, Microphone/soundcard, Pager, Barcode reader, Alarm clock and Computer I/O are on schedule.
* Below activities are not gone well
* Internal specifications, External specifications and Database.
* In terms of only Cost Variance (CV)
* Below activities are gone well
* Architectural decisions, Internal specifications, External specifications, Database and Microphone/soundcard.
* Below activities are not gone well
* Feature specifications, Pager, Barcode reader, Alarm clock, Computer I/O.

**3-What does the PCIB indicates in terms of how much of the project has been accomplished so far?**

* After calculating PCIB, based on planned budget, 30.87 % of the project has been accomplished.

**4-What is the forecasted date of completion and cost at completion?**

* The forecasted date of completion is 06/24/2020
* The forecasted cost at completion is $236,435.56

**5- Report and interpret the TCPI for the project at this point in time.**

* The TCPI value is 1.09
* According to TCPI, the project must be 9% more efficient to stay on budget.