## Rock'n Bands ${ }^{1}$

## A Project Management Decision-Making Game

"Around the world or around the block, Everywhere I go, the kids wanna rock" ${ }^{2}$

Your company, Planners 'R Us, specializes in effectively managing projects. Previous experience has involved conference management systems, commercial construction, and software development projects.

A new, intriguing project offers another opportunity to apply your project management expertise. The university you just graduated from wishes to put together a music festival, "Rock'n Bands". This will feature a number of top music groups, and should attract interest from students, local residents, and music fans throughout the region.

Your company has met with University officials to develop a list of activities required to make Rock'n Bands a reality. The list on Page 2 includes twelve activities as well as their durations and immediate predecessors. The project plan is also described visually on page 2 with a network diagram. The subscripts on each activity denote the number of weeks of work that activity is expected to require. Arrows denote the order of activities. For instance, activity E cannot be started until activity A is completed, and activity H cannot be started until both C and D are complete. The start and end nodes are dummy nodes and do not need to be worked on. Note that at the beginning of the project, activities A, C and D are available to start working on, as they have no predecessor activities. Be sure to understand the diagram before reading further.

Your job is to allocate workers to tasks each week during the project. Planners 'R Us has agreed to complete the project in 10 weeks (finishing two weeks before the Festival), and wants to minimize the costs associated with the project. All tasks A-L must be completed in 10 weeks. You have four (4) workers, although you do not need to use all of them every week - there are other tasks they can do in your company.

For bookkeeping purposes, your company will charge $\$ 200$ per week for each worker that you use. If you happen to need an additional worker, there is one (1) available, but that person would then not get their other work done; thus, you will be charged $\$ 300$ per week for the additional worker. In addition, if the project is "late", there will be complications during the last two weeks before the Festival, costing Planners 'R Us $\$ 2000$ per week due to a serious loss of goodwill and plenty of negative publicity.

The final cost to consider involves expediting tasks. You can assign an extra worker to a task in any given week in order to finish it in less time. For instance, if a task requires 2 weeks but you assign two workers, it will be completed in one week. However, putting two workers on a task is not quite as efficient as having one worker complete it from start to finish. Doing this requires additional coordination (by you) and may require some overtime by the workers. These costs total an additional $\$ 100$ per week. The most workers that can be assigned to any task in a week is two (since having 3 or more requires so much additional coordination that no reduction in time is achieved). To summarize, the most workers on any given task is two (2) per week, and the total number of workers you may employ for any week is at most five (5).

[^0]| Activity | Description | Duration <br> (weeks) | Immediate <br> predecessors |
| :---: | :---: | :---: | :---: |
| A | Contract negotiation with selected music groups | 3 | - |
| B | Find a construction firm \& build the stage | 5 | C |
| C | Contract negotiation with roadies | 2 | - |
| D | Screen and hire security personnel | 3 | - |
| E | Ticket distribution arrangements | 1 | A |
| F | Organize advertising brochures and souvenir program printing | 4 | D |
| G | Logistical arrangements for music group transportation | 1 | E |
| H | Sound equipment arrangements | 3 | $\mathrm{C}, \mathrm{D}$ |
| I | Processing of travel visas (for international groups) | 5 | $\mathrm{~F}, \mathrm{H}$ |
| J | Hire parking staff, and make parking arrangements | 4 | $\mathrm{E}, \mathrm{B}, \mathrm{H}$ |
| K | Distribute media passes and arrange for MTV recording | 5 | G |
| L | Arrange for concession sales and restroom facilities | 2 | F |



Being an experienced manager, you are aware that all projects involve various uncertainties (e.g., delays, additional requirements, or even improved efficiency) that can occur at any time. Since you do not want to lose your reputation for on-time delivery in Planners ' $R$ Us, you are determined to plan the project well and be as efficient as possible from the first week on.

For now, you want to develop a plan for the whole project, but the only decision that needs to be implemented is how to allocate workers to the intended project schedule. Report this decision to the instructor (the reporting sheets on pages 3 and 4 may help with this) [Additionally, a task allocation sheet available from the Lecturer may assist your deliberations]. After all teams have reported their decisions for first week allocations, the instructor will let you know of any changes that may occur regarding the project. Then, you will make decisions for the $2^{\text {nd }}$ week.

Designed by: Ken Klassen, Brock University Keith Willoughby, Bucknell University

Note: This game has been developed for educational purposes. It may be used, disseminated, and modified for educational purposes, but it may not be sold. In all uses of the game, the original developers must be acknowledged (as has been done above).

Employee / Task Assignment Reporting Sheet

TEAM \#: $\qquad$

| Week | Tasks to work on | \# of employees per task |
| :---: | :---: | :---: |
| 1 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 2 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 3 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 4 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 5 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 6 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |


| Week | Tasks to work on | \# of employees per task |
| :---: | :---: | :---: |
| 7 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 8 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 9 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 10 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 11 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 12 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Employee / Task Assignment Reporting Sheet

TEAM \#: $\qquad$

| Week | Tasks to work on | \# of employees per task |
| :---: | :---: | :---: |
| 1 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 2 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 3 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 4 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 5 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 6 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |


| Week | Tasks to work on | \# of employees per task |
| :---: | :---: | :---: |
| 7 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 8 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 9 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 10 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 11 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 12 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |


[^0]:    ${ }^{1}$ The events, activity durations and overall scenario represented in this game are purely fictional. No relationship to an upcoming music concert, real or implied, is suggested.
    ${ }^{2}$ Bryan Adams, "Kids Wanna Rock" from the album "So Far So Good" (1993, A \& M Records)

