



## **Clevor e-Game Schedule Optimizer**

### **Situation of the Game Developers**

1. They manage “horrendously complex projects”

They have to manage the development and testing of games that are horrendously complex even if they are developing one game at a time. This complexity becomes even more difficult to manage when they work on several games at the same time.

2. There is a constant shortage of skilled people in the business.

The game industry is expanding and changing so fast that it is increasingly more difficult to find the people with the right skills.

3. Game Developers must meet the planned launch dates

Most games are launched for the holiday selling season and they work very hard to avoid missing their launch dates.

### **Problems faced by the Game Developers**

1. Lack of cost control

Game Developers find it very difficult to control their project costs and they must find ways to control the cost of game development within their present situation as described above.

2. Inability to meet deadlines

Game Developers find it difficult to meet deadlines for their various games.

3. They do not know accurate project progress

They do not know fairly accurately where they are, when the various milestones would be met, and what would be the cost of the remaining work. Lack of this information leads to numerous meetings which adds costs and delays and worries on the part of the senior managers and marketing partners.

## **Implications of these problems**

### 1. Cost over runs

It is not unusual for the games to go over their budget by 20% to 30% with all the related impact.

### 2. Release of games pre-maturely

Some times, the games are released before the team is happy with them, which costs the company in future sales and reputation.

## **Project management needs of Game Developers**

### 1. Need to minimize their cost

The minimum need is to be able to complete the project at the budgeted cost. However, they would be very interested in reducing the project cost even lower as long as this reduction in the cost does not come at the expense of the scope or the quality of the work.

### 2. Best utilization of the staff

They would like to make sure that the staff is utilized well. This means having the staff with the skills needed as and when they are needed.

### 3. Ability to meet the various milestones including the completion date

Game Developers want to be able to meet various milestones including the completion date. What is equally important is their ability to “forecast” the impact of the changes in the project due to changes in the scope or other constraints such as available resources. Finally, they want to know what can they do if the scope changes. This kind of information both in the terms of the duration of the remaining work, and its cost will give them unprecedented control over the projects.

## **Clevor e-Game Schedule Optimizer**

Clevor e-Game Schedule Optimizer represents a major breakthrough in project management which provides a significant improvement over the present outcomes of the projects. Using proprietary software tools based on intelligent systems mathematics and experience with the real life needs of managing projects in industry, it addresses this significant need. Typically, it automatically, intelligently and rapidly builds and evaluates tens of thousands of different schedules to find the ‘best schedule’ amongst them. Furthermore, it updates and re-optimizes these schedules regularly to take into account

any changes that may have to be taken into account. Strikingly, all our customers who have used our optimization technology, executed their optimized schedules and regularly updated and re-optimized their schedules have completed their projects ahead of schedule and below their budgeted costs.

## **Expected benefits**

Although it is impossible to promise results, based on the experience of other customers, one can expect the following benefits from this technology:

1. Approx. 20% reduction in the variable cost of undertaking the project. Given the high opportunity cost, we expect this figure to be very attractive.
2. Approx. 20% improvement in the duration of the projects being undertaken.
3. Significant improvement in future visibility and the control of the project on the part of senior management thereby reducing the related worries. Imagine being able to know the projected completion date of all the projects and of any predefined milestone and estimated total cost of the remaining work of the project.
4. Effective planning tool for resources both within the company and out from sub-contractors making everyone's life much more pleasant. For example, how many people of each skill would be required by each manager within the flexibility given by them to execute the project?
5. Significant improvement in the ability of all the discipline leads to plan and work together as a team.
6. Ability to have a much smoother relationship between the project team, top management and the partners.

## **What is schedule optimization?**

In order to explain why Clevor produces such remarkable results, it is necessary to first explain what is an optimized schedule? The first thing is to realize that given a scope of work, and how it would be undertaken, it is possible to build many schedules that will each be able to do the job, but would be different in terms of their costs and durations. This is because, a schedule can change depending upon the exact sequence of tasks that are scheduled, the resource type or the resource quantities that are used and the costs involved in them. In fact in a medium size schedule with say, 5000 tasks, it may be possible to build as many as a million or more schedules which are all different in terms of the duration of the project and the total cost. An optimized schedule is the one that is the best amongst them.

Most companies consider the best schedule as the schedule that minimizes the total cost including all the resource costs, overhead costs, lateness cost and opportunity cost.

To explain it further, two schedules can have the exact same tasks with the exact same constraints and the exact same resource requirements (in terms of the man hours), but can have different total costs. Because, in addition to changing some task sequences, different schedules can also have different hiring plans (e.g. 10 designers and 2 testers vs. 8 designers and 1 tester), which would affect utilization of employees and project durations. Even two schedules with the same duration can have significantly different costs, depending on how many resources are hired and how well they are utilized.

By using the *total* cost, including opportunity cost, and by considering the whole schedule, improvements will only be considered that help the *whole remaining* project. Hiring people to get certain tasks done earlier may not help the project as a whole. On the other hand, sometimes projects have milestones that, when hit, add value to the owner even if the whole project is not completed. Schedule optimization can take into account these options as well, to come up with a schedule that is the best (optimized).

Instead of creating the schedule after the team has been formed and hiring decisions have been made, an optimized schedule can specify what the optimal team should be before hiring is performed.

## **Why does Clevor produce such remarkable results?**

The following factors are helpful in getting these remarkable results:

1. Because, the team works on the “best schedule”

We have already explained that the optimized schedule by definition is the best schedule and by implementing the best schedule, one would get the best results.

2. Since no schedule is ever executed exactly as planned, weekly update and re-optimization of the schedule makes sure that the team works on the best schedule available to them every week.

3. It makes sure that the right number and types of resources are available most of the time to the project team. This adjustment of the resources is a very significant reason for its success. This also enables the schedule to “adjust” to any changes that may have occurred.

4. Because the optimized schedule always considers all the tasks remaining to be done, but tells everyone, what they need to do this week (by day), the team does not waste its time doing tasks which are not required that day or that week and does all the tasks that are required that week. This not only improves the project performance, it also improves the team work and the work atmosphere. Finally, it improves the communication with

others such as sub-contractors etc. We have witnessed remarkable improvement in the working relationships in some projects.

5. In case of companies that are undertaking multiple projects and use matrix organization, Clevor is the only technology which will make sure that all the projects meet their due dates and will tell what resources types and numbers are needed and when to accomplish this.

Copyright Clevor Technologies Inc  
January 30, 2008

**Clevor Technologies Inc. 302-111 Research Drive, Saskatoon SK. S7N 3R2 Canada  
Phone 306 955 5772**