**COST ESTIMATION FOR SOFTECH**

**PROJECT NUMBA-MAN**

Numba-Man is 2D game designed to improve upon the mathematical and computational efficiency of the consumers. The game is developed to create excitement and suspension in the player as well as help improve on his skill of efficient mathematical computation.

**Cost is a strategic concept in software development for the following reasons:**

1- **Project management**: Estimating cost is extremely crucial in carrying out project management activities such as scheduling, planning and control.

2- **Feasibility Study**: Making investment decisions regarding software projects requires full cost breakdown and analysis .Consequently, identified recurring and onetime costs are then incorporated in a financial feasibility study in terms of cost-benefit analysis.

3- **Cost reduction: Since** software engineering aims to provide cost-effective software solutions to business problems, many process and project related activities are designed or re-engineered to achieve the goal of cost minimization.

4- **Evaluating business performance:** Cost is an essential ingredient to calculate many of the financial ratios – explained above- uses to evaluate the financial performance for business.

5- **Leverage:** Cost plays a significant role in both e the operating and the financial leverage in respect of risk and return. Relying on fixed costs as opposed to variable costs can boost the operating leverage while financing with high percentage on debt based costs may boost the financial leverage.

DEVELOPMENT PLATFORMS

Front end: The frontend of the application was developed using unity as the game engine and c-sharp as the programming language.

Autodesk Maya and Blender is used for the modeling.

For website development, HTML and java script is used.

**Lines of Code per Function Point by Programming Language**

|  |  |
| --- | --- |
| **Language** | **KLOC per Function Point** |
| **Front End (GUI)** | **500k-700k** |
| **Website** | **1000-1500** |

**Efforts = Productivity x KSLOlC**

**= a\*Sizeb**

**Where a=2.5, b=1.05**

**Size= 25KLOC**

**=2.5 \*251.05 = 73.4Person-Months**

**System Development Time**

Analysis Design Coding Testing Documentation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Analysis** | **Design** | **coding** | **Testing** | **Documentation** |
| Assembly code | 3 weeks | 6 week | 6week | 1 week | 2 weeks |

**COST ESTIMATOIN OF NUMBA-MAN**

To determine the cost of Numba-man software project, we have to consider the formula propose by COCOMO.

COST= Applied Effort \*Size of the project.

The Effort from the above is 73.41 person-Month and the Size of the project 25KLOC.

Cost =73.41\*25

= $1835.3

Hence the game “Numba-Man” can be price at approximately $1275.