# Project Planning & Budget

## Planning

The following table exposes the exact dates and working hours of the project. During Phase 1 and the project documentation, a day consisted in 8 work hours. For Phases 2 and 3 the work hours were reduced to 4 per day.

Table 7: Project Planning

|  |  |  |  |
| --- | --- | --- | --- |
| **Task** | **Duration (h)** | **Start** | **End** |
| *Phase 1 (Research)* | *480* | *07/02/2020* | *30/04/2020* |
| State of Art Review | 80 | 07/02/2020 | 20/02/2020 |
| Extraction & interpretation | 120 | 21/02/2020 | 12/03/2020 |
| Classification | 40 | 13/03/2020 | 19/03/2020 |
| Codification, Optimisation & Simplification | 240 | 20/03/2020 | 30/04/2020 |
| *Phase 2 (Tool development)* | *80* | *01/05/2020* | *28/05/2020* |
| Analysis Execution | 60 | 01/05/2020 | 21/05/2020 |
| Report Generation | 20 | 22/05/2020 | 28/05/2020 |
| *Phase 3 (Evaluation)* | *40* | *29/05/2020* | *11/06/2020* |
| Synthetic Programs Testing | 20 | 29/05/2020 | 04/06/2020 |
| Rule Addition | 8 | 05/06/2020 | 08/06/2020 |
| Real Programs Testing | 12 | 09/06/2020 | 11/06/2020 |
| *Project Documentation* | *160* | *12/06/2020* | *09/07/2020* |
| *Total Working Hours* | *600* | *07/02/2020* | *09/07/2020* |

## Budget

### Unit Prices

All the tasks completed in the different phases of the project have followed a sequential workflow, in which one person has participated using their personal computer. The roles this person fulfilled include researcher and programming analyst, depending on the addressed tasks.

Tables Table 8 and Table 9 show the wages for the tasks which involved a researcher and a programming analyst, respectively. No extra resources are considered in these prices, since other costs such as electricity consumption or Internet usage are included as indirect costs and the workers provided the computers needed to perform the work. See section Total Budget for more details on indirect costs.

Table 8: Researcher Unit Prices

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Unit** | **Description** | **Price/h (€)** | **Hours** | **Subtotal (€)** |
| Hour | Researcher | 50,00 € | 1 | 50,00 € |
|  |  |  | **Total price / hour** | 50,00 € |

Table 9: Programming Analyst Unit Prices

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Unit** | **Description** | **Price/h (€)** | **Hours** | **Subtotal (€)** |
| Hour | Programming Analyst | 40,00 € | 1 | 40,00 € |
|  |  |  | **Total price / hour** | 40,00 € |

### Work Unit Prices

The price for each task performed in the project is exposed in the tables below, taking into account the number of assigned workers and their working hours.

As can be seen, the programming analyst role is in charge of those tasks which require the construction and deployment of software solutions, such as the development of the Static Code Analysis Tool. It also helps the researcher to implement the test cases needed for the evaluation of synthetic programs.

On the other hand, the researcher role performs the reviews of the state of the art and the corresponding activities required for the implementation of the rules described in the guideline selected. Furthermore, this person is in charge of the evaluation of the results obtained with the tool as well as the writing of the project’s final documentation.

Table 10: Work Unit Prices, Price 1: State of Art Review

|  |  |  |  |
| --- | --- | --- | --- |
| **Measurement (hours)** | **Description** | **Price (€)** | **Subtotal (€)** |
| 80 | Researcher | 50,00 € | 4.000,00 € |
|  |  | **Total price** | 4.000,00 € |

Table 11: Work Unit Prices, Price 2: Extraction & Interpretation

|  |  |  |  |
| --- | --- | --- | --- |
| **Measurement (hours)** | **Description** | **Price (€)** | **Subtotal (€)** |
| 120 | Researcher | 50,00 € | 6.000,00 € |
|  |  | **Total price** | 6.000,00 € |

Table 12: Work Unit Prices, Price 3: Classification

|  |  |  |  |
| --- | --- | --- | --- |
| **Measurement (hours)** | **Description** | **Price (€)** | **Subtotal (€)** |
| 40 | Researcher | 50,00 € | 2.000,00 € |
|  |  | **Total price** | 2.000,00 € |

Table 13: Work Unit Prices, Price 4: Codification, Optimisation & Simplification

|  |  |  |  |
| --- | --- | --- | --- |
| **Measurement (hours)** | **Description** | **Price (€)** | **Subtotal (€)** |
| 240 | Researcher | 50,00 € | 12.000,00 € |
|  |  | **Total price** | 12.000,00 € |

Table 14: Work Unit Prices, Price 5: Analysis Execution

|  |  |  |  |
| --- | --- | --- | --- |
| **Measurement (hours)** | **Description** | **Price (€)** | **Subtotal (€)** |
| 60 | Programming Analyst | 40,00 € | 2.400,00 € |
|  |  | **Total price** | 2.400,00 € |

Table 15: Work Unit Prices, Price 6: Report Generation

|  |  |  |  |
| --- | --- | --- | --- |
| **Measurement (hours)** | **Description** | **Price (€)** | **Subtotal (€)** |
| 20 | Programming Analyst | 40,00 € | 800,00 € |
|  |  | **Total price** | 800,00 € |

Table 16: Work Unit Prices, Price 7: Synthetic Programs Testing

|  |  |  |  |
| --- | --- | --- | --- |
| **Measurement (hours)** | **Description** | **Price (€)** | **Subtotal (€)** |
| 12 | Researcher | 50,00 € | 600,00 € |
| 8 | Programming Analyst | 40,00 € | 320,00 € |
|  |  | **Total price** | 920,00 € |

Table 17: Work Unit Prices, Price 8: Rule Addition

|  |  |  |  |
| --- | --- | --- | --- |
| **Measurement (hours)** | **Description** | **Price (€)** | **Subtotal (€)** |
| 8 | Researcher | 50,00 € | 400,00 € |
|  |  | **Total price** | 400,00 € |

Table 18: Work Unit Prices, Price 9: Real Programs Testing

|  |  |  |  |
| --- | --- | --- | --- |
| **Measurement (hours)** | **Description** | **Price (€)** | **Subtotal (€)** |
| 12 | Researcher | 50,00 € | 600,00 € |
|  |  | **Total price** | 600,00 € |

Table 19: Work Unit Prices, Price 10: Project Documentation

|  |  |  |  |
| --- | --- | --- | --- |
| **Measurement (hours)** | **Description** | **Price (€)** | **Subtotal (€)** |
| 160 | Researcher | 50,00 € | 8.000,00 € |
|  |  | **Total price** | 8.000,00 € |

### Total Budget

Table 20 shows the final budget for the project, including the prices for all the tasks exposed above. As can be seen, a 10 % indirect cost bonus was charged in order to cover other costs related to the project. The list of the contemplated extra cost items can be found in Table 21.

Table 20: Project Budget

|  |  |  |
| --- | --- | --- |
| **Units** | **Description** | **Price (€)** |
| 1 | Price 1: State of Art Review | 4.000,00 € |
| 1 | Price 2: Extraction & Interpretation | 6.000,00 € |
| 1 | Price 3: Classification | 2.000,00 € |
| 1 | Price 4: Codification, Optimisation & Simplification | 12.000,00 € |
| 1 | Price 5: Analysis Execution | 2.400,00 € |
| 1 | Price 6: Report Generation | 800,00 € |
| 1 | Price 7: Synthetic Programs Testing | 920,00 € |
| 1 | Price 8: Rule Addition | 400,00 € |
| 1 | Price 9: Real Programs Testing | 600,00 € |
| 1 | Price 10: Project Documentation | 8.000,00 € |
|  | Total price | 37.120,00 € |
|  | Indirect costs (10%) | 3.712,00 € |
|  | **Final budget (total + indirect)** | **40.832,00 €** |

Table 21: Indirect Cost Items

|  |
| --- |
| **Cost item** |
| Electricity |
| Internet |
| Communication (voice + data) |
| Diets |
| Transportation |
| Cleaning & Maintenance |
| Office supplies |
| Insurance premiums |