

Project Plan Document - v1.0

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POLITECNICO

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1 Introduction

1.1 Purpose and Scope

1.2 Definitions, Acronyms, Abbreviations

- Data element type (DET): a unique user recognizable, non recursive, field.
- Record element type (RET): Record elements type, a user recognizable subgroup of data elements.
- File types referenced (FRT): files updated or referenced in a transaction.

1.3 Reference documents

2 Project size, cost and effort estimation

In this section we will use well known approaches to project planning to estimate di dimension and the cost in time and money that our project will have. We will use the Function Points approach for the size estimation and than COCOMO for the cost and effort estimation.

2.1 Size estimation: function points

In the following tables the reference tables we are going to use for the size estimation, they classify the complexity of each element counting the numbers of file types referenced, data element types and record element types. Obviously we are going to consider these reference values, but we are also going to estimate the complexity of the components based on the specific knowledge that we have acquired about the domain of our system.

Table 1: Logic Files

	Data Elements		
Record Elements	1-19	20-50	51+
1	Low	Low	Avg
2-5	Low	Avg	High
6+	Avg	High	High

Table 2: My caption

	Data Elements		
File Types	1-5	6-19	20+
0-1	Low	Low	Avg
2-3	Low	Avg	High
4+	Avg	High	High

Table 3: External Input

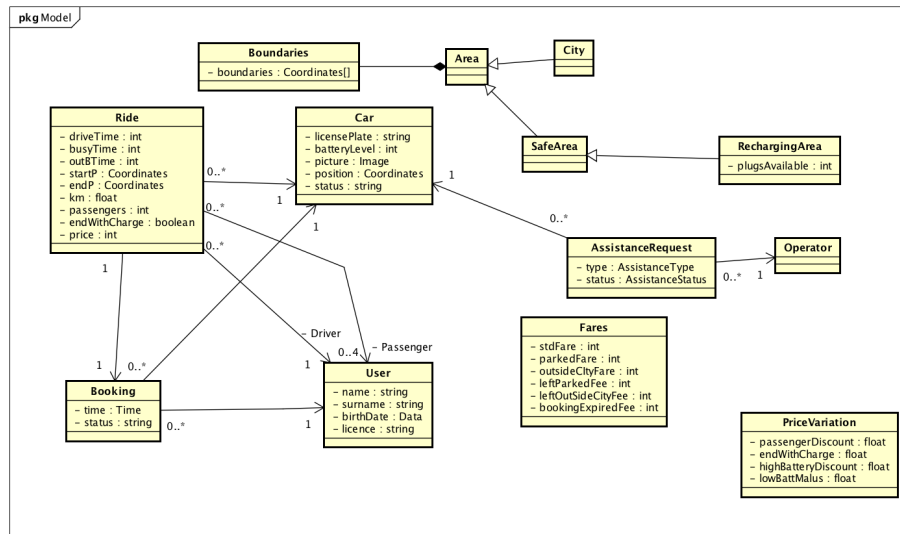
	Data Elements		
File Types	1-4	5-15	16+
0-1	Low	Low	Avg
2-3	Low	Avg	High
4+	Avg	High	High

Table 4: Function Points

	Complexity Weight		
Function Type	Low	Average	High
Internal Logic Files	7	10	15
External Logic Files	5	7	10
External Inputs	3	4	6
External Outputs	4	5	7
External Inquiries	3	4	6

2.1.1 Internal Logic Files (ILFs)

In this section we are going to analyze the complexity of our ILFs, we are going to refer to this simplified version of the model of the internal representation of our data (some attributes of the classes in the pictures are obviously not persistent but representative of the complexity of the informations related with the single entity):



- Users:
 - **Estimated complexity:** Average
The first type of internal data our system will have to deal with are the user related ones. The handling of the user data will include not so trivial operations: password retrieval, driving license and PayPal account checks and profile personalization functionalities (profile image).
- Rides:
 - **Estimated complexity:** Low
The rides data handling will be straight forward with the creation of the entity at the start of a ride and the update of the main fields when the ride is ended. The only dynamic aspect of the ride is the “paid” field that has to be updated when the payment is obtained.
- Bookings:
 - **Estimated complexity:** Low
The information about cars bookings are static and easy to manage.
- Cars:
 - **Estimated complexity:** High
The status of the cars are is the most critical type of data that our system will have to handle, informations about the cars dynamic and complex to retrieve.
- Assistance requests:
 - **Estimated complexity:** Low
Easy informations to handle, static once generated(only the status changes only once).
- SafeAreas/Fares/PriceVariations:
 - **Estimated complexity:** Low

Static informations that can be updated by the management system, easy to handle and maintain.

- RechargingArea:

- **Estimated complexity:** Low

Static information about the position and dynamic updated to the number of plugs available, quite straightforward to handle.

Table 5: My caption

ILF	Complexity	FPS
Users Data	Average	10
Rides Data	Low	7
Bookings Data	Low	7
Cars Data	High	15
Assistance Requests Data	Low	7
System parameters	Low	7
Recharging Areas Data	Low	7
Total		60

2.1.2 External Logic Files (ELFs)

2.1.3 External Inputs (EIs)

2.1.4 External Inquiries (EQs)

2.1.5 External Outputs (EOs)

2.1.6 Overall Estimation

2.2 Cost and effort estimation: COCOMO II

2.2.1 Scale drivers

2.2.2 Cost drivers

2.2.3 Effort equation

2.2.4 Schedule estimation