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EXPERIMENT NO. 4

FUNCTIONAL POINT CALCULATION

AIM

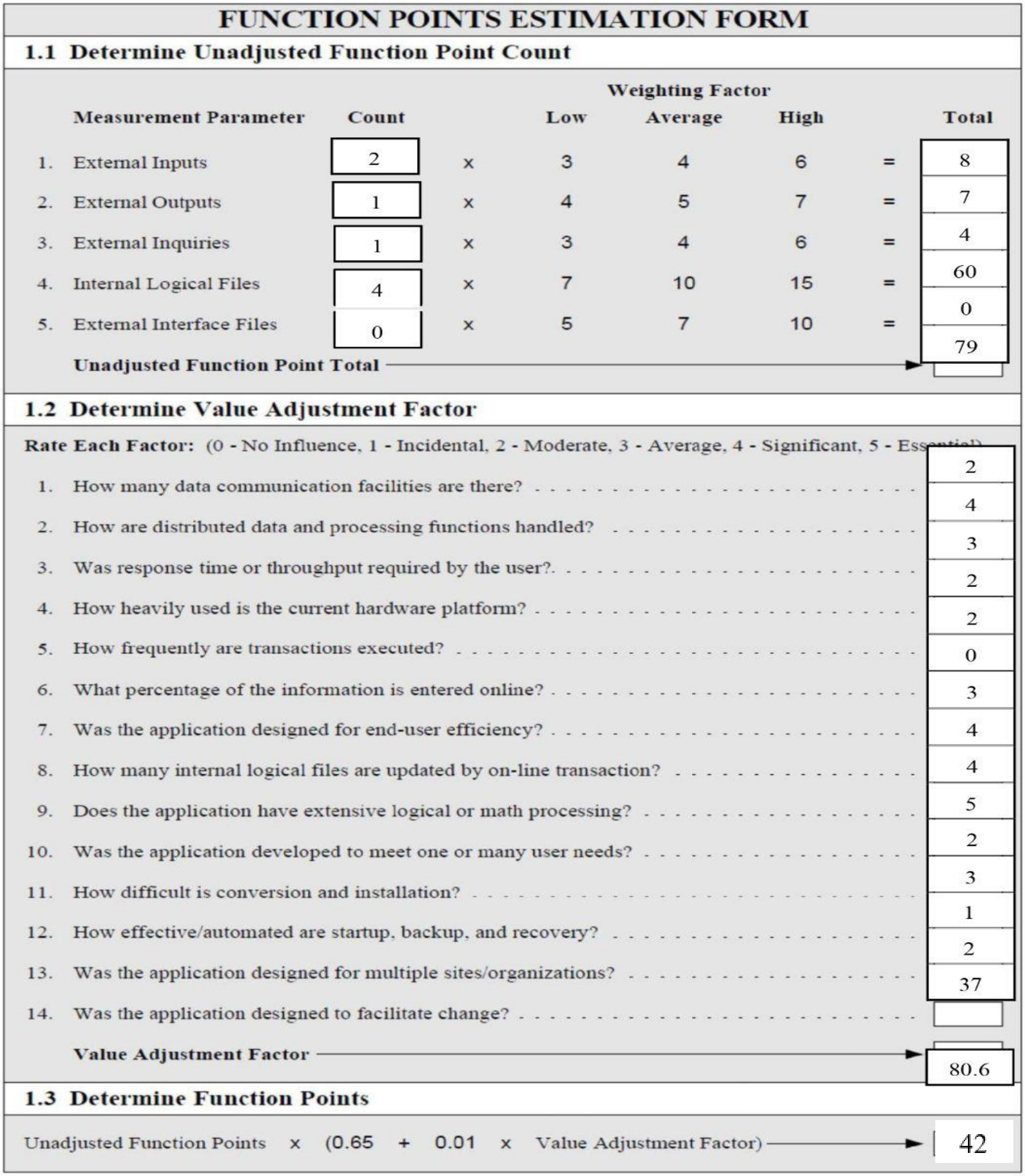
To calculate function point for Obstacle Detection Car System project.

DESCRIPTION

The purpose of Function Points is to produce an estimate of software size from software requirements. Function Points are an indirect measure of software size based on external and internal application characteristics, as well as application performance. Function Points have a significant cost estimating relationship (CER) to software costs. Once determined, Function Points can be input into empirical statistical parametric software cost estimation equations and models in order to estimate software costs. Function Points are widely reported to be well suited for measuring the size of management information system (MIS), database intensive, and 4GL based application (e.g., software) system development.

Function Points are indirect quantitative measures of application software functionality and size that are based on objective counts of external application interfaces factored together with subjective counts of internal application complexity and overall performance characteristics. This procedure is composed of three logical divisions, determining the unadjusted function point count, value adjustment factor, and Function Points. Determining the unadjusted function point count consists of counting the number of external inputs, external outputs, external inquiries, internal logical files, and external interface files.

Determining the value adjustment factor consists of rating system, input and output, and application complexity. Determining Function Points consists of factoring unadjusted function points and value adjustment factor together. Function Points have two distinct purposes. The first purpose is to act as a basis for software measurement, comparison, and analysis (e.g., a software metrics approach). The second, and more important purpose, is to determine software size for input into software cost estimation models (e.g., equations) and tools that output effort (e.g., staff hours), which are based on empirical cost estimating relationships (CERs) between Function Points and effort.



FUNCTION POINTS ESTIMATION FORM

1.1 Determine Unadjusted Function Point Count

	Measurement Parameter	Count		Weighting Factor				Total
				Low	Average	High		
1.	External Inputs	2	x	3	4	6	=	8
2.	External Outputs	1	x	4	5	7	=	7
3.	External Inquiries	1	x	3	4	6	=	4
4.	Internal Logical Files	4	x	7	10	15	=	60
5.	External Interface Files	0	x	5	7	10	=	0
	Unadjusted Function Point Total							79

1.2 Determine Value Adjustment Factor

Rate Each Factor: (0 - No Influence, 1 - Incidental, 2 - Moderate, 3 - Average, 4 - Significant, 5 - Essential)

1.	How many data communication facilities are there?	2
2.	How are distributed data and processing functions handled?	4
3.	Was response time or throughput required by the user?.	3
4.	How heavily used is the current hardware platform?	2
5.	How frequently are transactions executed?	2
6.	What percentage of the information is entered online?	0
7.	Was the application designed for end-user efficiency?	3
8.	How many internal logical files are updated by on-line transaction?	4
9.	Does the application have extensive logical or math processing?	4
10.	Was the application developed to meet one or many user needs?	5
11.	How difficult is conversion and installation?	2
12.	How effective/automated are startup, backup, and recovery?	3
13.	Was the application designed for multiple sites/organizations?	1
14.	Was the application designed to facilitate change?	2
		37
	Value Adjustment Factor	80.6

1.3 Determine Function Points

Unadjusted Function Points x (0.65 + 0.01 x Value Adjustment Factor) → 42

CONCLUSION

The objective of FPA is to measure the functionality that the user requests and receives. The objective of FPA is to measure software development and maintenance independently of the technology used for implementation. It should be simple enough to minimize the overhead of the measurement process. It should be a consistent measure among various projects and organization