System Size

Function Point Estimation

Functionality	Input	Output	Queries	File	Program interface
Load scenario	1	1	0	1	0
Progress time	1	1	0	4	0
Manage timelines	1	2	1	2	0
Trade financial instruments	2	3	1	3	0
Request historical information	1	1	0	0	0
End scenario	0	1	0	1	0

	Complexity				
Description	**Total #**	**Low**	**Medium**	**High**	**Total**
Inputs	6	4*3	2*4	0*6	**20**
Outputs	9	3*4	4*5	2*7	**46**
Queries	2	1*3	1*4	0*6	**7**
Files	11	3*7	5*10	3*15	**116**
Program interface	0	0*5	0*7	0*10	**0**
Total Unadjusted Function Point (TUFP) =					189

The total processing complexity (PC):-

Complexity is from 0 to 3: (0=no effect on project complexity; 3=great effect on project complexity)

Tasks	Complexity (0-3)
Data communication	1
Team cohesion	1
Familiarity with technology	2
On-line data entry	0
Total Processing Complexity (TPC)=	4

The adjusted processing complexity (APC):-

APC=0.65 + (0.01 * TPC)

APC=0.65 + (0.01 * 4)= 0.69

The total adjusted function points (TAFP):-

TAFP=TUFP * APC

TAFP= 189*0.69= 130.41

Converting Function Points to Line Of Code (LOC):

Language/Tool	**Number of LOC / FP**
Python	53
Python Packages(Numpy, MatPlotLib, Pygame, Pygame GUI)	53

75% will be done in Python

25% will be done in various Python Packages

Number of lines of code (LOC)= TAFP * # of(LOC\FP) * %

For Python = (130.41) *(53)*(75/100) = 5184 LOC

For Python Packages = (130.41) *(53)*(25/100) =1728 LOC

So the total LOC = 6912 LOC

Estimating the effort:-

Effort = 2.4 * (LOC/1000)$^{1.05}$

=2.4* (6912/1000)$^{1.05}$

=18.3 person month

Estimating the schedule time:-

Time = 2.5 * (effort) $^{0.38}$

=2.5* (18.3) $^{0.38}$

=7.545 months

Estimating the number of persons:-

average of # of persons = effort/time

= 18.3 / 7.545

= 2.4 persons