



IT314: Software Engineering

Lab Session IV - Specifying Tools and Technology

Group 17: A platform for creating and managing online polls and surveys

Mentor: Vaishnavi

Members:

202001134 Prajapati Hardik Pravinbhai

202001145 Prajapati Harshkumar Mukundbhai

202001143 Vadi Harsh Rajubhai

202001141 Kapasi Harshil Ileshkumar

202001208 Dishal Vala

202001125 Prashasti Srivastava

202001123 Patel Het Bhupendrabhai

202001166 Master Jinkal Hirenkumar

202001144 Sangani Hemil Sharadbhai

(a) You must finalize/identify the tools, technologies, and frameworks you will use to develop/implement your project.

Tools: Visual Studio Code, Github, Github Copilot, Render, Figma

Technologies: Node js, HTML, CSS , Javascript

Frameworks:, Express, Bootstrap

(b) For your project, you have to use the NoSQL databases of your choice strictly, and you can also explore and use ElasticSearch (DB) Database for the same.

Database: MongoDB

(c) Estimate the effort of your project and narrow down the scope based on the estimation. You can apply Function Point (for user stories) or Use Case Size Point (for use cases) for estimation.

Calculation of the FPs

Effort Estimation using Functional Point Analysis:

Following formulas were used in calculating FP:

$$F = 14 * \text{scale}$$

Scale varies as follow

0 - No Influence

1 - Incidental

2 - Moderate

3 - Average

4 - Significant

5 - Essential

$$CAF = 0.65 + (0.01 * F)$$

$$FP = UFP * CAF$$

- To find Complexity Adjustment Factor:

Complexity Adjustment Factor	Low (F=14)	Average (F=42)	High (F=70)
$(0.65+0.01*F)$	0.79	1.07	1.35

- To calculate Unadjusted Functional Point:

Measurement parameters	Low	Avg	High
External Inputs (EI)	3	4	6
External Output (EO)	4	5	7
External Inquiries (EQ)	3	4	6
Internal Logical Files (ILF)	7	10	15
External Interface Files (EIF)	5	7	10

Count of Measurement parameters	Low	UFP for Low Category	Avg	UFP for Avg Category	High	UFP for High Category
External	6	18	5	20	3	18

Inputs (EI)						
External Output (EO)	4	16	3	15	2	14
External Inquiries (EQ)	3	9	3	12	2	12
Internal Logical Files (ILF)	2	14	1	10	1	15
External Interface Files (EIF)	0	0	0	0	1	10
Totals for categories		57		57		69

Functional Points	Low	Avg	High	Total
(CAF * UFP)	45.03	60.99	93.15	199.17

The Functional Points are 199.17