Function Point.

Function Category Count, Complexity, GFP

Assumed User Inputs:

1. Registration (Email, password, first name, last name) [Simple, 4]
2. Profile editing (major, year, interests, social media, profile picture) [Simple, 5]
3. Event Creation (title, description, date, start time, end time, location, tags, dietary restrictions) [Simple, 9]
4. Event editing (same as above but update) [Simple, 9]
5. Event search (keyword search, tag selection, date selection, time selection, location selection, dietary restriction selection) [Average, 6]
6. Messaging (compose message, select recipient) [Average, 2]
   Simple = 27
   Average = 8
   GFP_inputs = (27 *3)* + *(8* 4) = 81 + 32 = 113

Assumed User Outputs:

1. User profile display [Simple, 1]
2. Event details display [Simple, 1]
3. Event search results [Simple, 1]
4. Messaging inbox [Simple, 1]
5. Messaging conversation view [Simple, 1]
   Simple = 5
   GFP_outputs = (5 * 4) = 20

Assumed user queries:

1. Event search by keyword [Simple, 1]
2. Event search by tag [Simple, 1]
3. Event search by date [Simple, 1]
4. Event search by time [Simple, 1]
5. Event search by location [Simple, 1]
6. Event search by dietary restriction [Simple, 1]
7. User search [Simple, 1]
8. Club search [Simple, 1]
   Simple = 8

GFP_queries = (8 * 3) = 24

Assumed number of data files/relational tables:

1. User profiles [Simple, 1]
2. Events [Simple, 1]
3. Clubs [Simple, 1]
4. Messages [Simple, 1]
   Simple = 4
   GFP_data = (4 * 7) = 28

Assumed number of external interfaces:

1. Integration with UTD campus map [Average, 1]
2. Integration with UTD event calendar [Average, 1]
   Average = 2
   GFP_external = (2 * 7) = 14

GFP = 97 + 20 + 24 + 28 + 14 = 199

Processing Complexity

Answering the 14 questions, PC rating in parenthesis

1. (4)
2. (4)App requires integration with UTD campus map and event calendar
3. (0)
4. (3) Not expected to have much load, so performance is of average importance
5. (0)
6. (4) Most of the app's functionality revolves around online data entry like registration
7. (3) average transaction rate
8. (5) Need real-time updates for events, profiles, messaging
9. (1) no significant complexity
10. (2) no significant complexity, only thing would be event recommendations
11. (3) some components can be reused, like user auth and event management
12. (0)
13. (2) designed specifically for UTD but can be ported to other universities
14. (3) should be able to accommodate future change
    PC = 4 + 4 + 0 + 3 + 0 + 4 + 3 + 5 + 1 + 2 + 3 + 0 + 2 + 3 = 34

PCA

PCA = 0.65 + (0.01 * 34) = 0.99

FP

FP = GFP X PCA
FP = 199 X 0.99 = 197.01

I will assume a productivity rate of 8 functions per person-month.

Effort

Effort = FP / productivity = 197.01 / 8 = 24.626 person-months

Our team size is 8 so project duration is
D = 24.626 / 3 = 8.208 months

Cost of Personnel

Three developers could implement this. Each would have a salary of 5,000 a month and since we estimate the project would take 8.208 months for 3 developers which comes out to $123,000. Training cost would be only $100 as there would be a maximum of one hour of training for this software.