International University of Business
Agriculture and Technology

Mid Take Home Assignment

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Submitted To
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Sec. I
Course code: CSE-469
Course Name: Software Engineering

2)

function point estimation for Employee Office management system:

Employee

functionality	input	output
Add personal info	Fathers name, mothers name, Date of birth, Present Addres, Permanent address, Peligion, marital status, Grender Phone number.	Add to data base
Edit Personal info	Fathers name, Mothers name, Date of birth, Present Addres Permanent address, Marital status, Grender.	Add to data base.
Serach	Enter search tent	Employee name, Employee ID, Fathers name, present address.
Login	Email, pass word	Get Authorized

Working hours	Entry time, leaving time, Employee name	Add to database
Report	Enter report text	
Working history	Previous company name, starting year, Ending year	Add to database

Admin

Login	Email, password	Get Authorized
Add Employee	Employee ID, Name, Email, password, phone, Date of birth	Add to database.
Remove Employee	Press delete	Employee delete from database.
Manage Salary	Hourly rate, festival bonus, total working hours.	Total Salary

Task chart	Task name, reamind-time, task description	Task added to Database.
Task distribution	Task name, Employee names.	Employee can see their task.
Everyday Attendence	Enter date	List of Employees
View Reports	Enter date	Report description, Employee name, Employee ID.

Identifying complexity

Transaction Functions	fields / file involment	~~FTR~~ DET,	FTR, ~~DET~~, ~~DETs~~
Add personal info (E1)	Fathers name, mothers name, Date of birth, Present add, permanent add, Religion, marital status, Gender, Phone number. File; Employee	9	1
Edit personal info (E1)	Fathers name, mothers name, Date of birth, Present add, permanent add, marital status Gender, phone. File: Employee	9	1
Search (E8)	Search tent, Employee name Employee ID, phone, email, File: Employee.	5	1

Login (EI)	Fields: Email, password, press login File: Employee	3	1
Working hours (EI)	Employee name, Employee ID, Entry time, leaving time. File; Workinghour	4	1
Report (EI)	Employee name, Report description, Date File: Report	3	1
Working history (EI)	Employee name, Emp ID, previous company name, stating year, Ending year File: Employee, work history	5	2

Transaction function	Fields / File Involvement	~~ETR~~ DET,	~~DET~~ FTR,
Login (EI)	Email, password file: Admin	2	1
Add Employee (EI)	Employee ID, Employee name, Date of birth, Email, phone file: Employee	5	1
Delete Employee (EI)	fields: Employee ID, Name, press delete, confirm File: Employee	4	1
Manage Salary ~~(EI)~~ ~~(ILF)~~ (EO) ⋮	Fields: Hourly rate, Festival bonus, Employee name, Employee ID, Working hours File: Employee, salary, working hour	5	3
Task chart (EI)	Task Name, Task description, required time, Employee ID, Employee Name. File: Tasks, Employee	5	2

Attendence (EI)	Date, Employee ID, Employee Name, File: Attendence.	3	1
view Report (EO)	Date, Employee ID, Employee Name, Report description. File: Report	4	1

Data function	Fild /File Envolvement	RETs	DETs
Employee	Employee ID Name, Father Name, Mother name, Date of birth, Email, password, Present add, Permanent add, Matital status, Gender, Mobile	1	12
Workinghours	Employee ID, Name, ~~Date~~ Date, ~~start~~ Entrytime, Leaving time,	1	5

do

report	Employee name, Employee ID, Report description, Date	1	4
Working history	Emp_Name, Emp_ID, Privious company Name, starting years, Ending year	2	5
Salary	Emp_Name, Emp ID, Total working hour, working Rate, festival bonus	3	5
Task	Task Name, Task ID, Task description, time, Emp_Name, Employee ID	2	6
Attendence	Date, Employee Name, Employee ID	1	3

Unadjust function poin Estimation:

Transaction function	DETs, ~~RTRs~~	~~DET~~s FTRs	complexity	Ufp
Add Personal info (EI)	9	1	low	3
Edit personal info (EI)	9	1	low	3
search (EQ)	5	1	low	3
Login (EI)	3	1	low	3
Working hour (EI)	4	1	low	3
Report (EI)	3	1	low	3
Add Employee (EI)	5	1	low	3
Delete Employee (EI)	4	1	low	3
Manage sallary (~~B~~EO)	5	3	high	6
Task chart (EI)	5	2	Average	4
Attendence (EI)	3	1	low	3
Total				35

Data Function	RETs	DETs	complexity	UFP
Employee (ILF)	1	12	low	7
Working hour (EIF)	1	5	low	5
Report (EIF)	1	4	low	5
Salary (EIF)	3	5	low	5
Task (ILF)	2	6	low	7
Attendence (ILF)	1	3	low	7
total				46

Performance and Environment impact:

GSC	01
Data communication	4
Distributed data processing	4
Performance	4
Heavily used configuration	2
Transaction Rate	3
Online data Entry	4
End user Efficiency	01
Online update	3
Complex processing	1
Reusability	2
Installation Ease	2
Operational Ease	2
Multiple site	0
~~Facilitated~~ facilitate change	2
~~Value Adjustment factor~~ = VAF Total Degree of Influence	33

12

Value Adjustment factor (VAF) =

$(0.65 + (0.01 \times TDI))$

$= (0.65 + (0.01 \times 33))$

$= 0.98$

UFP = UFP (Transaction Fn) + UFP (DATA Fn)

$= 35 + 46$

$= 81$

Adjust function point count = UFP x VAF

$= 81 \times .98$

$= 79.38$

Effort for C# = AFP x Productivity

= 79 x 15.5

= 1224.5 per hours.

= 153 person days.

Now I am explaining how I'm maintain software ethics:

⇒ Here I must have in an honest and ethically responsible way if they are to be respected as professionals.

⇒ Here I didn't take more ~~than~~ time then it need to pre prayer.

⇒ Here I maintain the ~~per~~ perfect timing, not more or not not less.

64

⇒ I didn't show more cost than it needs. I estimate the perfect cost for the project. So I can say that here I maintain the ethics.

⇒ I ensure that here I maintain highest professional standard.

⇒ Software engineers shall be fair to and supportive of their colleagues.

2.

Here are the plan to avoid the effect of the risk that I may face:

Risk Identification

Risk type	Possible risk
Technology	Size of the memory of the system may be significantly low. (1) Transaction rate of database may be slower then expectation. (2) User interface may be complex (3)
People	Lack of skilled staff can't make the system up to the mark. (4) Lack of test administrator may not make the test environment

	successful. (5)
Organizational	Restriction on project budget might ~~create~~ create trubbe. ~~in the~~ (6) Insufficient human resource creat problem to finished in deadline. (7) Unorganized project scheduling also may creat problem. (8)
Tools	Using old version of the hardwares may creat problem in the project (9) Code generated by the software code generation tools may inefficient (10) Harddisk crashed can make big trubble (11)

Requirements	Mayor change in the requirment can make the project unsuccessful (12) changing requirment also cause extra change. (13)
Estimation	Misjudged of the software size can create problem in future (14) ignorance in making time estimation may create pressure to the developers on to the orgnization (15) with out proper estimation of the cost its hard to estimate the proper cost. (16)

2/6

Risk Analysis

Risk	Probability	Effects
Size of the memory may be significantly low	Moderate	serious.
Transaerate of database may be slower then expectation.	Moderate	serious.
User interface may be complex	Moderate	serious
Lack of skilled stuff. cannot make the system up to the work	Moderate	~~serious~~ catastrophic
Lack of test administrator make the test invironment unsuccessful.	low	serious.
restriction on project budjet create trubble.	low	catastrophic

Insuffient human resource create problem to finished in deadline.	low	Catastrophic
Unorganized project scheduling also create problem	low	serious.
Using oldversion of the ~~software~~ hardware can create problem.	high	tolerable
Code generated by the software code generation tools may be inefficient	Moderate	Insignificant
Harddisk crashed may be big trubble	low	serious.
Major change in the requirment	Moderate	serious.
changing requirment also cause extra change	~~low~~ high	Tolerable

29

Missadjust software size can create problem	High	Tolerable
Ignorance in making time estimation	low	Serious.
Without proper estimation of cost it hard to find the cost	low	catastrophic

Risk Planning

Risk planning	strategy
server storage size	Create enough storage for upcoming 5/10 years may make over this.
Database Performance	Investigate the possibility of buying higher-performance database.
Lack of staff	Organize the team very well.
Hardware performance	Investigate the possibility to buying higher performance hardwares.
Recruitment problem	Alert customer to potential difficulties and possibilities of delays.

financial problems.	Prepare a briefing document for senion management showing how the project is making a very important contributing to the goal of the business, presenting reason why auth to the project budget would not be cost-effective.
Underestimated time estimation	Make a proper time table and estimate the project developement time perfectly
Requirment changes	Derive traceability information to access requirements changes impact. minimize information hiding in the design.
Proper cost estimation	Find all the necessary hardware and estimate time to make the perfect cost estimation.

Risk Monitoring :

(1) There will be meeting with the stakeholders regularly. This ensure that the product we are making solve a problem.

(2) To reduce user interface complexity product will develope from the end user mind.

(3) Always keep some backupplaning ~~for~~ so the is some requirements change we can make it partaetly.

a^M

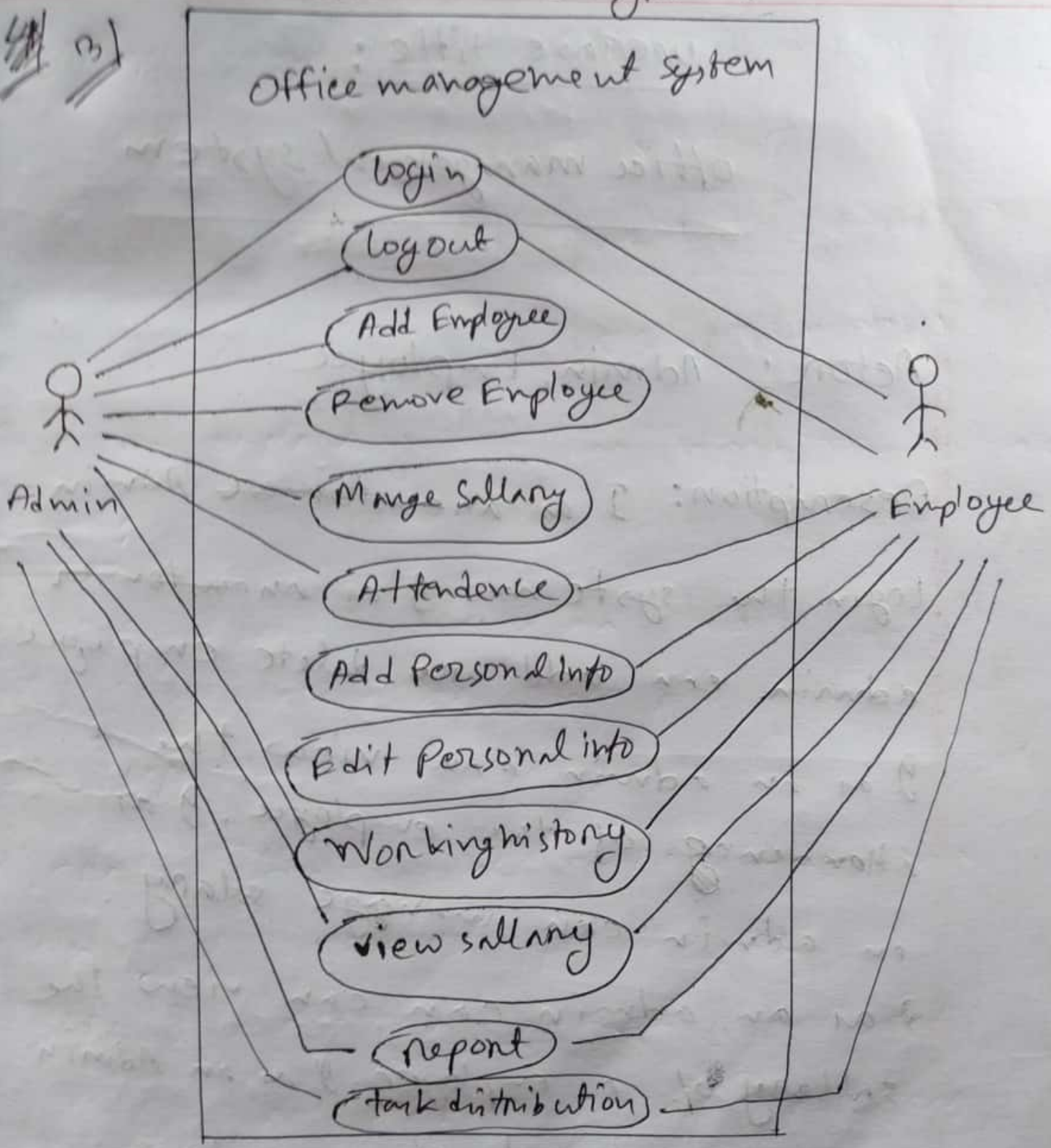
(4) The development cost of the software increase by 20 %. consult with the system Analyst during the system Analysis, design and testing phase of the project.

(5) Proper algorithm and datastructure is followed to make the code easily understandable and reusable.

By this way we can manage our risk at the time of software development.

Use Case Diagram

3)



2b

usecase title:

office management system.

Actor: Admin, Employee.

Description: I as an ~~customer~~ Admin login the system. I as an ~~customer~~ admin can add one delete employee I as an admin can view the attendence of the employee. I as an admin can manage salary. I as an admin can can view the sallary of a employee. I as an Admin can view report of an employee. I as an admin will logout the system. I as an admin distribute the tasks.

9 as an employee login the system.

9 as an employee can add personal information also edit personal information.

9 as an employee can add my working history.

9 as an employee can see my tasks.

9 as an employee can view my salary.

9 as an employee can report to the admin. 9 as an employee can logout the system.

Q)

Class Diagram for office Management system