Planning document

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Introduction

- "SplitSmart" software system to share and track expenses.
- Tasks:
  - User accounts
  - Group management,
  - Expense creation
  - Notification system
  - Balance tracking
  - Payment tracking
  - Reporting.

Introduction - project scope

Users ->

- Create account & view balance
- Invite
- Manage
- Create new expense

System ->

- Approval process
- Notification
- Track & update
- Record
- Create reports

Introduction - Software functions

- User accounts
- Group management
- Expense creation
- Notification system
- Balance tracking
- Payment tracking
- Reporting

Introduction - performance and management

Performance/ behavior issues:

- Responsiveness and security

Management and technical constraints:

- Fully function system done in 11 weeks
- 1 week training

Project estimates - historical data

- No previous historical data
- Average productivity : 28 fp/person-month
- 75 LOC/person month
- Labor rate : $11,000 per month

Project estimates - estimation FPA

External inputs	External output	External inquires	Internal logical files
User account information	User account information	Balance inquiry	User account files
User login	Group information	Expense inquiry	Expense file
Expense creation	Expense information	Group inquiry	Group file
Group creation information	Balance information	Payment inquiry	Balance file
Group invitation	Payment information		Payment file
Expense approval information	User reports		
	Custom reports		

FPA Estimation

Average Productivity = 28 FP/pm

Burdened Labor Rate = $11,000 per month

Cost per FP = 11,000/28 =$393 per FP

Total Estimated Project Cost: $393x125 = $49125

Total Estimated Effort = 125/28 = 4.46 person-months

Estimated Duration = 4.46/4 = 1.12 months

Information Domain Value	Count	Weight Factor	Total
External Input (EI)	6	4	24
External Output (EO)	7	5	35
External Inquiries (EQ)	4	4	16
Internal Logical Files (ILF)	5	10	50
Total			125

LOC-Based Estimation

Average Productivity = 750 LOC/pm

Cost per LOC = 11000/750 = 14.67

Total Estimated Project Cost 14.67 x 5734 = $84118

Total Estimated Effort 5734 / 750 = 7.64 person-months

Estimated Duration: 7.64/4 = 1.91 months

Reconciled Estimate:

Final Estimated Cost: $66622

Final Estimated Effort: 6.05 person-months

Final Estimated Duration: 1.51 months

Function	FP	Weighting Factor	LOC/FP	Total LOC
Account Creation	EI, ILF	4+10	47	658
View Balance Information	EQ, EO	5+4	47	423

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Generate Reports	EQ, EO, ILF	5+4+10	47	893
Total:				5734

Risk management

Potential Risks:

1. Security
2. Calculations
3. Poor UI
4. Team communication
5. Scheduling
6. Documentation

Impact and Probability

Risk	Impact	Probability
Security	Very High	60%
Poor scheduling	High	30%
Reporting issues	Medium	10%
Calculation Accuracy	Medium	20%
Group communication Issues	Medium	40%
Changes in Requirements	Low	20%

RM3 Chart

Assessing Mitigation, Monitoring

and Management of risks

RM3 Pointer	Mitigation	Monitoring	Mgmt
Security	Reviewing security measures during development with ample testing	Frequent testing throughout stages of development	Communication and review amongst group to accommodate for any changes
Scheduling	Weekly team meetings and communication between team members and clients	Checking on progress on the project regularly in meetings	Adapting the planned schedule to accommodate any issues found
Reporting	Thorough checks on calculation formulas and results	Monitoring and checking report calculations and results	Correcting and retesting calculations
Calculations	Thorough checks on calculation formulas and results	Monitoring and checking calculations within each group and event	Correcting calculation formulas and retesting calculations
Communication	Weekly meetings and a shared GitHub page will facilitate communication	General progress on the project as well as functionality of the program	Weekly meetings will improve communications
Requirements	Being flexible with the project plan and being communicative with the client	Keeping track of requirements and confirming aspects with the client	Adapting the project plan to accommodate changes

Project schedule

- Conception
- Planning
- Design
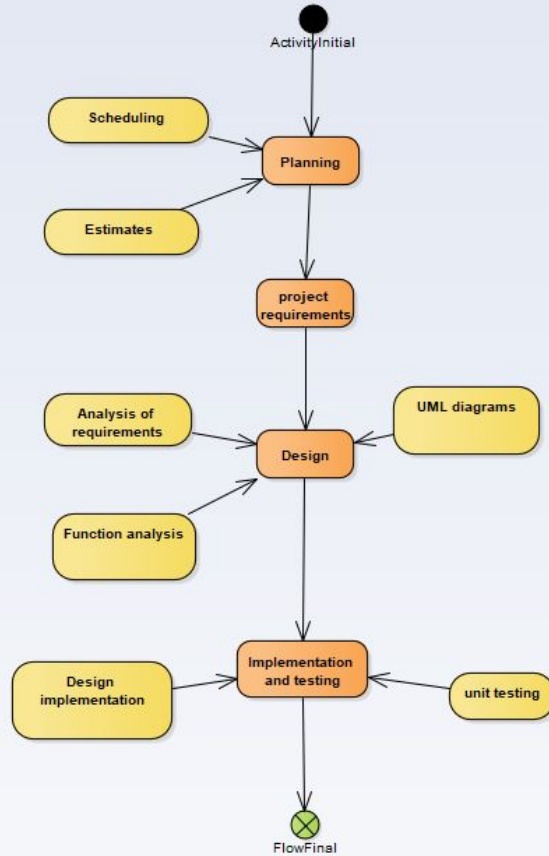
- Implementation
- Submission
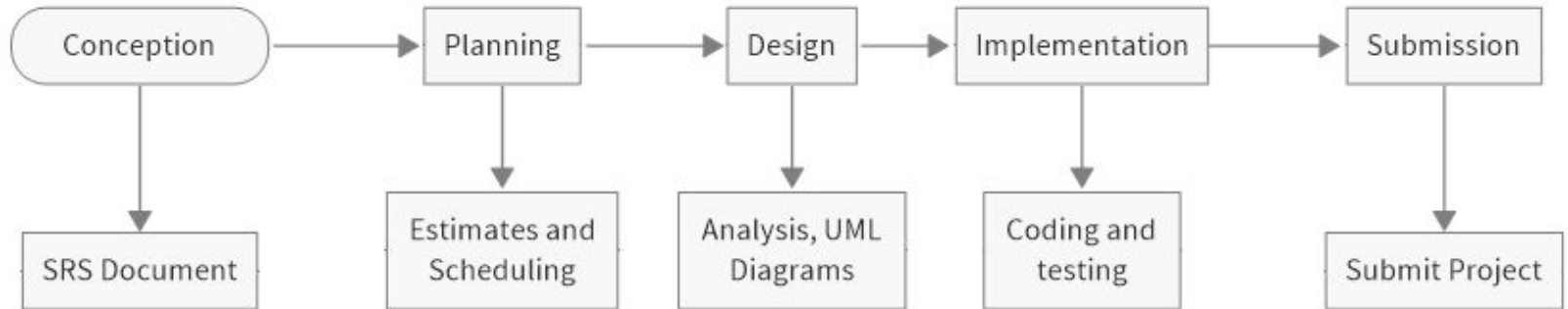
Development Timeline Chart

Task Name	Duration	Start	Finish	Predecessors	Resource Names
Software Development	61 days	Mon 5/8/23	Mon 7/31/23		
Scope	18 days	Mon 5/8/23	Wed 5/31/23		
Determine project scope	1 hr	Mon 5/8/23	Mon 5/8/23		Project leader
project estimates	0.25 days	Mon 5/8/23	Mon 5/8/23	2	Project leader
project scheduling	0.25 days	Mon 5/8/23	Mon 5/8/23	3	Designer
risk management	0.13 days	Mon 5/8/23	Mon 5/8/23	4	Designer
Scope complete	17.25 days	Mon 5/8/23	Wed 5/31/23	5	
Analysis/Software Requirements	13 days	Thu 6/1/23	Mon 6/19/23		
Design	15 days	Tue 6/20/23	Mon 7/10/23		
Development	58 days	Mon 5/8/23	Wed 7/26/23		
Code	1.63 days	Tue 7/11/23	Wed 7/12/23	22	Developer
implement design	1.13 days	Wed 7/12/23	Thu 7/13/23	24	Developer
Developer testing (primary debugging)	0.38 days	Mon 5/8/23	Mon 5/8/23		Developer / Tester
Development complete	0 days	Wed 7/26/23	Wed 7/26/23	26	

Testing	3 days	Thu 7/27/23	Mon 7/31/23		
Integration Testing	1.75 days	Thu 7/27/23	Fri 7/28/23		
Test module integration	0.5 days	Thu 7/27/23	Thu 7/27/23		Developer / Tester
Identify anomalies to specifications	0.38 days	Thu 7/27/23	Thu 7/27/23	30	Developer / Tester
Modify code	0.5 days	Thu 7/27/23	Fri 7/28/23	31	Developer / Tester
Re-test modified code	0.38 days	Fri 7/28/23	Fri 7/28/23	32	Developer / Tester
Integration testing complete	0 days	Fri 7/28/23	Fri 7/28/23	33	
Software development template complete	0 days	Mon 5/8/23	Mon 5/8/23		

Activity diagram

Staff organization - Team Structure

- Agile team structure
- Clear channels of communication

Team Roles

Team Lead
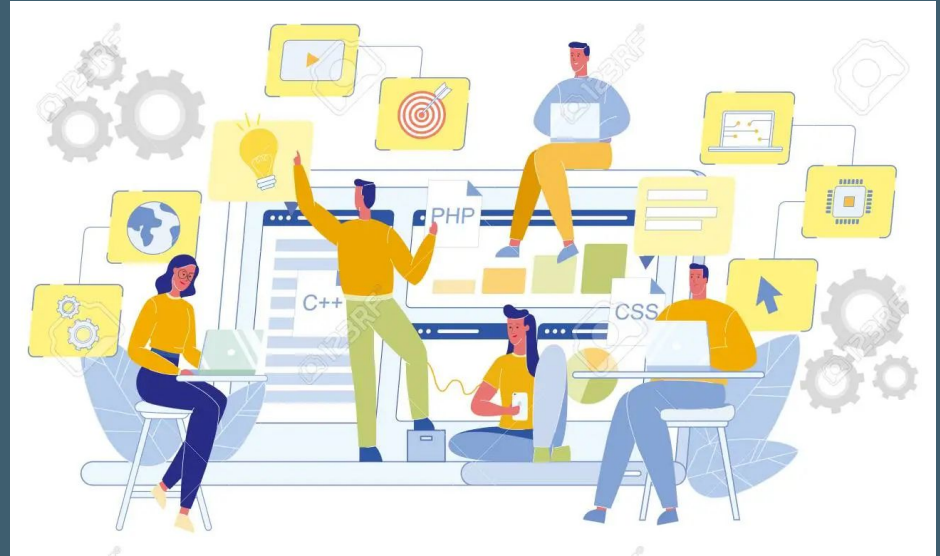
- Establishes schedule
- Documents

Designer

- Analyzes requirements
- Develop site design

Developers

- Creation and implementation
- Testing

Reporting and Communication

Two main channels of communication

1. Weekly zoom meetings
2. Whatsapp