

According to the project WBS we have 5 phases each one has specific tasks , here we estimate the effort for each task individually to estimate the total estimated budget .

Phase	Phase tasks	Effort as hours	Budget for each task	phase budge
Phase 1 Requirements	Define user requirements	40	$40 * 20\$ = 800$	1200 \$
	Validate requirements	20	$20 * 20\$ = 400$	
Phase 2 Analysis	Design hardware SW interface	40	$40 * 20\$ = 800$	1600 \$
	Design static / dynamic architecture	20	$20 * 20\$ = 400$	
	Component design using UML	20	$20 * 20\$ = 400$	
Phase 3 Development	Develop front end	80	$80 * 20\$ = 1600$	6400 \$
	Develop back end	160	$160 * 20\$ = 3200$	
	Unit testing	80	$80 * 20\$ = 1600$	
Phase 4 Testing	integration testing	80	$80 * 20\$ = 1600$	4000 \$
	system testing	120	$120 * 20\$ = 2400$	
Phase 5 Customer acceptance & delivery	Alpha & beta testing	40	$40 * 20\$ = 800$	800 \$
	delivery	0		
			Total estimated budget	14,000 \$
			Total estimated time	700 hour

The previous estimation based on assumptions :

- 1 – we’ve two teams one for development and the other one for testing & validation
- 2 – each team consists of 5 members
- 3 – there is no barriers during the project (financial / resources)