

Replacement program
for HLS
version

Massachusetts Institute of Technology

Project MAC

Computer Systems Research Division

Proposal for

Engineering of a Computer System for which

Security can be Certified by Auditing

Submitted to

Honeywell Information Systems Inc.

Data Systems Operations

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APPENDIX C: BUDGET ESTIMATE

The enclosed budget estimates are made on the basis of yearly costs in 1974. The level of effort planned is a compromise between two factors: getting enough people together so that a critical mass of expertise can be maintained, while not developing so large a staff that management control is hard to maintain. By selecting carefully a few very competent people, the size of the team has been kept quite low. To help maintain a steady flow of new ideas a relatively large participation by graduate students is planned. The proposed balance of staff, students, and work rate is based on seven years of experience in managing the development of Multics itself.

The budget for computer time is designed to permit use of the M.I.T. Multics service as the development, organizing, and staging tool. The amounts requested are based on the experience of system programmers using Multics for similar projects.

In the first year, the support requested from Honeywell represents about 33% of the project budget. The remaining 67% has been requested from the Advanced Research Projects Agency and the Air Force Electronic Systems Division.

Total Project Budget Estimate 1/1/74 - 6/30/77

Period 1/1/74 - 12/31/74			
Salaries and Wages	<u>Number</u>	<u>Full time Equivalent</u>	<u>Cost</u>
Faculty	5	2.0	\$ 37,850
Staff	6	4.4	59,350
Graduate students	7	6.0	49,710
Undergraduate students	5	1.0	6,240
Support staff (secretarial)	3	1.0	7,385
Total			<u>\$160,535</u>
Overhead Fiscal Year 1974 - 28% (1/1/74 - 6/30/74)			20,460
Fiscal Year 1975 - 29% (7/1/74 - 12/31/74)			25,360
Employee Benefits - 17.3% (excluding students)			<u>18,095</u>
Total Salaries and Wages			<u>\$224,450</u>
Computer time, to be purchased from M.I.T. Information Processing Center			
		Cost per month	
On-line computing - 1200 hr/mo @ \$10/hr		\$12,000	
On-line storage - 12K records @ .50/rec/mo		6,000	
Stand-alone configuration - 35 hr/mo @ \$200/hr		7,000	
		<u>\$25,000 x 12</u>	<u>\$300,000</u>
Other:			
Space			\$ 30,000
Terminals			24,000
Travel			5,000
Reproduction			5,000
Telephone			3,000
Miscellaneous			<u>8,550</u>
Total of "other" category			<u>\$ 75,550</u>

<u>Summary</u>	Total Support Requested	Total Requested from Honeywell
Total estimated cost for 1974	\$ 600,000	\$200,000
1975*	615,600	200,600
1976*	631,200	201,200
1977*	320,900	100,900
Total project cost, 1/1/75 - 6/30/77	<u>\$2,167,700</u>	<u>\$702,700</u>

* Assumes 5%/year increases in "Salaries and Wages", and amounts in the "other" category.

Budget Estimate 1/1/74 - 6/30/77

Period 1/1/74 - 12/31/74

Salaries and Wages	<u>Number</u>	<u>Full time Equivalent</u>	<u>Cost</u>
Faculty	5	2.0	\$ 37,850
Staff	6	4.4	59,350
Graduate students	7	6.0	49,710
Undergraduate students	5	1.0	6,240
Support staff (secretarial)	3	1.0	7,385
Total			<u>\$160,535</u>
Overhead Fiscal Year 1974 - 28% (1/1/74 - 6/30/74)			20,460
Fiscal Year 1975 - 29% (7/1/74 - 12/31/74)			25,360
Employee Benefits - 17.3% (excluding students)			<u>18,095</u>
Total Salaries and Wages			\$224,450

Computer time, to be purchased from M.I.T. Information Processing Center

	Cost per month
On-line computing - 2050 hr/mo @ \$10/hr	\$20,500
On-line storage - 15K records @ .50/rec/mo	7,500
Stand-alone configuration - 70 hr/mo @ \$200/hr	14,000
	<u>\$42,000</u>
	x 12 mo x 50%
	\$252,000

Other:

Space	\$ 30,000
Terminals	22,000
Travel	5,000
Reproduction	5,000
Telephone	3,000
Miscellaneous	8,550
Total of "other" category	<u>\$ 73,550</u>

<u>Summary</u>	Total Support Requested	Total Requested from Honeywell
Total estimated cost for 1974	\$ 550,000	\$150,000
1975*	565,000	150,600
1976*	580,000	151,200
1977*	295,000	75,900
Total project cost, 1/1/75 - 6/30/77	<u>\$1,990,000</u>	<u>\$527,700</u>

* Assumes 5%/year increases in "Salaries and Wages", and amounts in the "Other" category.

Budget Estimate 1/1/74 - 6/30/77
Period 1/1/74 - 12/31/74

Salaries and Wages	<u>Number</u>	<u>Full time Equivalent</u>	<u>Cost</u>
Faculty	5	2.0	\$ 37,850
Staff	6	4.4	59,350
Graduate students	7	6.0	49,710
Undergraduate students	5	1.0	6,240
Support staff (secretarial)	3	1.0	7,385
Total			\$160,535
Overhead Fiscal Year 1974 - 28% (1/1/74 - 6/30/74)			20,460
Fiscal Year 1975 - 29% (7/1/74 - 12/31/74)			25,360
Employee Benefits - 17.3%*			18,095
Total Salaries and Wages			\$224,450

Computer time, to be purchased from M.I.T. Information Processing Center

	Cost per month	
On-line computing - 1000 hr/mo @ \$10/hr	\$10,000	
On-line storage - 10K records @ .50/rec/mo	5,000	
Stand-alone configuration - 20 hr/mo @ \$200/hr	4,000	
	\$19,000	
	x 12 mo x 50%	\$114,000

Other:

Space	30,000
Terminals	16,000
Travel	5,000
Reproduction	3,000
Telephone	3,000
Miscellaneous	4,550
Total of "other" category	\$ 61,550
Total estimated cost for 1974	\$400,000

Total estimated cost for 1975	(assumes 5%/yr	\$415,000
Total estimated cost for 1976	salary increases	430,000
Total estimated cost for 1977	and increases in "other" category)	220,000
Total project cost, 1/1/74 - 6/30/77		\$1465,000

* Excluding students