

## Budget Justification

Budget Data Items			Budget Item: Indirect Cost Eligible		
Academic Fringe Rate	49.0%		Budget Item: Indirect Cost Exempt		
Summer Fringe Rate	10.6%		Indirect Cost		
Indirect Cost Rate	45.0%				
Academic Workload	30 units		Year 1	Year 2	Year 3
PI Annual Salary			\$ 103,416	\$107,036	\$109,176
Budget Justification		Subtotal	Budget Amt		
PI Academic Release Time	6 units	\$20,683	\$ 20,683	\$ 21,407	\$ 21,835
PI Summer Salary	25%	\$25,854	\$ 25,854	\$ 26,759	\$ 27,294
Total Senior Personnel			\$ 46,538	\$ 48,167	\$ 49,130
Graduate Students		1 \$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000
Undergraduate Students		2 \$ 3,500	\$ 7,000	\$ 7,000	\$ 7,000
Total Non-Senior Personnel			\$ 12,000	\$ 12,000	\$ 12,000
PI Academic Fringe			\$ 10,135	\$ 10,489	\$ 10,699
PI Summer Fringe			\$ 2,741	\$ 2,836	\$ 2,893
Student Academic Fringe			\$ 2,940	\$ 2,940	\$ 2,940
Student Summer Fringe			\$ 636	\$ 636	\$ 636
Total Fringe			\$ 16,451	\$ 16,902	\$ 17,168
Equipment		qty unit cost			
2.5" Hard Drives		340 \$ 100	\$ 17,000	\$ 17,000	
3.5" Hard Drives		120 \$ 250	\$ 15,000	\$ 15,000	
Server Components		20 \$ 1,200	\$ 12,000	\$ 12,000	
3D Printers		2 \$ 4,000	\$ 8,000		
Materials			\$ 2,000	\$ 2,000	
Subcontractor Services			\$ 9,000	\$ 9,000	\$ 9,000
Campus Indirect Costs	45%		\$ 37,795	\$ 38,731	\$ 39,284
Annual			\$ 175,784	\$170,800	\$126,583
Project Total		\$473,167			

Funding for the project is justified by the following needs:

- Cost related to funding PI's time on project. PI time is being allocated through purchasing release time from teaching responsibilities and funding summer salary. Total cost of these items is \$46,538, \$48,167

and \$49,130 for years 1 through 3 respectively and account for bargained salary raises.

- Students: The project is going to utilize graduate students and undergraduate students to assist with the development, implementation and testing responsibilities required. California State University Northridge has a large population of undergraduate students in the Computer Information Technology discipline and this project provides an excellent opportunity for these students. The budget accounts for \$12,000 annually to fund 3 students per year (approx. 1440 man hours.)
- Fringe benefits: In addition to base salary the university charges fringe benefits for purchase of release time and summer salary. Fringe rate for PI is 49% for time during the academic year and 10% for summer. Fringe benefits are budgeted at \$12,721, \$13,166 and \$13,429 for years 1, 2 and 3 respectively to cover this cost.
- Subcontractor services: subcontractors are required to produce sheet metal components for computer case components and for printed circuit board fabrication (PCB) services which are beyond the abilities of maker techniques. These services have been estimated at a total of \$27,000 to produce 20 computer units. The cost has been budgeted at \$9,000 per year for three years.
- Equipment: The project will produce 20 computer storage modules. This requires 3D printers to tackle additive manufacturing requirements, computer server components, hard drives and materials to construct storage devices. Total cost for these items is \$100,000 and has been spread out over the first two years. No equipment budget is expected for the third year as the project will have moved to testing and analysis on a completed system.
- Indirect costs: California State University Northridge charges an indirect cost fee of 45% of non-equipment expenses to cover campus administration and central resource costs (PI salary, fringe, student costs and subcontractor services). The budget request includes \$36,116, \$37,049 and \$37,601 for the three years to cover this cost.