PROJECT PROPOSAL

PROJECT NAME: Advancing Spatiotemporal Computing (modeling, data structure, algorithms, indexing, search capabilities) to Enable 21st Century Geospatial Sciences and Applications

PROPOSAL: Advancing Spatiotemporal Computing (modeling, data structure, algorithms, indexing, search capabilities) to Enable 21st Century Geospatial Sciences and Applications

PROJECT MANAGER: Phil Yang, Keith Clarke, Peter Bol

PROGRAM NAME: xxx

PROGRAM MANAGER: xxx CONT. or NEW

*\*This part is for your information. I list the program name and corresponding manager as below:*

 *1. Crosscutting technology: Chaowei Yang and Wendy Guan*

 *2. Environmental Sciences: Jeff Dozier and Paul Houser*

 *3. Social Science: Keith Clarke and Peter Bol*

*Please delete after you select your category and fill in the PROGRAM NAME and PROGRAM MANAGER.*

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1. DESCRIPTION:

2. OBJECTIVE:

3. EXPERIMENTAL PLAN:

The experimental plan will include:

4. RELATED WORK ELSEWHERE

5. HOW OURS IS DIFFERENT

* …

6. RELATED WORK WITHIN THE CENTER

* We published many well cited papers about using spatiotemporal principles to optimize distributed computing for enabling scientific discoveries and application development, such as spatial computing (PNAS), distributed geospatial information processing (IJDE), geospatial cyberinfrastructure (CEUS).

7. MILESTONES & DELIVERABLES (5 Year)

For exmpale,

|  |  |  |
| --- | --- | --- |
| **Months** | **Activities** | **Deliverables** |
| 0-6 | T1. Investigating a variety of science and application domains, such as GEOSS and Geospatial Sciences to identify spatiotemporal modeling techniques | Research reports, papers |
| 7-12 | T2. Develop data structures and algorithms to better support a variety of applications such as GEOSS clearinghouse and DaaS. | Research reports, system prototypes, papers |
| 7-12 | T3. Indexing and semantic algorithms for searching, ranking and reasoning methods. | Research reports, system prototypes, papers |
| 13-18 | T4. Advance the spatiotemporal computing techniques through real applications, such as SilvaCarbon for global forest carbon tracking and DaaS for on demand data sharing and processing to enable 21st century sciences and applications. | Research reports, system prototypes, papers |
| 18-24 | T5. Focus on techniques, software, tools, documentation, and tech transfer | System prototypes, source code, documentation, tutorials |

8. BUDGET:

|  |  |  |
| --- | --- | --- |
| Items | Budget/Year | Specification |
| Salary |  |  |
| Tuition |  |  |
| Summer |  |  |
| PI (Two months of faculty salary) |  |  |
| Benefit |  | Faculty |
|  |  | Student |
| Travel |  |  |
| Indirect  |  | Company |
|  |  | Agency |
| GMU Integration |  |  |
| Total Project Cost |  |  |

9. POTENTIAL MEMBER COMPANY BENEFITS:

REFERENCES