

Dear Group,

Michael Hegarty and I would like to share a few of our serious concerns about some of these proposals and the make-up and role of the external advisory committee. Feel free to post this letter on the "other comments" section of the web page, and forward it to anyone concerned. In advance, we invite you to disregard anything we will say that is based on false presuppositions, and we trust that you will give due consideration to our remaining points.

In what follows, we argue that: (1) the external advisory committee should contain external academics and economic development experts, (2) the external industry advisors should be from software application and service firms with some presence in the South already, and (3) an emphasis on research leading to novel software applications would be much more economically viable and helpful for Louisiana economic diversification than an emphasis on hardware and "basic" research into software issues. If we are right about (3), then implementation of the Computer Science and Electrical Engineering departments' extant proposal ("High Performance Computing Systems and Scalable Networks For Information Technology"), is unacceptable as proposed, as it will not help CAPITAL fulfill the legislature's economic mandate.

(1) Adding External Academics and Economic Development Advisors to the Advisory Committee

The external advisory committee should contain people from outside of industry, in particular: (a) external academics from IT programs successful in forging public-private partnerships, and (b) people from the Governor's economic development office as well as the IT consortium on Florida Blvd established last year by the state of Louisiana.

(1a) There should be outside advisors from nationally ranked academic IT programs which have a good track record of success at the desiderata laid out by the legislature. Carnegie Mellon's AI group, MIT's Media Lab, and Stanford's Center for the Study of Language and Information all nicely fulfill the legislature's desiderata. Help from leaders at places like this will be invaluable and necessary for choosing proposals and for actually setting up CAPITAL.

(1b) It is incredibly important for people with the right kind of specialization in economic development to be on the committee. From what we can tell thus far, \*none\* of the proposals make a convincing case for being able to help in any significant way diversify Louisiana's economy. This is as it should be, since the proposals were written by academic I.T.

researchers and not economic development specialists. None the less, it is all the more important for economic development specialists to play a (perhaps the) key role in judging proposals and in setting up and managing CAPITAL.

If we haven't yet, we should involve someone from Governor Foster's office of economic development. What kind of knowledge based firms can reasonably be expected to have the best chances of flourishing here as the result of this initiative? For this proposal to work, CAPITAL must be tailored to building and attracting such firms. But then, unless we have economic development help we cannot correctly chose among the proposals.

If we haven't yet, we also should involve someone from the IT consortium established by the state of Louisiana last year at the Bon Marche shopping mall on Florida boulevard. For CAPITAL to work the way the legislature mandates, it must create businesses for the IT business incubator that is part of the Florida Blvd. consortium. Again, this straightforwardly entails that someone from the consortium should be on the advisory committee playing a non-negligible role in chosing proposals and setting up and running CAPITAL.

To realize the importance of economic development personnel, consider the "High Performance Computing Systems and Scalable Networks. . ." proposal. The authors correctly note that the University of Texas at Austin has a much bigger and more prestigious CS department than here. This is fine, as far as it goes.

What is extremely questionable is the intended inference that big, prestigious, CS and EE departments with expertise in the many areas mentioned in "High Performance. . ." will somehow help Louisiana emulate the Austin miracle. The authors do not note that Austin also has (and has had for decades) extraordinarily high property taxes and consequently extremely good public schools. Austin also has more green space per mile than any other American city. Austin is also pedestrian friendly, with nice sidewalks, bike paths, plenty of crossing lights, and good public transportation. Likewise, the downtown and university area in Austin have for decades formed a seamless pedestrian friendly area with tons of cultural offerings and a lively night life.

As reported several times in The Advocate, study after study has shown that these quality of life issues are \*the\* issues in determining where big IT firms have located for the past decade. This is because such firms must locate in places where a large number of IT

employees are willing to live.

Consequently, companies such as Yahoo, IBM, Motorola, and Lucent are not likely to locate research and development plants in present day Louisiana, or to transfer out-of-state employees to Louisiana.

This is not an insoluble "chicken and egg" problem. If this proposal can help to diversify Louisiana's economy, then it will help to further create a non-dysfunctional political climate. This, in turn, will help make Louisiana cities more attractive to more IT firms. In fact, something like this has happened in Dallas, Texas in the last decade.

Therefore, \*the\* critical question concerns what kinds of IT companies we can hope to attract and keep in present day Louisiana. The next question then concerns to what extent these proposals will be helpful in attracting these companies. Thus, it is of utmost import that someone cognizant of both economic issues in the current IT marketplace, as well as the economic and political challenges facing Louisiana, be on the advisory committee.

(2) Making Sure Appropriate Companies are Represented on the Advisory Committee.

>From the external industry people, it would be nice if a mid-sized to large company specializing in software application services with offices already in southern states (especially outside of the Atlanta, Austin or Dallas regions) were represented.

Yahoo, IBM, Motorola, and Lucent (current contenders for being external advisory companies) are all key companies on the IT horizon, yet as we have noted, companies like this simply will not locate in present day Louisiana, no matter what LSU does. We think that the outside economist will say that smaller companies specializing in software applications, and offices of larger companies with such specializations are more likely to open offices here due to economic development incentives, more likely to start up here, and more likely to stay. Thus, it seems imperative to us that such companies be represented in the external advisory capacity as well.

(3) Software Applications over "Basic" Research

Note that if we are right that the only current area for Louisiana IT growth is in the software services sector, then it follows that some of the proposals should not be funded. If we are right, then the Computer Science and Electrical Engineering departments' "High Performance Computing Systems and Scalable Networks For Information Technology" proposal

could very well constitute a spectacular waste of state resources. The whole purpose of Foster's IT initiative is to help diversify the state economy. If all CAPITAL accomplishes is contributing to the Louisiana brain drain by training employees to go work for companies outside of Louisiana, then the initiative will be a failure.

Here we give a few more salient reasons to support the view that computational modelling with software applications should be the focus of this initiative.

(3a) The "High Performance Computing. . ." proposal states that, "there is an increased demand for high performance computing systems." To the best of our knowledge, this is just false. That is, if one means by "increased demand" anything that could lead to profitable businesses. Companies that specialize in high performance computing are getting hammered in the current economy precisely because there is so little demand now and in the foreseeable future for any more computational power.

Received wisdom is that for the vast majority of commercially viable uses of computers, hardware is currently already well in advance of software. In fact, one of the reasons for the current economic slump is that there is absolutely no economic need for many newer hardware advances. As Intel, Dell, and Compaq are discovering, many newer advances in hardware are not very profitable, because much extant and foreseeable software used in industry and at home runs excellently on the previous generation of microprocessors. Again, given that this initiative is supposed to spawn successful Louisiana based businesses, this is a very serious consideration against "High Performance. . ."

(3b) We think one of the features that renders computational modelling in general (and our proposal for human-machine interface and AI/Cognitive Science research such as computational linguistics in particular) better than the others is that it is an area where someone who is not currently a major player can quickly become a major player. Many of the other proposals, especially ones which are hardware and materials intensive, will require a great capital outlay just to catch up. In addition, it is really important that Louisiana graduates can quickly contribute, due (again) to the fact that resource rich IT firms are not going to relocate here. This all argues for emphasis on cutting edge software applications coming out of computational modelling.

(3c) To the best of our understanding, there is more economic diversification in software services. This is in part due to the fact that the capital outlay for

advances in software is much less. You just need a bunch of smart people to develop the applications. Likewise, hardware companies are located in very few regions in the U.S. (mainly Silicon Valley, Austin, and Southern California). Again, there is a real danger is that we might just contribute to the Louisiana brain drain by educating specialists in hardware for the few good hardware companies located elsewhere.

Conclusion-

We must point out that to mention the particular challenges Louisiana faces in diversifying her economy is not to counsel pessimism. We do think that this initiative can be very successful in fulfilling the legislature's mandate to contribute strongly to diversifying Louisiana's economy, as long as it is implemented with appropriate external advise.

Clearly points (3a), (3b), and (3c) above could be validated or refuted by one or more good economic development people on the advisory committee with an understanding of the current IT marketplace and the economic and political problems facing our state. This itself provides much evidence for the importance of (1b). Point (1a), concerning the importance of external academics, and Point (2), concerning the need for appropriate diversity of outside industry representation, seem fairly self evident and extremely important to us.

Sincerely,

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