Recently, DSSResources.COM registered a new domain name, PlanningDSS.COM. The name summarizes the purpose of the web site -- it is a planning decision support system. If you visit the URL, you'll find the following introductory message: "Welcome to the Planning Decision Support System. This Web-based planning and decision process structuring program has been designed to improve contingency course of action (COA) planning decisions and selection decisions. The Planning Decision Support System (PDSS) is a prototype built using open source web tools. This website, PlanningDSS.com, is still under development, so your suggestions and feedback are most welcome. We are trying to identify 'alpha' testing opportunities." The HELP menu provides links to General, Planner, Decision Maker, Analyst and Observer help. Planning DSS is a role-based, multi-user decision support system. It is also an integrated decision structuring application with knowledge-driven and model-driven decision support subsystems.

This Ask Dan! is a quick synopsis of a 30 year research project, an overview of the design for a new web-based decision support application, and a request for help and collaboration in extending the project.

PlanningDSS.COM is the most recent incarnation of an idea or a vision for a computerized decision support application that I first had in the Fall of 1975. If nothing else, I have been persistent in trying to make my idea a reality. Certainly the idea has evolved as technologies have changed and as I have learned more about DSS design and about decision making behavior.   But looking back the goals have remained remarkably unchanged. You can read a summary of that research covering the period 1975-1984 at DSSResources.com. Check http://dssresources.com/papers/decisionaids.html . Also, check the papers I wrote with Professor Gerald Rose when I was a student at the University of Iowa (cf., Power and Rose, 1976; Power and Rose, 1977).

My first two DECision AID projects were developed using the Hewlett-Packard 2000 Access system and then the Apple II. "The DECAID idea was that questions could be used to build models of the decision making processes. These questions could then be programmed using an interactive programming language to aid people in making decisions (Power, 1977, p. 28)". In 1986- 87, I had the opportunity to design some applications for the Decision Assistant series from Southwestern Publishing Company. These small applications were focused on specific decision aiding tools rather than upon providing process support and hence helped me see the need for both approaches in a more integrated decision support environment. In the mid- 1990s, I tried to develop a new, more integrated decision aid in Visual Basic, but I eventually abandoned that attempt. A number of other false starts occurred in continuing my decision aid research. In July 2004, my oldest son Alex reviewed the old documentation and a JavaScript application we had started and began some PHP/MySQL programming. That version was called DA3000 and the artifact is still on the web at http://www.planningskills.com/da3000 . Alex's work demonstrated the feasibility of a new web-based DSS, but showed the need for a more extensive and systematic development effort. In Fall 2004, I resolved to make another attempt to update and modernize my decision support application using open source software and a web platform. DSSResources.com/Power Enterprises volunteered as a client for the Information Systems Development project course at the University of Northern Iowa. Professor Betsy Hoffman agreed to supervise the web DSS project.

In mid-January 2005, a project team of University of Northern Iowa MIS majors was assigned to work on my web-based, action planning DSS project. To get them started, I provided a concept paper and eventually the team used the 1983 version of the decision aid, tried the Decision Assistant applications and the JavaScript decision aids. We agreed on a Scope of Work for the

project. For three months, the team of Branimir Peitel, Bryce Paulson, Luke Thompson and Chun-yi Wu worked on the project. I brainstormed a list of Use cases for the team and they elaborated on them and I gave feedback. Each team member worked on the Use cases for a specific role in the system: planner, analyst, decision maker or observer. The system also has an administrator role. The team members were conscientious in showing me their Entity-Relationship diagrams for the application database, the proposed screen designs, and plans for documentation. Professor Hoffman met regularly with the team and provided direction and encouragement. Their diligent work resulted in a prototype that shows what is possible. A complete process has been programmed and some functionality has been developed for all five roles.

In a future Ask Dan! column I may summarize the overall concept and/or how the system operates, but for now I'll stay focused on a broad overview. PlanningDSS.COM may turn into a new business venture, it may be a tool for helping DSS students learn about open source software like MySQL and PHP and decision process support, and it may serve as an environment for conducting research studies. Both DECision AID and some of the Decision Assistant applications were used in prior empirical studies that are described in papers I co-authored (Aldag and Power, 1986; Power, Meyeraan, and Aldag, 1994).

Where are we going with this? During summer 2005, I'll be trying to identify resources for further development efforts. I hope to expand the capabilities and do some alpha testing of the system with multiple users in a simulated decision making environment. We are currently checking the code, making minor enhancements and preparing a list of additions, improvements and new Use cases.

Who has helped with my computerized decision aid projects over the past 30 years? First, Gerald Rose (Univ. of Iowa), Bobby Brown (Univ. of Iowa) and Warren Boe (Univ. of Iowa) supervised and approved my Master's Thesis. My friend Ray Aldag (Univ. of Wisconsin) provided support, help and encouragement to continue the project when I studied at the University of Wisconsin-Madison for my Ph.D. in Business Administration. At the University of Iowa, an undergraduate student William Valliere helped me with some programming. At the University of Wisconsin-Madison, Willy Cats-Baril, Maureen Sullivan and Scott Conrad helped with programming. Willy was a friend and fellow Ph.D. student in those days. At the University of Northern Iowa a number of students have worked on related projects over the years. My son, Alex Power, has helped with many DSS projects in the past 6 years. Finally, I want to especially thank Betsy Hoffman, Branimir Peitel, Bryce Paulson, Luke Thompson and Chun-yi Wu for their help in renewing this research stream. I'm sure I've missed some names on this list, so to all those who have helped with my DSS design projects -- Thanks.

If this project sounds interesting and you'd like to get involved in some way, send me an email, power@dssresources.com . As always your comments and feedback are welcomed.

References

Aldag, R.J. and Power, D.J. An Empirical Assessment of Computer-Assisted Decision Analysis. Decision Sciences, 1986, 17(4), pp. 572-588.

Power, D.J., Meyeraan, S. and Aldag, R. Impacts of Problem Structure and Computerized Decision

Aids on Decision Attitudes and Behaviors. Information and Management, 1994, 26, pp. 281-294.

Power, D.J. and G. L. Rose. Improving Decision-Making Behavior Using the Hewlett Packard 2000/Access System. Proceedings of the American Institute for Decision Sciences, Nov. 1976, 47-49.

Power, D.J. and G. L. Rose. An Evaluation of DECAID, a Decision Formulation Computer-Aided Learning Program. Proceedings of the American Institute for Decision Sciences, October 1977, 118-119.

Power, D., Design and Development of DECAID: A CAL Decision Formulation Program, unpublished Masters Thesis, University of Iowa, Iowa City, Ia, 1977.

Power, D. J. "Designing and Developing a Computerized Decision Aid - A Case Study", World Wide Web, http://dssresources.com/papers/decisionaids.html , version 2.0, April 14, 1998.

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