

E-Negotiations via Inspire 2.0: The System, Users, Management and Projects

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1 Introduction

Invite is a web-based software platform on which has been built a variety of e-negotiation systems used for training, education and research purposes. There are currently three groups of systems developed in Invite. The first group of systems, including Inspire and SimpleNS, are designed for relatively simple bi-lateral negotiations and are available for use to everyone.

The second group of systems is market-designed systems (i.e., Imbins and InAuction); they are not currently open to the public but can be used for experiments. Finally, the last group of systems is designed to model complex negotiations and is only available in house. INSS is an example; its complexity is exhibited through its ability to combine the Inspire system with the added flexibility of modifying cases, and adding issues and options. The purpose of this paper is to provide an overview of Inspire 2.0, the system, its users, administrative procedures and an analysis of feedback. The focus is on the negotiations conducted by over 1500 users in 2009 and in particular, the GRIN project. Who was using the system, and how all these negotiations were managed will be discussed.

2 System

The Inspire system is currently our most utilized system. It was developed in 1996 as a tool for teaching and research purposes and version 2.0 was implemented in 2007. Inspire 2.0 is quite different from its prototype. It is more functionality, has an improved user interface and increased functionalities. It now has built in help features and users can contact the Invite team directly from the system during the negotiation process. With each improvement comes testing and approval prior to putting the system back on line. The system is used to collect and analyze data generated during negotiations and from questionnaires that participants are asked to complete. Inspire

combines negotiation analysis methods with communication facilities and graphical tools. Users negotiate with unknown counterparts from all over the world. Prior to negotiating, users are encouraged to review a comprehensive list of materials that are available on-line to assist them in their negotiations, such as demonstrations, examples, frequently asked questions and an overview of the system.

In the first phase of negotiations, participants are given a case to read. The cases are designed to help participants assess the situation, identify the stakeholders, and develop a very clear understanding of the issues and interests involved. In the next phase, called preference elicitation, the system guides participants through a sequence of steps in which they must rate the importance of each issue and then the options within that issue.

The information obtained is used by Inspire to provide helpful feedback when constructing new offers or evaluating an offer from a counterpart. Inspire also provides a post-settlement period during which participants have the option of renegotiating a settlement that has already reached. Based on the preference information provided by both participants, Inspire determines whether the settlement reached is an "optimal" one, meaning that neither party can reach a better agreement without loss to the other side. If Inspire can suggest one or more better packages than the one reached, it will show those possibilities and give the option of continuing the negotiation until another settlement is reached.

3 Users

Inspire users come from all across the globe. In 2009, over 1700 people used Inspire. The majority of these people were young students who negotiated with Inspire as part of a course.

Each year there are 2 major rounds of negotiations involving multiple, international universities, one in the spring and the other in the fall. From spring to fall of 2009, 489 participants used Inspire (253 of those were from the GRIN project in the fall to be discussed later). They were from Canada, U.S., Poland, Austria and Taiwan. They were generally young, with 68% being between 21-30 years old. A little less than half were female and 52% male. When asked about previous experience with decision support systems, 92 % indicated they had no previous experience. A large number of Inspire users in 2009 came from experiments directly related to a doctoral thesis project. In this group, 276 participants used Inspire in a lab setting and 998 participants were signed up for online negotiations. Other users include instructors who wish to try the system prior to deciding if they would like to use it as a teaching tool and web-surfers.

4 Management

Inspire negotiations are administered by the InterNeg Research Centre, hosted by the John Molson School of Business at Concordia University in Montreal, Canada. The centre collaborates with instructors from all over the globe to set up, monitor and provide technical and practical assistance for each round of negotiations. Effectively managing on-line negotiations requires good communication, time, effort and an established set of procedures. Our procedures for managing negotiations are documented and routinely updated. Managing negotiations that involve multiple

universities can be divided into 2 phases: the preparatory phase and the actual negotiation phase.

In the early preparatory phase there are many issues to be discussed and decided upon, including such things as which universities will participate, the starting and end dates, what case will be used, and which questionnaires will be used. This can take some time since international universities can have very different semester starting dates and instructors may have different opinions as to what specifics they have in mind for a particular round of negotiations.

Once the specifics are decided, instructors register their groups on-line and then are given a URL that they then forward to their students so that the students may register into the appropriate groups. The administrator uses the Inspire admin database to view the progress of registration. She can see what groups have registered and which students have registered within those groups. Generally, there is a registration deadline of 1 week prior to the start of negotiations. At that time, the administrator will send an e-mail (automatically generated from the system) that informs the instructors as to how many students from their group have already registered.

Instructors may also ask for a list of students who are not registered and this also can be automatically generated from the system. The administrator also checks routinely for e-mail messages from students who may have difficulties with registration or have other questions that need to be responded to. Two days prior to the start of negotiations, the "matching up" of negotiator pairs needs to be done.

As a general rule, each university is given a certain side in a given case, so that students cannot discuss the preferences of the other side. For example, when using the Yowl Pop case, students from one university would negotiate on behalf of Fado (an agent representing Ms. Sonata who is a recording star) and the students from another university would negotiate on behalf of Mosico (an agent who represents a recording agency). When this is not possible because of unequal numbers, students from one university may have to negotiate with each other. When this occurs, we let the students negotiate, but the data will not be used. When choosing sides for a negotiation series, we also look at past negotiations, so, for example, if in the last round of negotiations students from Concordia University acted as Fado, then in the next round, we would set them up in the role of Mosico.

Once the case side decision is made, Inspire will automatically pair the users. Following this, the system generates e-mail notifications for each participant that includes username, password, starting and end dates and is sent from the system. Once negotiations begin, the system keeps track of inactive users and can generate e-mail notifications for instructors. When using Inspire, participants can contact the administrators from inside the system via e-mail with problems or questions. The negotiations are consistently monitored and problems that arise are dealt with quickly, all e-mail notifications are responded to within 24 hours of receiving them. Another automatically generated notification from Inspire is the "deadline approaching" e-mail. This is generated one week prior to the ending date of the negotiation and can be sent directly from the system. Currently, work is being done to reduce the complexity of the registration function. The revised system will have fewer steps and the rules for creating usernames and passwords will be lessened.

5 GRIN

In 2009 the GRIN (global research in internet negotiations) project was set up by researchers and instructors from 6 universities in 5 different countries; Canada, Austria, Poland, Taiwan, and U.S.A. There were two main objectives of this project:

(1) to provide content rich educational resources for teaching negotiations, conflict resolution, e-markets and information systems; and (2) to study the beliefs, attitudes and emotions that drive users in their preference rating, strategy planning and execution, and also to understand their adoption of the post-settlement procedure and their system assessments. Students negotiated with each other for a period of 3 weeks and were then asked to complete an assignment structured around the negotiation exercise.

Each university represented one side of a given case scenario. The case used is called the ITEX/Cypress Bicycle case and involves negotiations between a manufacturer and supplier of bicycle parts. Students were given the assignment and the case information one week prior to starting the negotiation. This allowed them to prepare for the negotiation. Initially, 324 participants were set up with negotiations, 16 pairs had to be deleted (due to complaints of inactivity or participants quitting), leaving 292 participants. Of those, data for 39 was incomplete and could not be used. As a result, we had a very good usable data rate of 78%.

Results based on data collected from these negotiations are discussed in Kersten, Wu and Wachowicz (2010), Kersten, Wu and Yu (2010) and Wachowicz and Wu (2010).

6 Feedback

The feedback provided by Invite users is an important element in efforts to improve both the systems and effectively manage the negotiations. Just over 25% of GRIN participants provided feedback comments following their negotiations. This feedback was divided into 5 sections. Generally positive comments were things such as "Thanks for the negotiation, I enjoyed it" and accounted for 38 % of the feedback, which was also the greatest percentage of feedback. System positive (+) or negative (-) comments were those that directly related to using the system, e.g., "The system was easy to use". One of the difficulties of on-line negotiations is that some counterparts are not as active as others and this can lead to frustrations for the more active participants. Problems with counterparts resulted in just over 10% of the feedback and are an area that is difficult for the administrator to deal with. We do not want to overly interfere with the negotiations but yet; we also need to try to help those students who find themselves with partners who are not responding. Lastly, participants provide valuable suggestions on how to improve both the functionality and the process of using an Invite system. As a result of feedback from the GRIN project, the size of the text box for messaging was increased; the ability to e-mail counterparts following the end of negotiations is being implemented and the on-line registration system is being streamlined. Feedback is important for research, discovering the motives behind why some participants give feedback and others do not may help to increase the amount and types of feedback received.

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