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LETTER OF INFORMATION

A Survey of Space Industry Software Development Practices and Attitudes

Introduction/ Purpose

Dr. Stephen Clyde (PI) & Brandon Shirley (Graduate student researcher) in the Department of Computer Science at Utah State University are conducting a set of surveys to find out more about software development practices and attitudes in the space industry, specifically flight, ground, and testing software. We are asking you to take part in this set of surveys because of your affiliation with or involvement in the space industry. We are soliciting responses from approximately 3000 professionals, educators, and students with backgrounds and connections to the space industry. We greatly need your participation and your responses to the surveys will make a meaningful contribution to this research.

Procedures

Multiple surveys comprise this survey set. Currently there are six surveys (listed below) and each should take approximately 10 minutes or less to complete. Each survey has a brief introduction section that explains the overall survey set, i.e. *Space Industry Software Development Practices and Attitudes* (SISDPA), and the specific survey you are taking, e.g. *Open Systems Architecture and Modularity*.

- 1) SISDPA : Core Concepts
- 2) SISDPA : Development Preferences
- 3) SISDPA : Open Systems Architecture and Modularity
- 4) SISDPA : Security
- 5) SISDPA : Reuse, Interoperability, Portability, Code Complexity
- 6) SISDPA : Network

Each survey will also have a common background section, this section is the same across all the surveys and the hope is that if you take more than one survey you will give identical responses across each survey. This will allow the researchers to consider your experience with regard to the responses you provide.

If you agree to participate, then you may use the provided email links to access and complete the surveys. The links provided are anonymous. We plan to distribute the surveys over the space of a few months. We expect to give you two to three weeks to complete the survey, i.e. from the time you receive the original distribution email you will have two to three weeks to complete the survey.

You can opt to only take some of them. If you start a survey but do not finish, then your partial result may be included in the results. You may contact Dr. Stephen Clyde or Brandon Shirley (see contact information provide in the "Explanation & offer to answer questions" section) if you have any questions with regard to participation.

At the end of each survey you will be redirected to another webpage where you may provide your email address if you want to enter the optional drawing. Your email address will not be connected to the survey responses. See the Payments/Compensation Section for more information on the drawing.



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New Findings

During the course of this research study, you will be informed of any significant changes in the procedures, risks or benefits resulting from participation in the research, or new alternatives to participation that might cause you to change your mind about continuing in the study. If necessary, this Letter of Information may be amended to reflect said changes.

Risks

There is minimal risk involved in participating in any of the surveys in the set. The only potential stress factor that we foresee is the duration of taking the entire survey set. We spread out the distribution of the various surveys to minimize this potential stress.

The surveys collect some information about your background and experience so we can better understand your answers and opinions, but we do not collect or store any other personal identifying information. There is a virtually no risk of loss of confidentiality relative to the data collective. We ensure this to be the case by doing the following:

- The anonymous nature of the link used to take the survey automatically disassociates your identity and contact information from your responses
- We will keep the raw survey data private and properly secured
- We will only publish aggregated data – no individual responses will be made public

Benefits

The main benefit of this study is an increase in the body of knowledge that relates to software development practices and attitudes in the space industry, and to direct future research. Taking the survey should provide you with an opportunity to reflect on your current software development practices and how they affect the projects on which you have and will work.

Once the survey is closed, we will analyze the data, and generate results. We will seek publication of these results in a conference or journal.

Explanation & offer to answer questions

The above Procedures section explains this research study. If you have other questions or research-related problems, you may reach Dr. Stephen Clyde at (435) 797- 2307 or Stephen.Clyde@usu.edu, or Brandon Shirley at (435) 994-9165 or b.l.s@aggiemail.usu.edu.

Voluntary nature of participation and right to withdraw without consequence

Participation in these surveys is voluntary. You may refuse to participate or withdraw at any time without consequence or loss of benefits. You may opt-out at any time by either not starting any of the surveys or only taking some of the surveys. The surveys you have started and/or completed will be include in the results; this is due the anonymous links used to administer the survey. We have no way to identify your responses and so we cannot remove them. Starting a survey does not obligate you to complete it, nor are you obligated to complete all the surveys just because you completed one.



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Payment/Compensation

There will be seven drawings for gift cards: one for each survey and one overall drawing for the survey set. For each survey-specific drawing, two participants in that survey will be selected at random to receive a \$25 gift card. For the overall drawing, two participants from the pool of all participants of any survey will be selected to receive a \$200 gift card, such that if you have completed all of the surveys, you will have six entries into that drawing. At the end of each of the surveys, you will be redirected to a webpage that asks for an email address. A participant must enter a valid email address to be considered for that survey's drawing or the overall drawing.

Confidentiality

There is virtually no risk of a privacy or confidentiality breach. The researchers will not be observing or collecting data on any behavior outside of what would normally occur in the work place. Research records will be kept confidential, consistent with federal and state regulations. Only the investigator and the graduate student researcher will have access to the raw data. No identifying information is associated with the survey, the links provided in the distribution email are anonymous.

IRB Approval Statement

The Institutional Review Board for the protection of human participants at Utah State University has approved this research study. If you have any questions or concerns about your rights or a research-related injury and would like to contact someone other than the research team, you may contact the IRB Director at (435) 797-0567 or email irb@usu.edu to obtain information or to offer input.

Investigator Statement

"I certify that the research study has been explained to the individual, by me or my research staff, and that the individual understands the nature and purpose, the possible risks and benefits associated with taking part in this research study. Any questions that have been raised have been answered."

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