

Skunkwerks Kinetic Industries Management Team

Skunkwerks Kinetic Industries

420 - 1639 W 2nd Avenue

Vancouver, BC

Dear Craig and Kevin,

Attached is my report analyzing the benefits and drawbacks of the change in communication and task management tools that was proposed by myself and Kevin Brown.

During my research I have discovered quite a bit about the features offered by Slack and Trac and have learned how to set up both system for the company's needs. I hope my discoveries and recommendations help you make your decision.\

Thank you again for allowing me to interview you and distribute surveys to the team members at the office, the information I gathered proved very helpful. If you have any questions or concerns regarding my report please email me at spencerlee1990@gmail.com.

Best

A handwritten signature in cursive script, appearing to read 'Slee'.

Spencer Lee

Report on the Proposed Change of Office Communication and Task Management Tools at Skunkwerks Kinetic Industries

For

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Abstract

An analysis of the potential benefits of changing communication and task management tools at Skunkwerks Kinetic Industries was performed. The tools currently being used are Skype and Trello, the proposed tools are Slack and Trac. A survey was distributed to all of the full-time employees at SKI with nine out of thirteen being completed and returned. Interviews with Kevin Brown and Craig Martin were conducted to determine the feelings of the management team on

the proposed change. The interviews confirmed that the management team at SKI also feel that adopting the new tools would be beneficial.

Analysis of the features offered by the current tools and the proposed ones led to the conclusion that it would be beneficial to transition to Slack and Trac. Survey responses supported this conclusion with a majority of responses indicating dissatisfaction with Skype and Trello and a willingness to change to Slack and Trac. Data collected from the interviews indicate that the management team supports this change of tools and is aware of the low cost of the change, both in terms of money and time.

Recommendations from this analysis include:

- Changing from Skype to Slack as the main communication tool at SKI
- Changing from Trello to Track as the main task management tool at SKI
- Performing the change during a transition between development sprints to reduce loss of productivity.

Introduction

As you are aware, Skunkwerks Kinetic Industries (SKI) is currently using two tools for inter-office communication and task management, Skype and Trello. These tools are not performing at the same level alternative tools could be. This report will outline the benefits of switching to two new tools, Slack and Trac, and will provide recommendations with supporting data that will show how switching to these new tools may help increase productivity at SKI.

Purpose

This report is meant to offer a recommendation to the management team of SKI, with supporting data, regarding why the company should change from using Skype and Trello to using Slack and Trac. The communication and task management tools used by a company during the development of a software project can have a large impact on how quickly tasks can be completed as well as how well issues are tracked during the development process. A survey was handed out to the members of the company to assess the attitudes held by team members about the potential change, interviews with Craig Martin and Kevin Brown were conducted to analyze the feasibility of the change as well as to hear any concerns the management team has about the new tools. Secondary research was conducted to gather information on the various features offered by Slack and Trac as well as the current tools, Skype and Trello.

Definition of Terms

You are already familiar with the current tools, Skype and Trello so I will only provide a brief definition of the proposed tools, Slack and Trac.

Slack

Slack is a popular team collaboration tool that provides companies with a customizable chat platform with built in integration for a number of other services and tools. Below I have provided an image of the Slack interface using a sample team I created to test the capabilities of Slack.

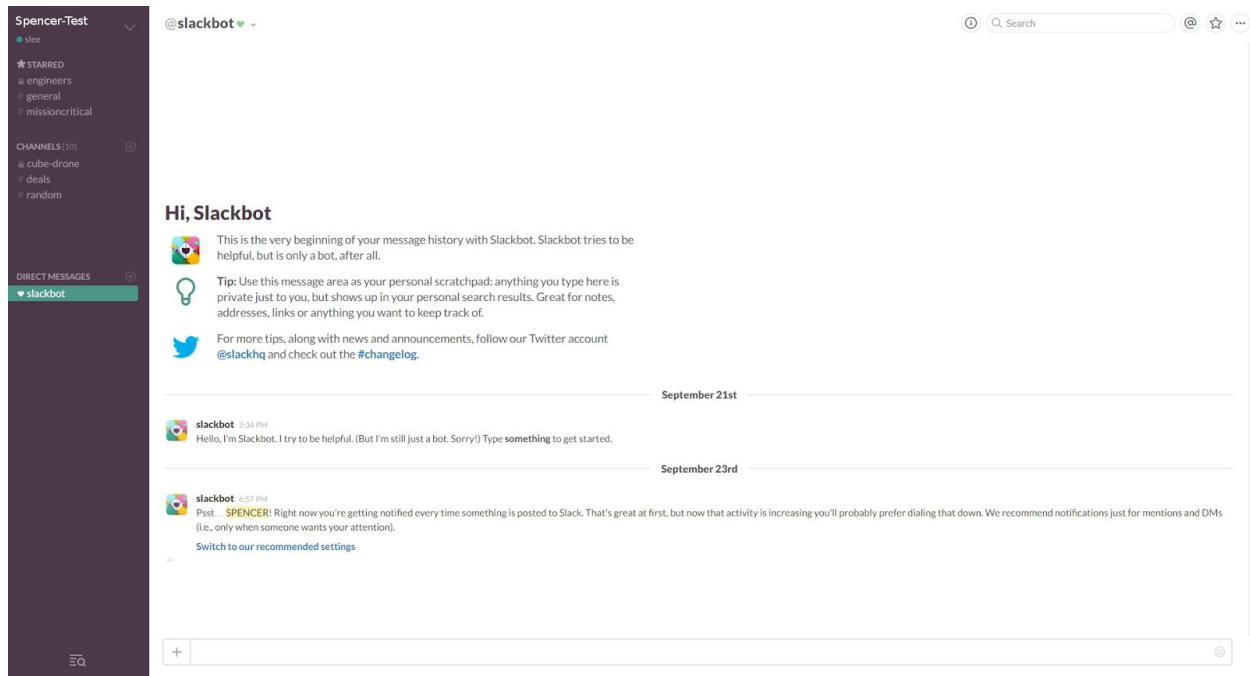


Figure 1 The Slack User Interface

Slack and Skype's similar user interface should make the transition simple.

Trac

Trac is an open source issue tracking tool that SKI has used on previous projects. It is a effective tool for tracking detailed issues such as bugs or new features in the form of tickets and keeps a history of every change made to each ticket so it is easy to determine who has worked on specific issues or made changes to the project.

Methodology

Surveys were distributed to the thirteen full-time employees of SKI, of which nine were completed. The survey was designed to analyze how members of the company feel towards both the current tools and the proposed alternatives and to gauge the willingness to switch to

Slack and Trac. All questions on the survey used a seven point Likert scale with option one being the lowest agreement with the question and option seven being the highest agreement with the question. The surveys were distributed on October 22, 2015 with responses collected until October 27, 2015. Analysis of the survey data took place on November 1, 2015. Interviews were conducted with SKI's COO, Craig Martin, on October 29, 2015 and the current project manager, Kevin Brown, on October 30, 2015. In addition to primary data collection, secondary data was gathered from online sources with regards to the features of the current and proposed tools as well as reviews of the tools and other possible alternatives. An analysis of this secondary data was performed to identify the strengths and weaknesses of the tools discussed in this report and to find any other potential tools.

Scope of Inquiry

This report addresses several areas of inquiry:

- What features are the current tools lacking?
- What features do the proposed tools offer?
- How much work would be required if the company were to switch tools?
- What would the financial cost of switching tools be?
- How do members of the company feel about changing tools?
- Are there any competitors to the proposed tools?

Conclusion

This report will be concluded by summarizing the research and analysis of data regarding the benefits of changing from Skype and Trello to Slack and Trac and will offer a recommendation

to the management team of SKI as to whether the company should adopt using either Slack, Trac or both tools.

Advantages of the Proposed Tools

Advantages of Slack

The primary advantage the Slack has over Skype is support for integrated plugins that allow for many details of the project to be accessed from a single source. After investigating the Slack website (<https://slack.com/>) I have discovered that Slack has build in integrations with several tools we already use at SKI including the Jenkins CI service, Subversion as well as the other proposed tool, Trac. These integrations make it easy to keep track of what is happening in the project without having to open multiple programs or web pages. Another advantage that Slack provides is that it is isolated, each company creates it's own Slack team which employees then join. This means that unlike Skype, where many team members use the same account for personal and business contacts, all content on Slack will be work-related. Because of this isolation it is also possible for administrators of the SKI Slack team to check message logs in chat channels or direct messages. Slack also allows users to search messages in a channel or conversation for specific keywords and archives files that have been sent for quick retrieval.

This list of advantages is supported by a software review from pcmag.com

(<http://www.pcmag.com/article2/0,2817,2477507,00.asp>) which does an excellent job of

highlighting both the benefits and limitations of the tool.review from pcmag.com

(<http://www.pcmag.com/article2/0,2817,2477507,00.asp>) which does an excellent job of

highlighting the benefits and limitations of Slack.

Advantages of Trac

The primary advantage Trac has over Trello is that all tasks, bugs and issues are stored in one place. Currently with Trello bugs are stored in a separate board from tasks, tasks that are passed between the art and engineering departments have duplicates on multiple boards and have fallen out of sync in the past and changes have been made to the system with little or no documentation explaining what was done or even who made the changes. By moving all of the tasks and bugs from Trello to Trac it will be easier to keep tabs on who is handling each ticket and what changes they have made. Trac provides integration support with SKI's version control software, Subversion, which allows for changes and comments on Trac tickets to directly reference a specific version of the project including a link to the changelog for that version. Trac can also be integrated with Slack so that every time a change is made a message is posted in a specified channel so everybody can stay up to date with little effort. You will already know that SKI has a Trac system set up from a previous project which is currently not being used so it would be straightforward and cost the company little time and money to make the transition. Since several SKI employees worked on the past project with Trac they will be able to help new users adapt to the tool. Since Trac is an open source tool and highly specialized it is difficult to find reviews of the tool from reputable sources. Because Trac is an open source and highly specialized tool it is difficult to find reviews of it from credible sources.

Limitations of the Proposed Tools

Limitations of Slack

Although Slack has many benefits there is one major drawback to the tool which is that it uses a freemium payment model. This means that although it is possible to use Slack for free there are limitations placed on several features, most importantly, how many messages are stored (ten

thousand for free users, unlimited for paid users) and the number of service integrations allowed (ten for free users, unlimited for paid users) (<https://slack.com/pricing>). Since SKI is a small company the limited number of service integrations is unlikely to be a problem if the ten potential integrations are used smartly. However, the ten thousand message limit on storage does reduce the usefulness of the search function Slack offers and any messages more than a few months old will likely be deleted. The cost to upgrade to the most basic paid plan would be over one hundred dollars a month so I do not think it would be reasonable to do so.

Limitations of Trac

The main limitation of Trac is that it can seem quite complicated to a new user. If SKI switches from Trello to Trac there will likely have to be a brief training period while any team members who were not involved in SKI's previous project get comfortable with the tool. The level of detail is the same for every ticket on Trac which can mean that some tickets will seem overly detailed, however I feel that this is preferable to the frequent lack of detail in Trello tickets.

Company Attitudes Towards the Proposed Change

Survey Data:

The first questions in the survey that was distributed to SKI employees asked if they were satisfied with Skype and Trello. Out of the nine survey responses only one employee stated that they were satisfied with Skype and two indicated satisfaction with Trello as can be seen in the graphs below

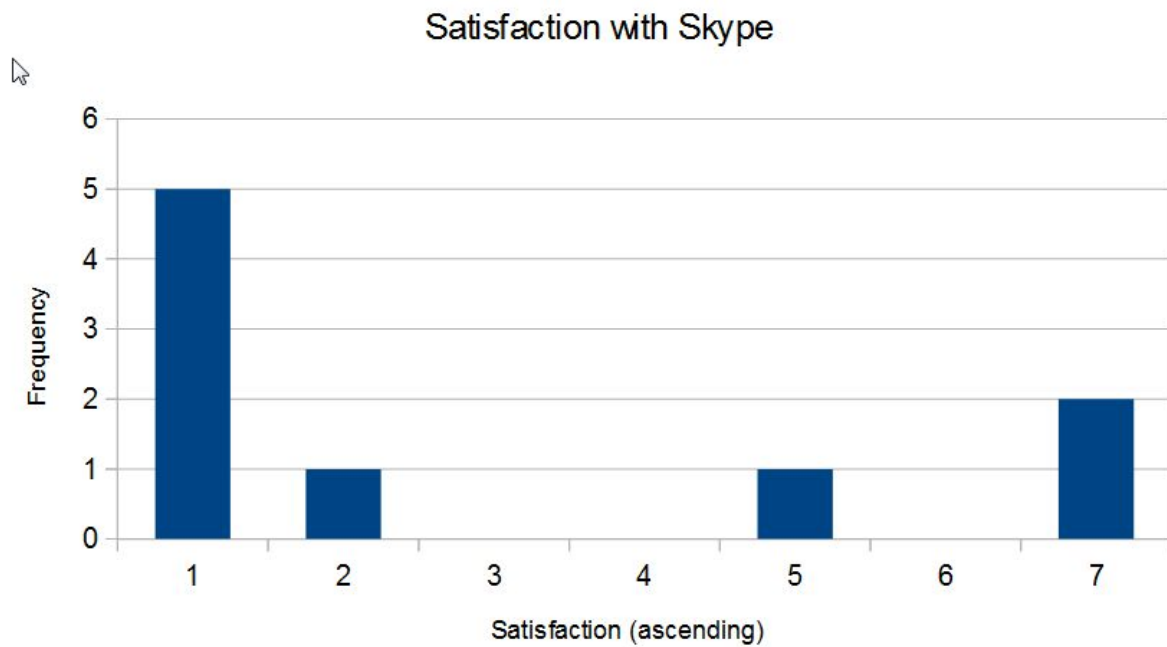


Figure 2 Graphed Response of User Satisfaction with Skype

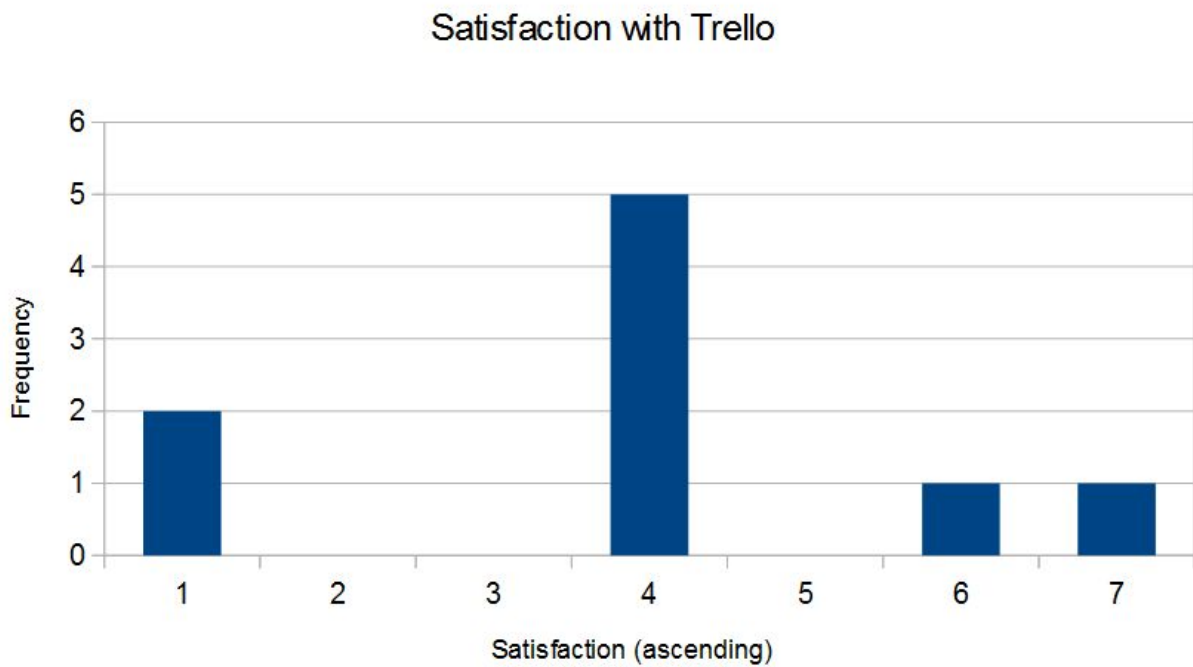


Figure 3 Graphed Response of User Satisfaction with Trello

From this data it is clear that few people at SKI are satisfied with the current tools.

The next questions of the survey asked whether the respondent was aware of Slack and Track. These questions were asked in order to determine if one reason for these tools not being used was due to a lack of awareness. The graphs below show that most people were fairly aware of Trac, which is understandable as it has been used at the company before, but few were aware of Slack.

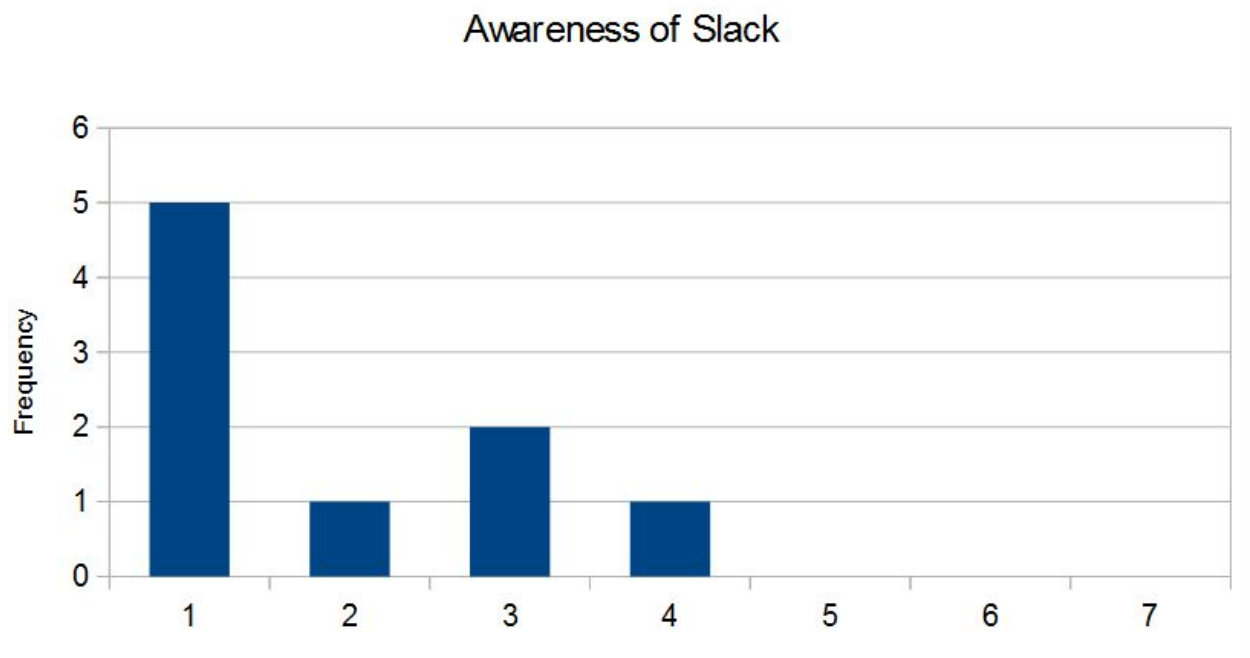


Figure 4 Graphed Response of User Awareness of Slack

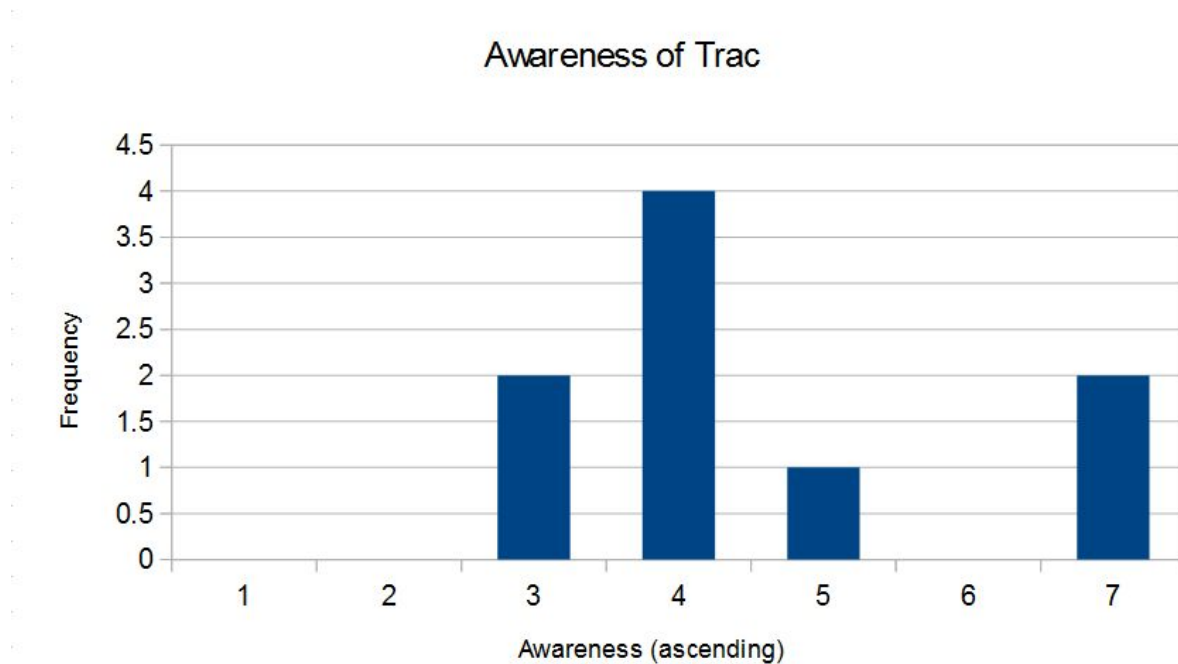


Figure 5 Graphed Response of User Awareness of Trac

The lack of awareness of Slack is not surprising as it is a fairly new tool. This suggests that it might be beneficial to introduce employees to Slack and see how they feel about the features it provides.

The next set of questions asked if the respondent would be willing to attend a meeting during which the features of Trac and Slack were explained. Support for these meetings was low which I believe could indicate either a lack of desire to learn about the tools or a general aversion to meetings. Below are the graphs for this set of questions.

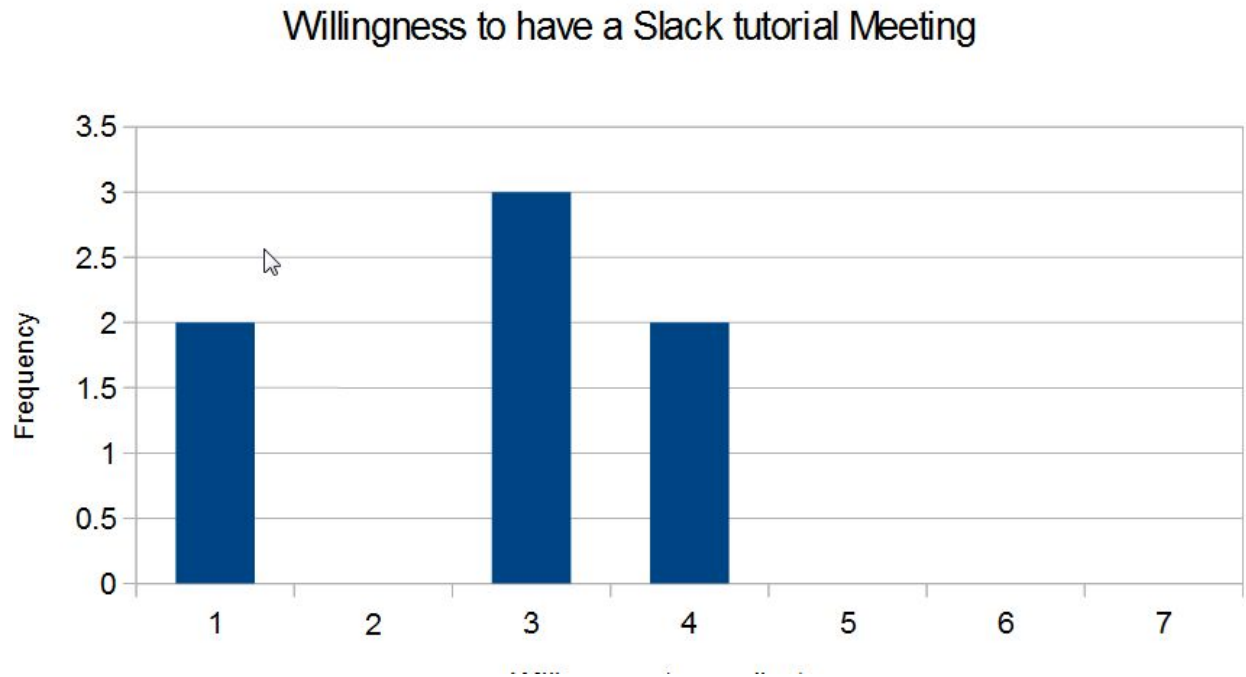


Figure 6 Graphed Response of User Willingness to Attend a Slack Tutorial Meeting

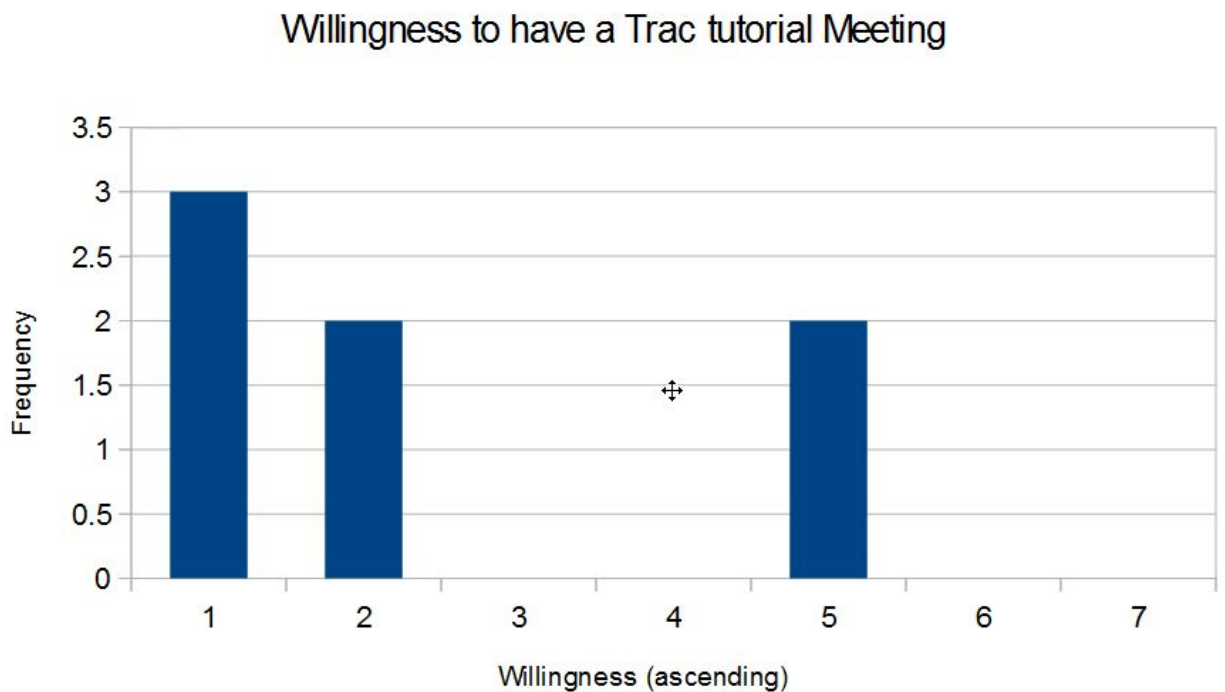


Figure 7 Graphed Response of User Willingness to Attend a Trac Tutorial Meeting

The Final set of questions asked how willing the respondent would be to change from Skype to Slack and Trello to Trac. Support for changing to Slack was extremely positive which support for Trac was still positive but had more answers in the middle range of the scale. Below are the graphs illustrating these responses.

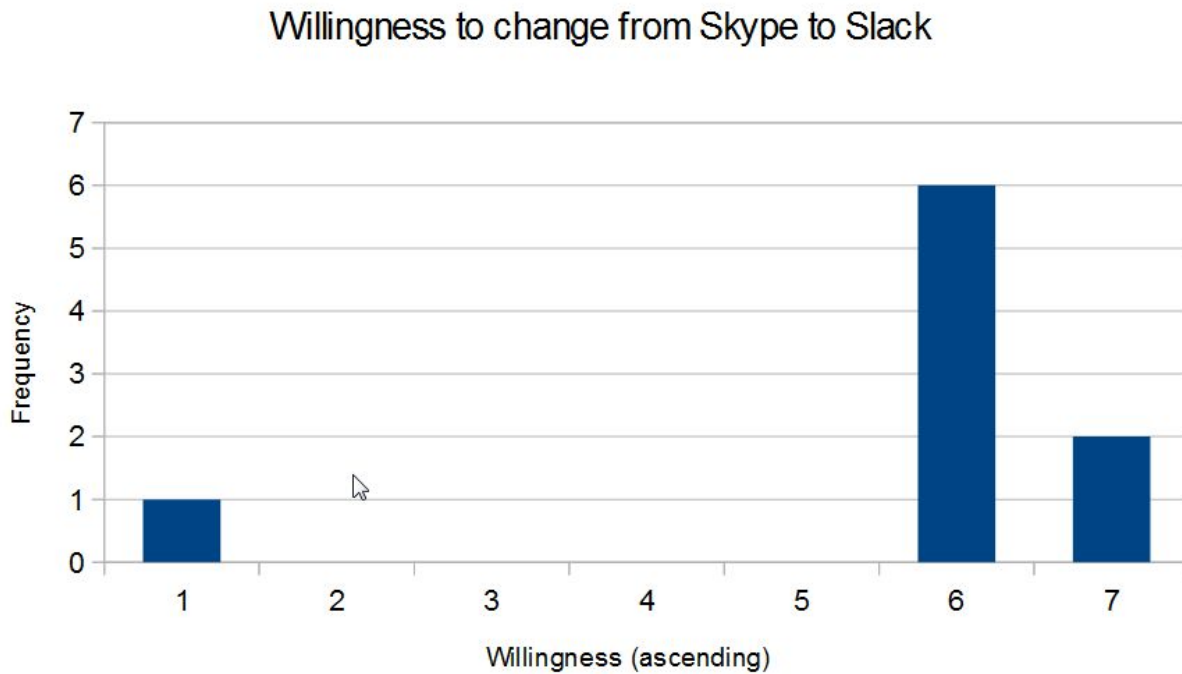


Figure 8 Graphed Response of User Willingness to Change from Skype to Slack

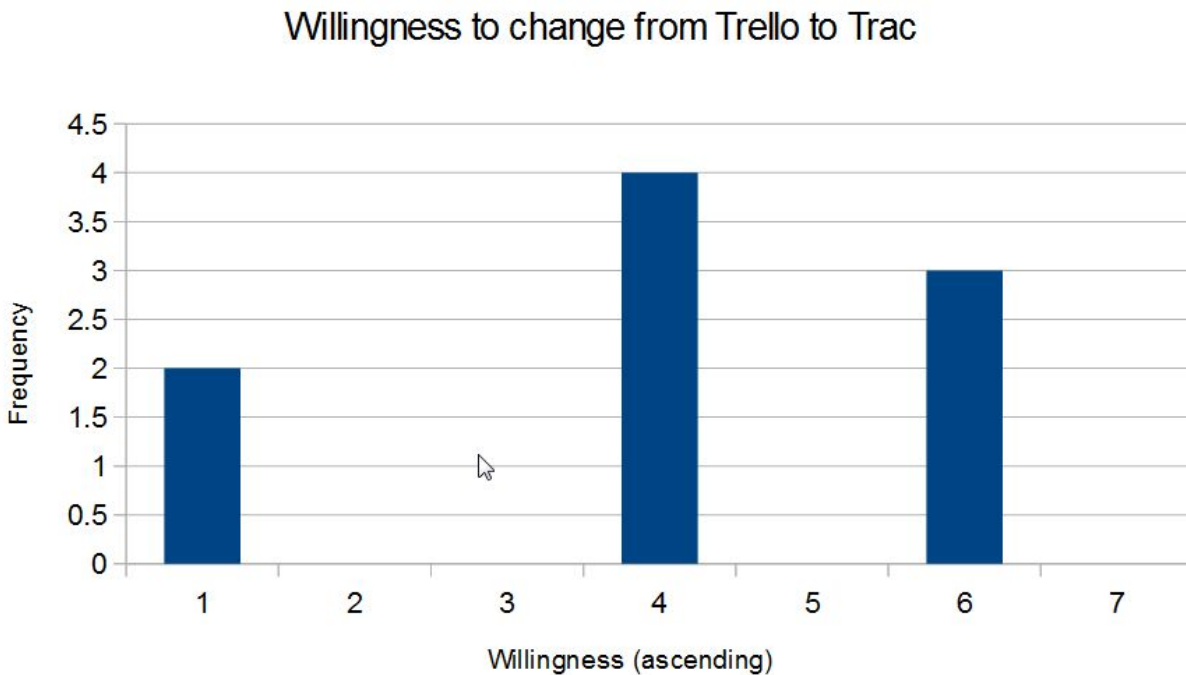


Figure 9 Graphed Response of User Willingness to switch from Trello to Trac

There was space left at the end of the survey questionnaire for additional comments but it was either left blank or did not provide any additional useful information.

Interview with Kevin Brown

I interviewed Kevin Brown as we have discussed the potential change to Slack and Trac prior to this report. Through his research Kevin found many of the same advantages and limitations in Slack as I did in my own research of the tool, with his major concern being the ten thousand store message limit in the free version of Slack. Kevin was primarily responsible for the change from Trac to Trello at the beginning of SKI's current project and stated that at the beginning of the production cycle for the new project there was a lot of R&D which was better supported by

the open ended ticket system Trello provides rather than the more detailed, closed form tickets of Trac. The full interview with Kevin can be found in Appendix II.

Interview with Craig Martin

As COO Craig will have the final say on whether SKI goes through with this transition or not, I felt it would be helpful to get his insights on the proposed change. Craig feels similarly to Kevin in that any additional work caused by the transition will be negligible compared to the benefits offered by Slack and Trac. Craig confirmed that SKI already has a Trac server running from a previous project and it can be repurposed to be used with the current project. The full interview with Craig can be found in Appendix II.

Conclusion

Summary of Findings

After analyzing the survey data I have collected I believe that there is a large amount of support within the company for moving from Skype to Slack and although the support is not as strong I think the move to Trac will also be met with a positive response. The fact that Trac can be integrated with Slack further strengthens my belief that changing to both would be the most beneficial decision for the company. My interviews with Kevin Brown and Craig Martin both indicate that the management team supports this proposal and is aware of the potential overhead. The secondary data I have collected supports my findings on the advantages and disadvantages of Slack. Unfortunately I have not been able to find a review from a credible

source regarding the advantages and disadvantages of Trac other than the Trac website (<http://trac.edgewall.org/>). This is likely because Trac is a highly specialized and open source product which is not widely used.

Recommendations

Based on my analysis of the primary and secondary data I recommend that SKI switch from using Skype and Trello to Slack and Track during the transition between two development sprints. Switching management tools during a sprint transition will minimize disruptions to productivity since the beginning of a sprint is often spent discussing tasks and researching new features that are being implemented.

Appendix I

A copy of the questionnaire given to SKI employees

Attitudes Towards Adopting Slack and Trac as Company Communication and Issue Tracking Software

I am an undergraduate student at UBC engaged in a technical writing project. This survey seeks to obtain primary data for analysis for an investigation concerned with changing the primary communication tool at SKI from Skype to Slack and the primary task management tool from

Trello to Trac. Together with reviews of the software from secondary sources and interviews with the management team, data gathered from this survey will be used to provide a recommendation regarding the feasibility and benefits of changing from the software tools Skype and Trello to Slack and Trac for communication and issue tracking. The survey is 2 pages and consists of 8 multiple-choice questions with room for comments at the end. The survey should take no more than 5 minutes of your time to complete. Your responses are voluntary and anonymous. Thank you, I appreciate your participation in my survey.

Please circle the most appropriate number for each question.

1) Are you currently satisfied with Skype as the primary chat and communication tool at SKI?

Not at All Satisfied			Somewhat Satisfied			Very Satisfied 1
2	3	4	5	6	7	

2) Are you currently satisfied with Trello as the primary task management and issue tracking tool at SKI?

Not at All Satisfied			Somewhat Satisfied			Very Satisfied 1
2	3	4	5	6	7	

3) Are you aware of the chat and communication tool Slack?

Not Aware at All			Somewhat Aware			Very Aware
1	2	3	4	5	6	7

4) Are you aware of the task management and issue tracking tool Trac?

Not Aware at All

Somewhat Aware

Very Aware

1

2

3

4

5

6

7

5) If you are not aware of Slack or would like more information on the tool, would you be willing to attend a meeting in which Slack's features are discussed?

Not Willing at All

Somewhat Willing

Very Willing

1

2

3

4

5

6

7

6) If you are not aware of Trac or would like more information on the tool, would you be willing to attend a meeting in which Trac features are discussed?

Not Willing at All

Somewhat Willing

Very Willing

1

2

3

4

5

6

7

7) Would you be willing to switch from using Skype to Slack as the primary chat and communication tool at SKI?

Not Willing at All

Somewhat Willing

Very Willing

1

2

3

4

5

6

7

8) Would you be willing to switch from using Trello to Trac as the primary task management and issue tracking tool at SKI?

Not Willing at All

Somewhat Willing

Very Willing

1

2

3

4

5

6

7

Do you have any additional comments regarding the potential change of tools?

End of Survey

Thank you for your time, your input is appreciated

Appendix II

The full interview with Kevin Brown

Interview Questions Regarding the Potential Change from Skype and Trello to Slack and Trac

Name: Kevin Brown

Position: Project Manager

Date: October 30, 2015

Interviewer: Spencer Lee

I am an undergraduate student at UBC engaged in a technical writing project. This interview is meant to obtain primary data for analysis and an investigation. Together with reviews of the software from secondary sources and company-wide survey data the data gathered from this interview will be used to provide a recommendation regarding the feasibility and benefits of changing from the software tools Skype and Trello to Slack and Trac for communication and issue tracking. The survey is 3 pages and consists of 8 open ended questions with room for additional comments at the end. The interview should take no more than 15 minutes of your time to complete. Your responses are voluntary and the interview can be stopped at any time. Thank you, I appreciate your participation in my interview.

What is your role at Skunkwerks Kinetic Industries (SKI)?

I coordinate and oversee the production schedule for the game team as well as programming game logic and milestone features.

Have you investigated the features of the chat and communication tool Slack?

If yes: Do you feel the features available through Slack would make it a good fit at SKI?

If no: Would you be interested in learning more about the tool?

Yes; Slack offers the use of integrated plugins that allow for finer grain details of the project progress to be accessed from a single source. It also archives files presented for download so that they can be shared and accessed by different team members immediately or after the initial upload.

SKI used Trac on a previous project. What were the reasons for switching to Trello for the current project?

- Early production cycle (compared to previous project) required a more high level/abstract approach to task management; there was also a lot of R&D so it made more sense to use open ended tickets
- Trac has more overhead in terms of creating new tickets and exposing each team member to the entirety of the project progress; this was accomplished well using Trello in the early dev stages

Are you aware that that switching tools from Skype and Trello to Slack and Trac can be done at minimal cost?

Depends; Slack for business has a subscription fee as does Trello ("Trello Gold")

- Trac is free as far as I know
- Skype also has a 'business level' app class that is paid
- basic versions can be used of all of these apps as well

Do you feel that changing the office communication tool from Skype to Slack would have a positive effect on productivity and ease of communication?

Yes; as PM for the project I know that it will make a huge difference for me personally;

being able to see a lot of information in one place (ie. what is being done right now, who is making commits and closing tickets) would be hugely valuable and a time saver (no need to check multiple sources all the time for project progress)

A simple feature like being able to download a file "now" or "later" is a small feature that has a huge advantage over Skype's "now or never" style downloads. This is especially true when documents have multiple iterations. Having to constantly ask people to "resend" files is a waste of time and hurts productivity.

Do you have any concerns regarding the potential switch from Skype to Slack?

- hitting a paywall (Slack has max number of messages that it retains; this means we are losing our message history over time; I believe the number is ~10 000 messages)

Are there any other communication or task management tools that you have investigated as potential replacements for Skype and Trello?

Honestly? not really, though I'm sure there are many. Trac was favoured for its SVN integration and the previous experience we've had with it. Slack was favoured because of its toolset and the usability of its application (on mobile and desktop)

Do you have any additional comments regarding this proposed change?

There are always risks when switching to new communication technologies, but in this case I think it's worth it. I expect some overhead/learning curve for getting everyone using Slack/Trac efficiently but the relative gains should make it worthwhile.

End of Interview

Thank you for your time, your input is appreciated.

The full interview with Craig Martin

Interview Questions Regarding the Potential Change from Skype and Trello to Slack and Trac

Name: **Craig Martin**

Position: **Co-Founder and COO**

Date: **October 29, 2015**

Interviewer: **Spencer Lee**

I am an undergraduate student at UBC engaged in a technical writing project. This interview is meant to obtain primary data for analysis and an investigation. Together with reviews of the software from secondary sources and company-wide survey data the data gathered from this interview will be used to provide a recommendation regarding the feasibility and benefits of changing from the software tools Skype and Trello to Slack and Trac for communication and issue tracking. The survey is 3 pages and consists of 8 open ended questions with room for additional comments at the end. The interview should take no more than 15 minutes of your time to complete. Your responses are voluntary and the interview can be stopped at any time. Thank you, I appreciate your participation in my interview.

What is your role at Skunkwerks Kinetic Industries (SKI)?

Co-Founder and COO

Have you investigated the features of the chat and communication tool Slack?

If yes: Do you feel the features available through Slack would make it a good fit at SKI?

If no: Would you be interested in learning more about the tool?

Yes, I have heard about Slack because it started as a local Vancouver startup.

SKI used Trac on a previous project. What were the reasons for switching to Trello for the current project?

We did not use Trac because we were worried it was too specific for the new project. The R&D phase worked better with the Trello format. Now that we have more clearly defined milestones and everyone has specific tasks to work on this would be a good time to switch back to Trac.

Are you aware that that switching tools from Skype and Trello to Slack and Trac can be done at minimal cost?

Yes. SKI already has a Trac server running from a previous project so we can re-purpose that for the current project since it is not currently being used. I believe there is a free version of Slack that should do everything we need.

Do you feel that changing the office communication tool from Skype to Slack would have a positive effect on productivity and ease of communication?

Yes. The search functionality in Slack would make it much easier for us to find older messages and archived downloads means that files do not have to be sent multiple times if they are needed again at a later date.

Do you have any concerns regarding the potential switch from Skype to Slack?

The Integrations with some of our existing services might end up being difficult since we do not know how the Slack integrations work but it should be worth it to get them up and running.

Are there any other communication or task management tools that you have investigated as potential replacements for Skype and Trello?

We haven't taken a serious look at any other tools for either communication or task management.

Do you have an additional comments regarding this proposed change?

I think the overall benefit of switching to Slack and Trac will far outweigh any overhead caused by the transition. Also I hear that Slack has animated GIF support so that should be fun.

End of Interview

Thank you for your time, your input is appreciated.

Works Cited

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