Dr Mark Lochrie

Dr Mark Lochrie has been designing and developing mobile and web applications since 2006, researching the impact of these applications since the start of his Ph.D. (2008). Over the time of the mobile landscape changing significantly, Lochrie has created a number of 'apps' to investigate the use of community participation in mobile entertainment services (Big Game Huntr, TimeWarpeXplorer, PAC-LAN, Tah!, CheckinDJ) and the revealing of flows in the local economy (BARTER). More recently, his role within the Media Innovation Studio has allowed him to continue his work with communities when developing data related projects from Sir Ranulph Fiennes's Data Dashboard for his Marathon des Sables experience to designing Location Based Games with school children which generate data, educate and encourage participation around air quality issues. More recently, IoT has played a significant role within his research; first with EKKO (connecting paper to the Internet to generate date) and through enabling children to express their creativity through the means of creating and sharing on the maker platform littleBits.

Prof Paul Egglestone

Paul Egglestone is Director of Research and Innovation in the College of Culture and the Creative Industries, Director of the Media Innovation Studio and Professor of Creative and Digital Technologies. A former independent TV producer working for BBC, ITV and Sky on regional and network programming, he established UCLan's international research studio for media innovation in 2012. He is a founder member of the World Association of Newspapers and News Publishers (WANIFRA) Global Media Alliance. He is a co-founder of the Civic Drone Centre. Paul has worked with journalists, filmmakers, producers, photographers, games designers and artists from the BBC, Sky TV, The Independent, The Times, the Guardian, Haymarket Media, Johnston press and Trinity Mirror to collaborate on a series of projects addressing the challenges posed by digital convergence. Paul is most interested in getting involved in a range of activities that genuinely make a difference to people's lives.

A messaging app for teams who…. think differently[1]

Abstract

Instant messaging predates the Internet, it has only been in the last decade we have witnessed these products feature in many platforms, from entertainment consoles to enterprise applications. Messaging, now performs centre role within any communication service, from project management to social media to document editing tools, it has undoubtedly been propelled by the use of designing for play to encourage participation. This can be due to introduction of social platforms and the need to author and consume stories; emoji's, GIFs, personalisation and moddable tools are great examples of how people interact on these platforms in a playful manner. It is these characteristics that encourage users to participate. This following paper introduces a messaging platform, Slack; and how it is used in promoting collaboration online through the design of tools that reward users to create content or do it in such a way that makes it an enjoyable experience. It outlines examples on ways in which the Media Innovation Studio has adopted the platform and built third party application on its system.

Keywords

Introduction

Before we can talk about the communication systems we use today, it is important to identify the origin where they began. It would be appropriate to begin this paper with Jarkko Oikarinen's Internet Relay Chat (IRC) [8]. Oikarinen, developed the first IRC client and server whilst working at the Department of Information Processing Science back in 1988. Soon the communication protocol spread across Finland with Universities from Tampere and Helsinki starting to run their own instances of the platform. It wasn't long before other Universities followed suit. A year later and it was running across 40 servers worldwide, albeit attracting an averaged 12 users per server. Since then, we have seen many iterations, similar services and even platforms that have been inspired by the first IRC server. Moreover, more than two decades later and we saw other chat protocols come and go from Microsoft's MSN messenger and AOL Instant messenger, both clearly aimed at the teenager market. Alongside this, other platforms were starting to develop consumer led services that operate at enterprise levels e.g. Skype.

However, it isn't until recently we have truly witnessed a full circle in terms of a communication company developing on from the previous known IRC platform. Slack[2] is a team collaboration tool with searchable messages and files, chat like application, sometimes referred to as groupware [2]. Over the last year Slack has truly found its place within the team collaboration platform market [7]. With an evolving active participation from 12,000 to 1.7 million active daily users, with the Media Innovation Studio (MIS) being proudly one of. Valued at $2.8B, Slack is changing the workplace communication for the better. Slack enables teams to communicate directly, publically or private. Alongside its ability to converse and share files, it integrates well with other third party applications and industry platforms, such as Dropbox, Google Drive and now more recently Skype. Slack is more than just a messaging app, it has been built around clever design, a playful vibe and robust. No longer are we seeing design being an afterthought, this has been propelled through enterprise platforms from rich

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[1] Credit to Slack's slogan "A messaging app for teams…."

[2] https://slack.com/

media consumer led applications, we see on a range of ecosystems from mobile app stores to web applications. A perfect example of this the transformation in Salesforce's enterprise platform buying out RelateIQ because of how it was designed for the user experience. Similarly, with Slack, they were not the first to bring a one stop shop for workplace communication, HipChat has been around a lot longer, but without the same focus on design and the user experience as seen in Slack. With emphasis on design, Slack is built around colours and themes, with an added extra of user personalisation (users can now personalise their emojis with custom images). Furthermore, the platforms main content structure best resembles those seen on social networks, with linked content displayed inline, for example the way users gain additional content from a URL containing video, audio or GIF content; a thumbnail is displayed with a brief description. Over the few years, social media has taught us that people enjoy sharing stories and content (User Generated Content), we are all searching for that 15 minutes of fame. It has become a form of entertainment for both consumers and authors. Staying true to its ever inspiring socialness, Slack has its own language, although heavily inspired by Twitter; users are identified using the @ symbol and channels are #, ironically Twitter thought the hashtag would be considered too technical, Slack has adopted it as its logo. Even the brand can be used as a verb similar to how we describe the process of tweeting, can be achieved with Slack; 'to Slack', 'Slack me it', 'have you Slacked that?'.

Background
The Slack Game

It's no surprise CEO and Co-founder, Stewart Butterfield comes from a game design background, its footprint is all over Slack from its bots, MODs and Multiplayer Co-Ops. The essence of a game is not the outer trappings (gamification) but the journey towards mastery. However, it does resemble aspects of a Massively Multiplayer Online game (MMO) based around player creativity. There is no clear game mechanism of Slack, instead it's built around conversational and helpful bots. Your first bot encounter is when you first use the tool, similar to a First Person Shooter (FPS) and you have trained how to use the weapons and understand the tasks. The slackbot familiarises users to build up skills required to use the tool known as onboarding. Onboarding allows users to build new skills (habits), unlock new powers and challenges. One other aspect of gaming that Slack adopted, was the ability to modify ("MOD") aspects of the platform. You can think of Slack as a blank canvas that allows developers to build upon through MODs using the Application Programming Interface (API)[3] and customisation functionalities. This allows people to make Slack their own, share and extend. Which brings a sense of ownership rather than simply consumership. Therefore, it is clear Slack is the product of game thinking. Through its openness, Slack can continue to evolve and keep fresh by focussing on its bot and constant discussion rhythm, interactions, co-op feel and personalisation which based on existing research is more powerful than simply rewarding users with points, rewards and leaderboards [3].

The Slack Operating System (OS)

It is easier to think of Slack as the OS of the messaging world. Similar to the App Stores within the mobile ecosystem, Slack has opened up its tool for developers to create applications that sit on its platform. Slack needs their party developers, because without the services they offer, Slack is just a simple messaging tool. These apps appear native to the main application and available across its device range. Slack's app store allows users to discover extra functionalities into the main tool. The integrations developed by Slack and other developers are as popular to the platform as the platform itself.

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[3] https://api.slack.com/

How to play Slack

As previously mentioned, Slack allows users to share files through its integrations service. Each external service has its own way of being integrated for example when a Dropbox link is shared over Slack, slackbot identifies this as Dropbox and prompts the user with the following message *"That looks like a Dropbox link. Do you want us to import it and all future Dropbox links from you? Yes • Just this once • Not now • Never"*. This then, enables Slack to handle the file according to how the user required. This process exemplifies the playful nature of the platform through its responsive interaction design, and interface feedback during the task. Whereas, Skype is integrated differently. In order for a user to launch Skype, Slash commands are used, these, like many other aspects of Slack date back to IRC. The slash command tells the bot within Slack to perform an action. These actions range from launching an external application like Skype or broadcasting to the channel. Slack also allows third party developers to create their own Slack commands of which we will discuss later in this paper. Figure 1. is a screenshot of the types of actions one can perform on Slack. Typical commands like away from keyboard (/away), muting notifications (/mute) and obtaining channel member lists (/who) can be found. As with anything on the Internet these days you can add GIFs into Slack using the Slash command and the integration of Giphy[4].
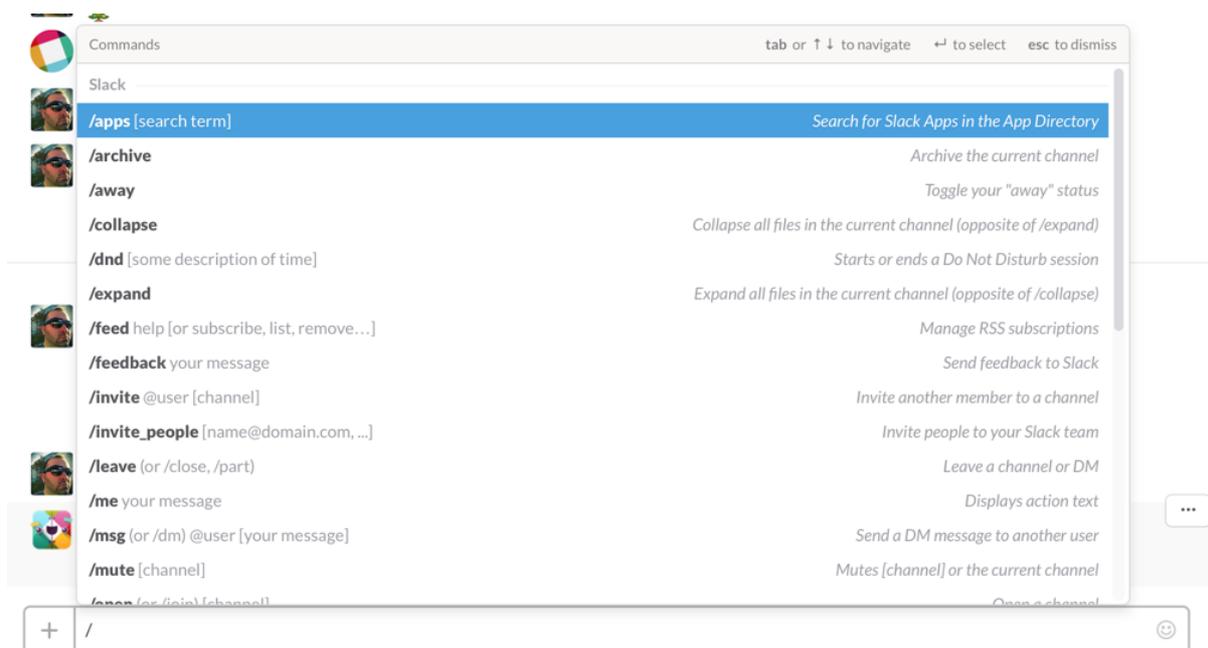

Figure 1.Screenshot taken from the Media Innovation Studio's Slack team console, depicting the use of the slash commands.

Over the last six months MIS has adopted Slack for internal and external communications on a number of levels. We have posted 9,700 messages, shared 365 files, built 3 integrations and adopted a further 10. What makes Slack different is its ability to allow third party developers access to its platform via its API. To which is of particular interest to this paper, investigating the potential of repurposing Slack for different applications. Through the third party developer platform we explored the use of Slack for; publishing, notifications and storytelling. Alongside its communication premise, we decided to add team building and encouraging inter team

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[4] http://giphy.com/

communication through telling better stories both internally and externally. As the main communication in Slack is based around channels ('chat rooms') and its members within, we allowed members to create their own channels resulting in a range of purposes from individual projects to team experiences ('postcards') and research driven objectives from funding calls to conference/journals calls. With the help from Slack's bots (similar to the Microsoft paper clip) we are continuing to develop Slack as a replacement for; internal emails [5], coffee mornings and project update meetings and become that little digital assistant who encourages you to communicate efficiently.

Slack MODs
TWTWTW
With a growing interdisciplinary team, we found that a management technique through weekly debriefs in a "That Was, The Week, That Was!" email was born out of a need to communicate the practices, successes and to share in failures and lessons learned across a dynamic and highly motivated team of researchers. The aim of the weekly summary was in part to ensure everybody knew and understood what everyone else was doing, just so they could work out whether there were potential synergies and crossovers with their own work.

We took this approach and migrated it onto the Slack platform. Opening up the process onto a shared platform encourages researchers to share progress and stay goal focussed. Currently the weekly debrief can be added prior to the cut off time/date of Friday 5pm, when the weekly report is produced and distributed. The bespoke application looks for a specific keyword "[twtwtw]" inside people's posts, this post is then retrieved and stored externally for text manipulation and proceeded by distributing the report back to the team via the #twtwtw channel (Figure 2). This method of extracting posts is also being used to distribute content written in Slack onto the Media Innovation Studio's website through MISMoments (Figure 3) and on Twitter.
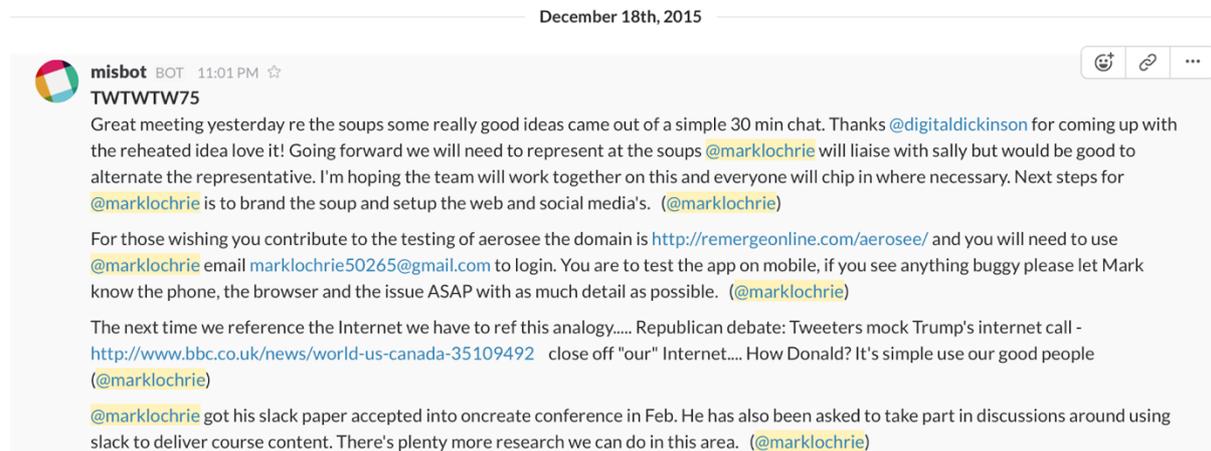

Figure 2. Screenshot taken from the Media Innovation Studio's TWTWTW channel, showing a typical weekly report. .

Figure 3. Screenshot taken from the Media Innovation Studio's website, showing the use of MIS Moments.

It's no secret, 2016 will be the year of the virtual assistant (bot); Facebook is developing its 'M' assistant, Amazon has its Echo, Google's with their Hangouts Messenger, Siri etc. are all shaping their own versions of the virtual assistant to assist consumers in being more efficient in their daily lives. Software companies are also investing resources into experimenting with ways to automate test procedures through platforms like Jenkins[5]. Furthermore, The Media Innovation Studio alike, are also experimenting with ways to automate some of their internal communication processes.

'Debbie' the virtual assistant

As the team evolves (currently now consisting of 9 main members and 25 collaborators/partners), with an increase of projects and team members becomes an issue with project updates and meetings taking up too much time and resources. If all 9 members take 5 minutes during the meeting to update everyone about their project this would take up 45 minutes, without time for discussions and problem solving. By adopting the Slack bot, slash command we can automate this process of data collection. The bot (named Debbie) reaches out weekly (Thursday mornings ready for the team meeting later that day) to each member of the team via the a private message, prompting the user with tailored questions about their project updates, based around Who/What/Why/Where/When such as; What are you working on right now?, who did this involve?, what do you need from the team to help you? etc. This helps keep updates succinct and focus the entire meeting. 'Debbie' then collates all the responses into a report and compiles this report alongside the agenda for the meeting in a physical but also digital form (via the Slack #meeting channel). Now when updates are given people are only spending one 5 minutes inputting the updates and then gives the team more time for discussions. Some may think this is a way of closing down voices, however we believe

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[5] https://jenkins-ci.org/

it is a way of maximising input, time and resources in order to evolve the automated process. Slack and virtual assistants could truly revolutionise the way projects are running. What if a bot could collect questions about a project during developments that could be used as a way of remembering things during the early stages of a project, or force new users to introduce themselves to the team with predefined questions about how they are and what they do (this could be of particular interest with the way in which the Media Innovation Studio is collaborating with external members), or be used as a way of updating a Gantt chart in real-time which could generate weekly reports or even as a way of being the meeting runner, whereby each member would get the agenda, and make people aware of any general announcements which would decrease meeting times and make people more productive.

"when we do things, we do it one at a time, a robot can do things in parallel"

The next step for 'Debbie' is to add a gameful design to encourage participation. This has arisen due to some members of the team not always responding in time or ignoring the private message. This requires the virtual assistant having a contingency plan, by making the process more game like and playful [9] we can encourage members to participate. For example if a user does not respond within the allocated time, the application could bombard them with repeat messages, or fill in the project update with random comments, or at the end of each week each member has a score against their name which is displayed online through a data dashboard. The bot now acts like a real member of the team.

Furthermore, Slack also plays well with automating procedures of other platforms. Services like GitHub, Travis, Help Scout etc., can stream data into Slack. This means that members of the team can see a full record of transactions in one place. We implemented something similar to this with the office coffee machine. It became an issue that no one would clean out the machine and it always depending on one person do it. We developed an application on Slack to randomly (fairly) select someone on a weekly basis to clean out the coffee machine, originally we did this through the private messaging, but realised there it no accountability when it's private. So we created a #housekeeping channel where the message gets posted. This allows other members of the team to see whose job it is to do the deed.

Internet of Things (IoT)
Although Slack is a software based medium, the Media Innovation Studio has explored the use of combing the written word (from Slack) with an Internet of Things (IoT) platform. In the first instance we conceptualised the idea of prompting the watercooler moment online and use Slack to encourage people to get into the Christmas spirit. During Christmas 2015, we set up a playful Webhook[6] to reward team members who post the 'Christmas Tree' emoji, through the combination of a Slack post and a web script, treats were dispensed from a gumball machine connected via littleBits (Figure 4).

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[6] https://api.slack.com/outgoing-webhooks

Figure 4. Photograph of the Naughty or Nice sweet dispenser, an IoT object connected using littleBits and Slack.

The dispenser decides if said person has been naughty or nice and if nice, sweets are provided. Although very gimmicky, we have found that it created online water cooler moments.

Discussion

This increasingly ubiquitous message service has become a popular topic amongst businesses and the media landscape. Each organisation operates Slack differently, this is one of its key features, the ability to be anything and everything. Many use Slack to centralise notifications; pulling data from external systems and pushing them into channels, it has allowed employees to work more effectively remotely, as they can communicate in real-time their movements or as a way of praising people. Slack has been designed to improve how we work, with its simplistic nature, convenience and notifications, we can work collaboratively anywhere [4, 6], yet it can be considered as a distracting annoyance. It is important to remember, that with this power comes the ability to 'ping' co-workers anytime, anywhere. Although, Slack had feedback on this and introduced a 'Do not disturb' feature which allows a user to mute notifications during certain times. We still need to be mindful about how we communicate on such platforms. One way in which we tackled this was to create a way in which we could share our 'out of office' experience through postcards, team members can post photos and share stories of conference trips, family excursions or just anything that's happened over the weekend they would normally wait until Monday to share over coffee.

This paper has introduced Slack as a platform in encouraging the creative process in collaborating online. It has demonstrated how we have implemented the tool within our interdisciplinary team to create, share and perform daily tasks within the studio [4, 6]. We have assessed our document process and migrated aspect of project management and updates from

a manual paper based system into an automated bot system. Further research is required to see if such activity will continue and to investigate the efficiency of using such tasks. Further research is required to fully understand how people are using the channels within Slack [1], for example the use of the hypothetical sub channel or having one channel across two teams (which is not currently possible) blending learning for the virtual and physical worlds [10]. Furthermore, there is potential to conduct studies around how people interact with the channels, perhaps a channel is inactive for a period of time, a bot could suggest this channel be achieved or if there is too much discussion in one channel it suggests breaking out into another channel. Furthermore, this could be taken one step further with the inclusion of a smart bot which knows the nature of each channel and understands the messages and suggests that this conversation would be better suited in a different channel. Alongside this, as we tend to blur the lines of a healthy work-life balance, it may become critical that 'TimeOuts' are developed where you can set IoT objects to time you out of the conversations, muting all notifications, until you are ready to come back in. We plan to work on something like this with the use of beacon technology (Bluetooth) and mobile devices, so that when you are in a certain vicinity it announces on Slack that you are active and available.

Finally, since using Slack and building on their platform, we found the potential for building online communities useful through opening up guest accounts, creating a frictionless community experience within a diverse group. Having the ability to continuously converse and share files, has propelled the creative process.

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