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TRUSTED TECH TALKS

WEBINARS • EVENTS • NETWORKING

REMOTE COLLABORATION & PAIR PROGRAMMING



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THE VERY GROUP



Introduction

Businesses were forced to quickly adapt to working from home in March 2020 as the UK Government enforced a nationwide lockdown to prevent the spread of COVID-19. Whilst some businesses had experience in remote working, team management, delivery, and collaboration, many businesses did not, and found themselves struggling to maintain effective teamwork and business processes.

Head of Practice (Software Engineering), Stephen Ashbee, invited Richard Fallon (CTO at Naimuri) and Andrew Beacock (Software Engineering Manager at The Very Group), to discuss the challenges of adapting to remote collaboration and pair programming in software teams and to explore potential solutions and tools.

Richard on Pair Programming

Richard has a strong background in pair programming and has long advocated for it, implementing it into many different businesses. When he first started in the tech space, the timing coincided with the release of an Extreme Programming book, which included an insightful chapter on pair programming. After reading this, Richard implemented this across his company at the time, and has then done so at each company he has worked at, including one where he worked with Andrew.

When he joined Naimuri it was obvious that nobody was pair programming. After conducting an internal survey, results showed that 80-90% of respondents thought pair programming was the most effective way to work, but no one was doing it. After lots of time and effort, Richard managed to get this implemented efficiently... then lockdown happened and everything changed. Teams mostly stopped pairing altogether as they faced unexpected challenges in relation to how to pair programme remotely.

Andrew on Pair Programming

Andrew met Richard when his business acquired Richard's business at the time, about fifteen years ago. Richard had implemented pair programming within the newly merged company, and Andrew saw the huge benefits.

Andrew has worked completely remotely for the last 12 years and has done remote pair programming as part of that process. He acknowledges that there are challenges but also solutions that businesses can implement to enable pair programming and team collaboration when working remotely.

The Impact of Isolation

Impact on Leadership & Team Management

Development teams are made up of a variety of different personalities and characters. Some of those people might be more junior or generally lack confidence. When in the office this can be easy to notice and work with those people to pull them out of their shells and gain confidence. However, remotely that can be more difficult. Pair programming can be a great way to learn, gain knowledge, and therefore gain confidence, but it has to be done in the right way.

Managers need to talk to team leaders to encourage everyone to get involved and get everyone to pair with different people to increase knowledge around tools, codebase, and general programming. If developers are not confident and aren't pairing, the journey to becoming more confident will likely be much longer. Pairing can help if you have the right leaders and people in your teams to help nurture and grow those less confident. The key thing is rotation. People should be constantly pairing with different people.

Additionally, to prevent meeting overload and to also enable those who are quieter to offer ideas, you can make meetings open for those who want to attend or give the option to people to submit ideas in advance. This allows space for people who thrive when on the spot, and also those who benefit from having time to prepare. Quieter people might have the best idea but won't have the chance to share in a meeting as they are often too nervous or get spoken over.

Impact on Pair Programming & Collaboration

When lockdown started some people started to 'go missing'. Not in the sense of hiding or shirking responsibilities, but people were struggling, feeling down, and finding it hard to adapt. Businesses needed to find better ways of working together, and Richard thought that pair programming would be a good fix. However, he was disappointed to find out that since lockdown, it had mostly stopped. There was a key issue with collaboration and working together, and whilst all developers need time alone to focus, interaction is still important for wellbeing and delivery.

It appeared that the moment people weren't sat together physically they stopped pair programming. This could be for a variety of reasons including questions around tooling and what to use as well as figuring out what changes to implement to adapt to the change in physicality. Nobody knew how to change the process.

The Pair Programming Myth

Why Pairing Doesn't Half Capacity

Whilst Richard had always believed in and encouraged pair programming, and a survey that he conducted internally showed that everyone thought pairing was the best thing to do, most people were not pairing. Common reasons include that they thought it would be frowned upon by managers because of the concept that pair programming halves the amount of work that you can get done. That's because of the myth that you're at half capacity when working in pairs. However, this isn't the case. Pair programming is so intense because having someone else with you pushes you to keep working and stay on task, whilst also picking up on issues in real time. Pair programming enables deep focus sessions, and this works in the same way whether you are remote or whether you are next to each other.

The teams that push back are often concerned about not hitting targets, and this causes a reluctance to give it a go. The best way to encourage people to try pair programming is by showing them the benefits. Offer your help, or ask for theirs, and sit together and work through a problem. Showcase how collaboration is time and work effective, and then do this consistently. The work should prove itself, and you have then managed to subtly integrated it. Naturally some developers will be completely against pairing and as a manager you need to be comfortable with a low, natural staff turnover.

The Question on Code Quality

Pair Programming shouldn't be a direct influence on code quality, that comes from hiring great developers and great team members. Whether you are working from the office or remotely, monitoring code quality is important.

To encourage a space of psychological safety and constructive feedback, Richard encouraged his team to adopt a method whereby they review code in groups so everyone has the chance to learn and grow from mistakes and errors without feeling like they are being criticised or blamed. This prevents errors from recurring.





Tools for Collaboration

Andrew briefly talked about a number of tools he has experience with, including VS Code's pairing function, G Suite tools, and Skype for Business. But none of these seemed to quite fit their requirements. Screen scaling aspects in Skype for Business, for example, wasn't built for collaborating on code which lead to a poor user experience.

Instead, Andrew favoured using Type VNC and Windows Remote Access which allowed one user to connect fully to another desktop. This meant that both users had access to the same desktop, could both see in real time what was happening, and could both take it in turns to edit code in real time. Users can then jump on a phone call using a headset to talk at the same time. Video call was of little added value, because most of the time you would be looking at the code rather than the other person, regardless of whether you are in the office or working remotely. Although if you have multiple screens you have the option to open up a video call as well.

Another benefit of using this remote desktop access was that users could do more than just look at the IDE and code; if you want to log onto the server to look at logs and configurations, you can. You can do everything you would be able to do sat next to each other.

Richard has security considerations in his role, so there are issues and concerns around remote access. Instead he suggests tools such as Screen.So, which has the functionality of remote access, with reduced security risk.



Managing Security

Some industries will be more risk averse and strict on data locations. Andrews previous business was so strict that even his PC was remote and he had to remotely access it. The key thing with security is to see what is available, get sign off from specialist cyber teams within your business and then set restrictions, monitoring and limitations. Limit what people can see and have set processes. Security teams need to put control in place without any negative impact on what its needed for, so it's important to find the correct balance between security and functionality / delivery.



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