E: Hello, so what brought you in today?

A: I have this pain in my chest, like a stabbing pain, and my backs been hurting as well

it hurts a lot, it’s really painful.

E: How long has it been since you first experienced the pain?

A: It just started recently, like this morning.

E: Do you feel breathless at all?

A: No

E: Do you have any other medical history?

A: I don’t know…. umm I’m not sure.

E: Are you on any medication?

A: No.

E: Do you have family history of anything?

A: No, not that I know of.

E: Ok so we’ll just run some blood tests and we’ll get back to you with the results

if the pain persisits and sees to be getting worse, you can come back.

Zayna:

Typically in the ER, a doctor will only get 1-2 minutes to try and diagnose their patient.

Which is no time at all.

The case awais and erin just presented with is an aortic dissection. If Erin sent aawais home then, he could die before he leaves the car park.

Sole:

An aortic dissection is rare, but it kills more people each year than road traffic accidents in the UK. It is an issue that has been flagged up as being commonly missed at the diagnosis stage. There are a multitude of issues that fall into this same category, these are things that Doctors know about, but are repeatedly getting wrong (misdiagnose).

There are always Doctors within the institution who have this knowledge so why are these issues still being missed and how can we try to prevent the amount of missed cases. This is where the memory project comes in.

So what is the memory project ?

Erin

The memory project was started by Dr Samy Sadek as a response to the number of repeated incidences in the Royal London Hospital. He realised that many cases in the hospital were continually being missed and this could have numerous and sometimes fatal consequences.

The aim of the memory project is to try and reduce these missed cases.

Awais

Within the hospital, some of the work they were doing to aid in the memory project included creating posters that were, unfortunately, often getting forgotten or ignored.

Another initiative in the hospital was collecting data on significant incidences, also known as SI’s, as they occurred, and sending them out to doctors afterwards. Unfortunately, these reports were often getting missed by doctors, with them getting buried amongst other emails or doctors simply not having the time to look at them.

We realised that we wanted to design a solution that would not require a lot of effort from the doctors to interact with. The hospital is a stressful and hectic environment, and we didn’t want to bring in a complicated solution. And since the beginning, we decided we wanted to make something dynamic, something that would not fade into the background over time with familiarity.

THIS WAS OUR SOLUTION

BIG REVEAL

Sole

THIS IS the Memo. A small fob that doctors can wear on their person around the hospital. When the focus of our project is the dissemination of knowledge, we thought what better way to spread it through the hospital then by putting it on the people who are constantly walking around it.

Throughout the first semester, a lot of our research centred around human memory and finding the most effective methods of retaining information. We looked at what Doctors currently use to help them remember their content, as well as what was used and what we learnt to inform our designs.

Specifics

Each animation is 6 seconds,

How does this help memory

So how does this play into Memo?

Zayna:

Memo takes large cases and reduced them to small, short-form animations. Throughout this project we spoke to a variety of doctors, from students and f1 doctors up to consultants and we realised that if you told them about any of the flagged cases, they would be able to reel off information about it easily. For example, asking someone about aortic dissection, they would be able to tell you where the symptoms present themselves and how.

In this case, the problem lies in missing it at the point of diagnosis. This is the same with many of the flagged cases. Every doctor has spent years learning, for example, how long before sepsis sets in, not to double dose patients, and what to watch out for in blood tests. Our solution is not about learning, as that is something doctors have been doing for years, it's about providing these active reminders.

Sole

Memo is a small fob watch that sits attached to the pocket of any nurse or doctor who chooses to wear it. Within the hospital, doctors are not allowed to have any personal items below the elbow, because of this some of them wear fob watches in their pocket to show the time. This inspired the design of Memo.

Erin

In designing the animations for memo, we wanted to create a distinct colour scheme that would link together each case and the memory project. We went for a blue colour to reflect the hospital, but we didn't want it to feel sterile, so we added shades of green. The main colours in our animations include a bright orange to complement and contrast these colours and represent things like blood without looking visceral.

This also means that when these esoteric animations are viewed by patients in the hospital, they do not appear worrying or scary at all.

The combination of visual reminders and interactive learning aligns with proven cognitive psychology principles, such as spaced repetition and associative learning, which are effective for long term knowledge retention. However, the effectiveness of the system relies on the design of the symbols and how well they are integrated into the daily workflows of the hospital staff.

Awais

The aim is that doctors will see these symbols and animations and associate them with the project and the cases. We hope that introducing something like the ‘Memo’ would also have other positive consequences throughout the hospital. When you share something like this with other members, it could encourage a sense of community, especially if it were something specific to the Royal London. We want it to work in the same way as seeing people wearing poppies around remembrance day or even just all of us having the same lanyards to represent queen mary.

**Designing something memorable.**

Zayna

So how do we provide knowledge without the trauma and reminders of negative consequences of missed cases?

When you see this what do you think off?

For most people, this ribbon is indicative of cancer research. When you see the ribbon, it’s no longer just an image, it is a symbol of a whole initiative. We decided to use this concept with memo, using the brain logo between each animation to raise awareness of the memory project. The memory project is important and could help prevent a large number of incidents throughout the hospital, but simply not enough people know about it.

We hope that by creating something that stands out while being aesthetically pleasing would encourage a similar effect, with people being able to recognise the memory project image and identity.

Sole

To go alongside the physical Memo, we’ve also created a website that provides more information on the project. Talking to Stelios, a consultant at the hospital, he spoke about wanting doctors to have a resource that they can work through in some of their teaching hours.

Stelios is one of the doctors who compiles information about SI cases after they have occurred. He puts in a lot of effort trying to bring these cases to attention only to have them being overlooked. We were surprised when we learnt how much effort was put in to collate all this important information, just for it to be sent out in an email, that can be ineffective and often ignored by busy staff.

Knowing the sheer amount of content junior doctors have to remember, we wanted to create something as simple and accessible as possible to encourage these young doctors to actively look at the site and refamiliarize themselves with some of these missed cases.

Erin

We wanted to make the app very user friendly and also available on a phone, We tried to make the design reminiscent of scrolling through something like a social media site. We took the idea of a gesture like swiping right on tinder, and incorporated the idea of flash cards or trading cards so that when you click on a case, it shows you some statistics about how often its missed or its consequences and the user has the option to look at more information.

Awais

The goal of the site is to provide additional information about each case and show users some of the statistics about what happens when these cases are missed. The site isn’t about providing text-book style knowledge, but it hopes to act as the senior consultant, providing context to the scenarios, cementing them in doctors’ memories.

**THE FUTURE OF THE PROJECT**

Sole

Memo is still in its early stages, and a lot of its efficacy lies in its potential and future development. The Memo would have to be tested within a hospital environment and we would need to speak to more doctors and nurses about how effective the animations are for remembering cases.

Zayna

When we shared our ideas with Samy, he also told us about his future plans for the memory project and memory lane. He wants to decorate one of the main staff corridors with achievements of his staff and with elements of the memory project. Something like this, makes our interpretation of the memory project feel feasible, with doctors being able to see our videos on memory lane.

In fact when we were sharing our project with some junior doctors, they spoke about how there was potential for the project to branch over into a public heath incentive, so that people would be able to recognise symptoms in themselves and check with the doctors. Of course this would require further research, and the cases would have to be carefully curated so as to not scare the public.

But of course, our main goals with memo and our memory project is to primarily help the doctors within the hospital.

Awais

With our memory project we were hoping to add not only a little bit of colour to a very stressful environment but also hopefully have a bigger impact and help reduce the number of missed cases at the Royal London Hospital.