HotDesking in 2031 with technologies that interact to detect, store, relate and display information in the physical environment

Desktops thrive as visualization devices in the future, but screens are absent as display is subsumed into physical environment in which objects store and record information and interact.

This scenario relies upon a series of related technologies through which information can be associated with individuals and objects presented on cheap, thin, surfaces with capabilities for digital display and interaction. These include:

- **Informica**
  A durable composite laminate used on desks, tables, doors, window ledges and the like.

- **DataPaint**
  A liquid that when applied in thin layers to a wall or other surface dries quickly to a solid film with a matt finish.

- **Infabric / Techstile**
  A densely woven pliable polyester material that is comfortable, wicking and developed and heavily marketed by major sportswear manufacturers.

- **Record**
  An individual's personal digital presence or 'record' includes all the information to which they have access and the current state of multiple personal and shared documents, 'desktops' and libraries of music, movies, books, photos, blueprints of physical objects and other purchases.

- **Record Chip**
  Objects that contain a record chip store information about their status, often updated through sensors. For example, food packaging contains 'chips' with consumption dates, a history of movement, and updated levels of bacteria and microbes.

- **Record Ring**
  A personal record is captured, maintained and transported through discrete location-sensing jewelry.

London, 2031. I still have an office, but it’s a shared hot-space. When I get to work I gesture a rectangle on the Informica door, which detects my Record Ring and the public view of my office priorities workspace is shown. I shuffle these around but leave them on the door so colleagues can see what I am up to. The office is very empty, but coated with DataPaint, so the walls can display aspects of my Record around me. The Ring knows where I am and the DataPaint knows who I am, so my private office workspace is shown on the walls. I have various documents open - part-reviewed papers, ranked recommended reads, requests for information from students and summaries of the data status of partners with whom we work and visual representations of the results large scale tests we have conducted overnight on novel graphics that show information flows. Today’s pictures of the kids (my have they grown up!) and colleagues (haven’t they aged well?) and live photos of the fridges at the Goswell Coffee shop and Pret a Manger show up so I know what the lunch options are.

I access resources through speech and physical interaction and read straight off the wall: standing works well - my back pain is less significant than it was in the 2010s. The recommended papers are compelling. Some of our graphics that show information flows seem to be working effectively. Visual representations of qualitative feedback summaries and headline statistics on task completion and interaction seem positive - is this enough evidence to persuade the scientific community?

I interact with colleagues through group video conferences in which we all see each other on our
DataPaint walls and we discuss the latest results. The Canadians are asleep. If only somebody could figure out an effective means of communicating in pseudo real-time at acceptable local times across time zones. I gesture to select graphics to share and people to share them with - our discussions allow us to interact with graphics that enable us to see summaries, dig in to see individual behaviours, group behaviour types and relate behaviours to qualitative feedback. We establish understanding and develop evidence.

A colleague enters the room - our Record Chips interact. My private and personal information disappears and we throw our shared space onto one of the walls for a discussion. We gesture and dictate and have soon completed the teaching audit.

I'm hungry. I throw open the pictures of the fridges at the local coffee shops and purchase food by reaching for a vegan sushi sandwich from the Goswell Coffee shop fridge to view a clock to select a time when I need it. I go and make a coffee. I'm tempted to first make a coffee cup but this seems wasteful and I am low on printer supplies.

My Informica desk shows an oak veneer finish. It bores me. I switch to zinc - very Parisian - remember that time they hosted VIS outside the US? What a crazy idea that turned out to be! I put the coffee down on the desk - which shows it's just below 80 degrees. Did I really need a pie chart to show me that? I'm still undertaking InfoVis research on means of interaction with these context sensitive visual physical environment technologies, but need some inspiration for that InfoVis 2032 paper. I grab a book from the shelf and put it on the desk. Its chip interacts with the Informica and my Record to show what I have read, when I read it and my various annotations. It's a beautiful and effective means of enabling me to engage with my previous interactions with the book. The InfoVis 2029 paper on concurrent Informica display of multiple reading histories really should have won the Best Paper prize - they never seem to get that right. I'm correct however, the coffee has done its job. There is a great chapter in which contradictory qualitative data are used along with grouped logged behaviour types to develop strong arguments in favour of a particular approach to visualization. We can use this approach.

The coffee shop calls [video, wall-based, pre-recorded, impersonal] to tell me that my lunch is ready, so I grab a bike and head to Goswell Road. The walls in the coffee shop are DataPainted, showing digital graffiti, retro movies and video games. I could select a space on the wall to project one of my workspaces, but working lunches are for wimps, so I use an Infabric fan I picked up in Kyoto to relax a little. I don't understand the Techstile trends - why do people want their clothes to change colour or show the number of calories they have burned, the purchases they have made or how connected they are? And surely the micro-payments made to wear the same colours as your heros every day stack up! But I like my functional fan - open it up, read the newspaper, messages from home, look at memories from family vacations. I wonder why I am having lunch on my own. My Ring throws an interesting piece from tomorrow's Guardian onto the fan - a stinging critique of the financial muscle used by Leicester City to win the Premier League title for the last couple of seasons. I still enjoy watching their six goals against a dilapidated Chelsea before putting the fan back in my pocket and wondering whether sushi sandwiches are progress or not.

I head back to the office - somebody else is using it, and by the looks of the public workspace they have left on the door they will be there for a while. So I select another Informica door, project a different workspace on to the wall, check the latest interactions and feedback and begin writing up the flow experiment.

So much information. So many possibilities. So little time. Plus ca change.