

Romi Dhillon

Education

BSc (Hons) Computer Science, University of London (current)

BEng (Hons) Mechanical Engineering, Aston University

MSc. Design Engineering, Aston University

MBA. Master of Business Administration, Aston University (Distinction)

Key Experience

Highly effective Data Architect, Data Engineer, and Product Manager with over 10 years of industry experience within Engineering, IT, and Consulting. Recognized as a thought leader with expert ability to understand business requirements, develop digital strategies, and define the architecture and direction of the solution delivery.

Employment History

Amey Consulting – Information Services & Platforms

Principal Consultant

Feb 2022 – current

Data Architect - Joined Network Rail's Intelligent Infrastructure (II) programme to provide data architecture and data engineering expertise for three key projects named Boundary Measures, Datamart, and Digitised Lineside Inspection. Each project focused on the development of an application for better reporting. Key roles and responsibilities included:

- Advising on the most efficient structure of the application database based on the needs of users and the system.
- Data modelling using Enterprise Architect Sparx modelling software
- Creating logical data models (LDM) to define the relationships, between entities and attributes. This also incorporated UML class models to depict class based inheritance.
- Creating physical data models (PDM) to define the tables, columns, and constraints for data to be stored in the database.
- Creating data mapping documentation to ensure adequate mapping to DIM and FACT item tables.
- Writing scripts to query and to create tables and constraints. Data migration activities were also conducted from source to destination servers/tables.
- Completing key data artefacts for each of the assigned projects, artefacts such as the Data Design Specification (DDS), Information Needs Analysis (INA), and the Data Quality Improvement Plan (DQIP).
- Building pipelines in Microsoft Azure to ingest data into Data Lake Storage Gen 2 from blob storage.
- Taking the lead on other data related decisions such as data security requirements, data integration, and data storage requirements.

UX/UI Designer – Joined Network Rail's Infrastructure Monitoring project for four months, and my responsibilities were as follows:

- To design and build interactive wireframes using Balsamiq for the Infrastructuring Monitoring application.
- Completed governance documentation which included use cases, user stories, use case models, functional and non-functional requirements.
- Completed the training needs analysis for the application.



Current Role

Principal Consultant

Amey Digital Consulting - Information Services & Platforms

Key Skills

- Data Architecture
- Data Engineering
- Data Science
- Product Management
- UX/UI Design
- Business Analysis
- User research
- Strategy development
- Microsoft Azure
- SQL Server & MySQL
- Django
- Python & multiple libraries
- JavaScript
- Agile Project Management

Qualifications

- Lean Six Sigma Black Belt
- TOGAF 9.2 Certified
- PMP Qualification
- IBM Data Science Professional Certificate
- IBM AI Engineering Professional Certificate
- CIMA (Part-Qualified)
- Azure Soluton Architect (pending 2023)
- CEng (pending 2023)

Languages

- English (native)

Atkins – Digital Consulting

Senior Enterprise Data Architect (contract)

Nov 2021 – Feb 2022

Lead Enterprise Data Architect for the Next Generation Communications Network project for the Ministry of Defence (MoD), tasked with completing key data artefacts for the development of a suite of applications. The deliverables focused on the way data was to be acquired, transported, stored, queried, and secured within each application and the wider organisation. This assignment was a short contract, so I decided to move on to Amey and undertake permanent employment once the deliverables were completed.

BMT – Technology & Innovation Consulting

Senior Consultant – Data & Solutions Architecture

Apr 2019 – Nov 2021

Data Architect - Joined a key digital transformation project at the MET Police (New Scotland Yard) to provide data architecture and back-end application development. The project was focused on moving from an existing operating model to a target operating model for UK fleet services, leading to the creation of a new application which displays fleet services data (i.e. vehicle availability metrics). I was responsible for:

- Developing entity-relationship, logical, and physical models using Enterprise Architect Sparx modelling software. I also developed the logical class models and blueprints during the design of the fleet services application.
- Liaising with UX Designers, business analysts, and PowerBi developers to inform stakeholders about the data architecture structure, and making iterative changes.
- Creating Star Schema architecture to define the DIM and FACT table architectures.
- Conducting the ELT process with Azure Datafactory and Databricks.
- Creation and maintenance of data governance related documentation as required e.g., Data Privacy Impact Assessment, Data Protection Assessment, Data Security Assessment.
- Defining the data lifecycle management requirements, processes and policies where required.
- Managing activities and documents associated with functional, non-functional, performance, security, and operational testing etc.

Ultra-Electronics – Command & Sonar Systems

Engineering Product Manager

June 2017 – Apr 2019

In charge of managing the Distributed Air Warfare (DAW) suite of products, including all web applications associated with real-time production analysis. I had the following responsibilities as an Engineering Manager:

- Developing product roadmaps for three different product types.
- Generating innovative ideas to propose new features in existing applications, and presenting concept ideation for new product types.
- Gathering functional and non-functional requirements with both internal and external clients, and holding focus group sessions to document user stories, use cases, and use case models.
- Developing wireframes for the user interface design, using Balsamiq and Figma.

- Conducting usability testing such as efficiency, memorability, and satisfaction testing with sample user groups.
- Overseeing the design, development, and delivery of new products into the production environment, including tests in UAT, SIT, etc.
- Conducting interviews, focus groups, and workshops to gather qualitative and quantitative data, which was later presented with various visualisation techniques.
- Liaising with clients to create user personas, and customer journey maps.
- Defining and managing the overall organisational strategy for the Distributed Air Warfare (DAW) suite of products.

Raytheon Technologies Corporation

Engineering Product Manager

Oct 2015 - June 2017

- Managed cross-functional teams consisting of 40 engineers across multiple disciplines.
- Conducted research into human-computer interaction (HCI) and the impact of such interactions when designing systems.
- Used the GOMS model to explore interaction design possibilities to improve human computer interactions.
- Developed the organisational best practice to enhance the five dimensions of interaction design, which are language, visuals, space, time, and behaviour.
- Conducted research to reduce uncomfortable interactions in future products.
- Researching and implementing the use of visual metaphors in future products to enhance user experience.
- Researching and implementing enhanced web accessibility for future products based on WCAG 2.1 AA. This aligned with the organisation's strategy to make applications more accessible for the less able.
- Created Wireframes for new product user interfaces, using Balsamiq and Figma.
- Wrote documentation for best practice when developing data pipelines using Microsoft Azure Data Factory.

Software Developer & Data Engineer

Nov 2012 - Oct 2015

- Development of web applications using the Django web development framework; creating urls, views, forms, templates, static files, APIs, and full application authentication.
- Conducted functional and non-functional tests, which included unit testing, system integration testing (SIT) and user acceptance testing (UAT) of the application.
- Conducted data pre-processing, exploratory data analysis and data visualisations, for performance data related to Reverse Thrust Actuation Systems for the Boeing 787-9 and Airbus A320 aircrafts.
- Writing a range of reports on the performance of systems based on research and analysis.
- Exploring methods to enhance data quality and produced data quality documentation. I also ensured that all databases were normalised to a minimum of 3NF.
- Querying on-premises databases using aircraft performance data with SQL.
- Conducting business analysis before creating applications, including the creation of user journeys, user personas, and user stories.
- Creating high-fidelity and low-fidelity wireframes of the application design using Adobe.