King's Digital Lab

KING'S College LONDON

Digital researchers and data experts

We create digital tools to explore academic research in new ways.

KDL PRACTICES: Team, Systems, Data and Models Part 2

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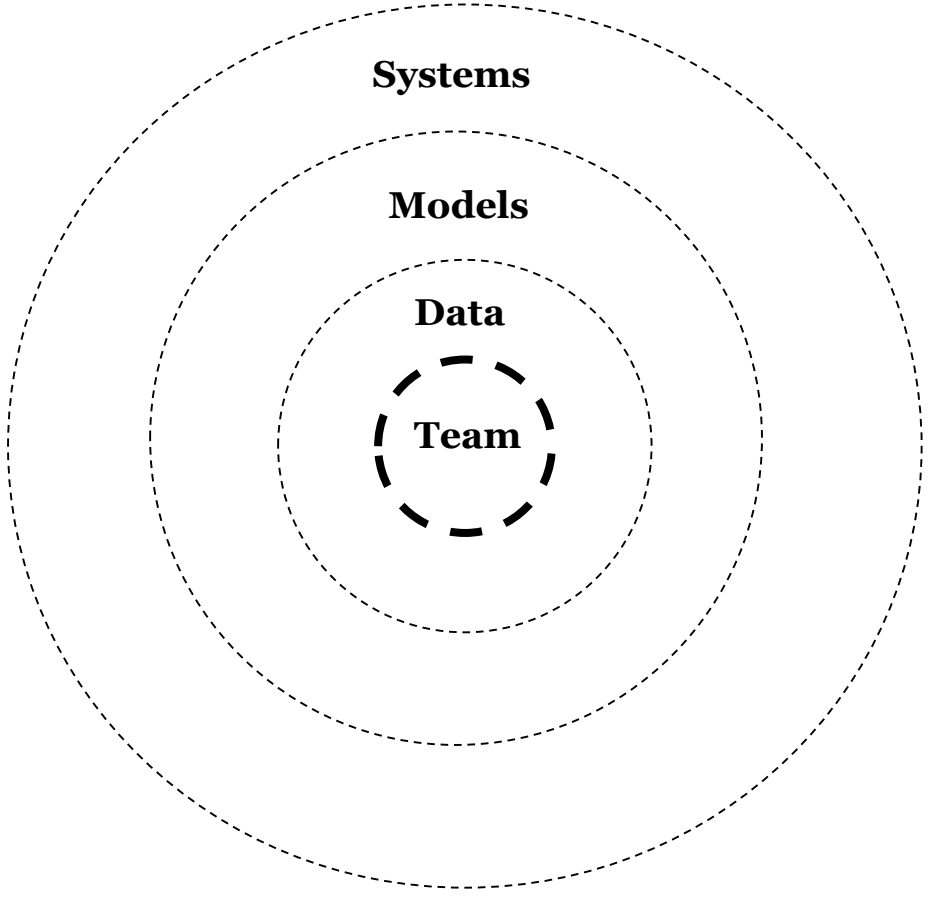
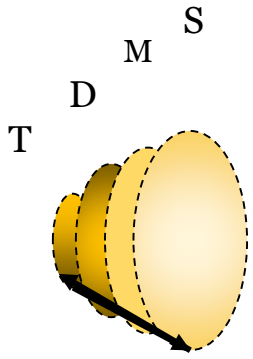
Team, Systems, Data and Models

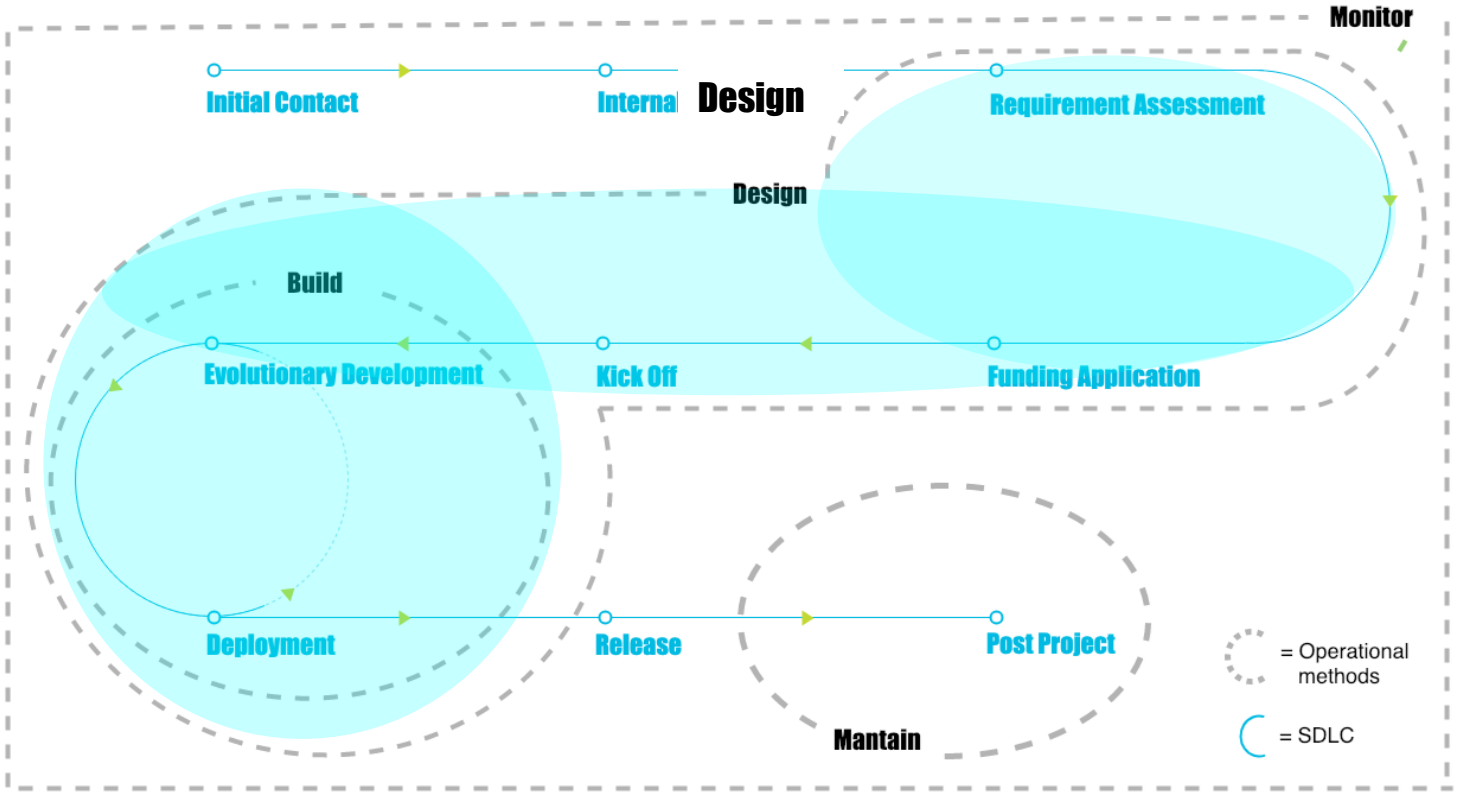




Co-constitution (biodirectional influence & dependencies)

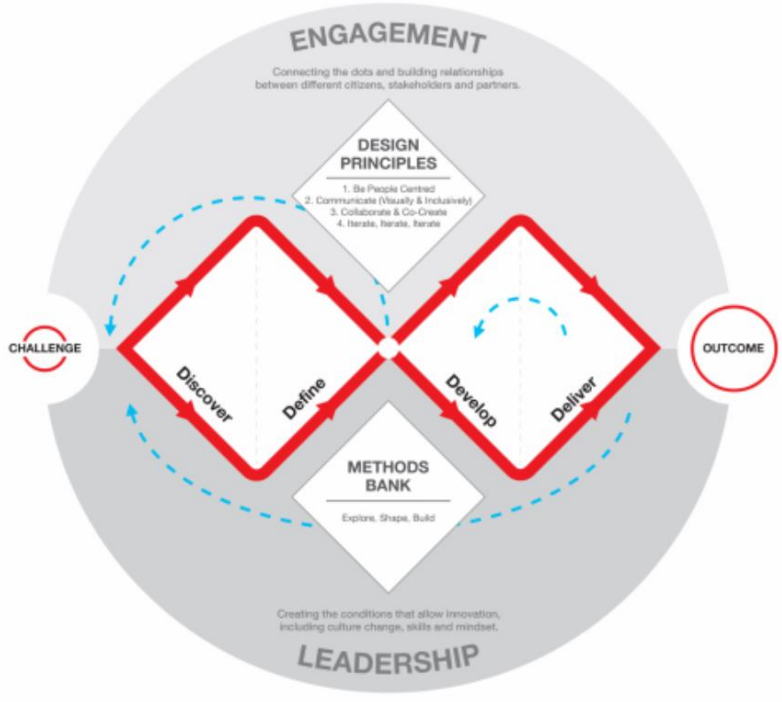
Ciula and Smithies (forthcoming).

Design Methods



Smithies and Ciula (forthcoming).

Design Integration Framework

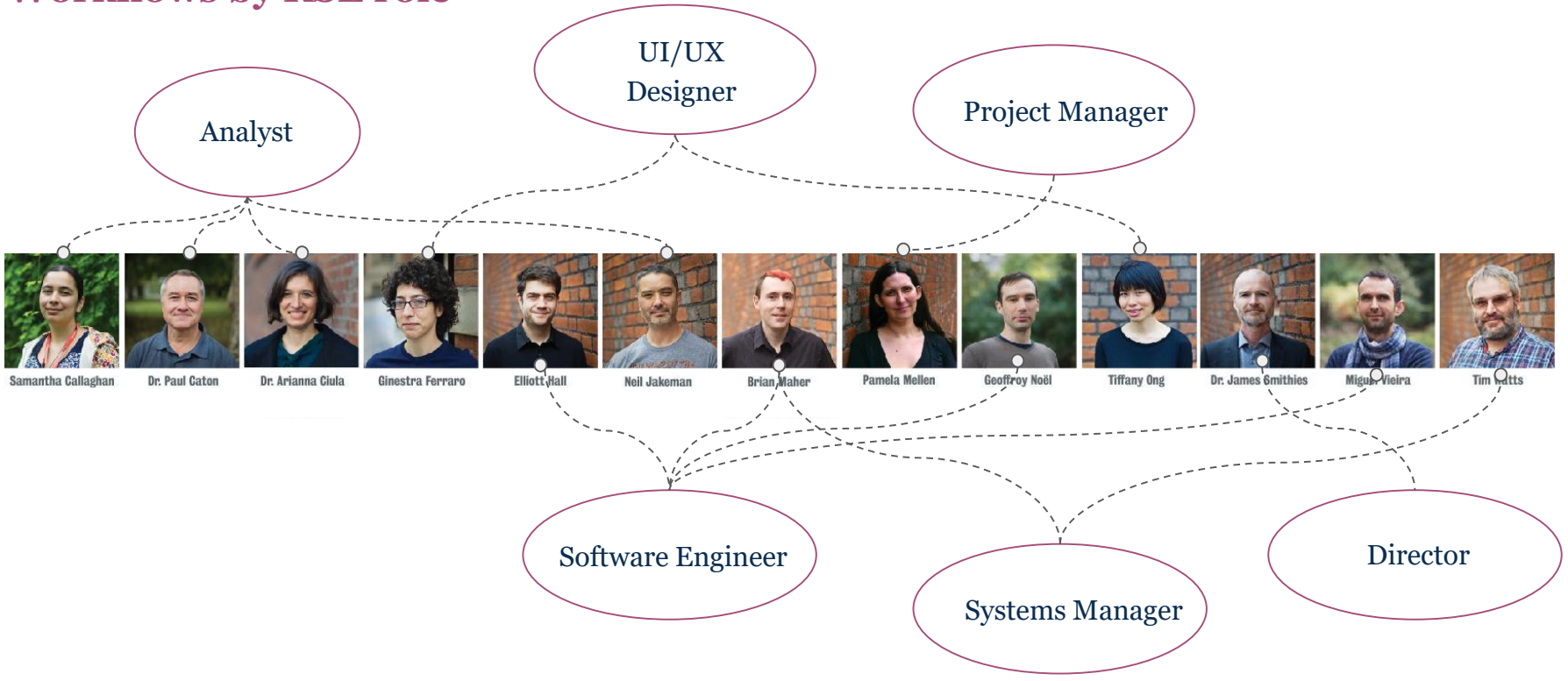


Double Diamond

Design Council (2007). What is the Framework for Innovation? Design Council's Evolved Double Diamond.

Image ©Design Council

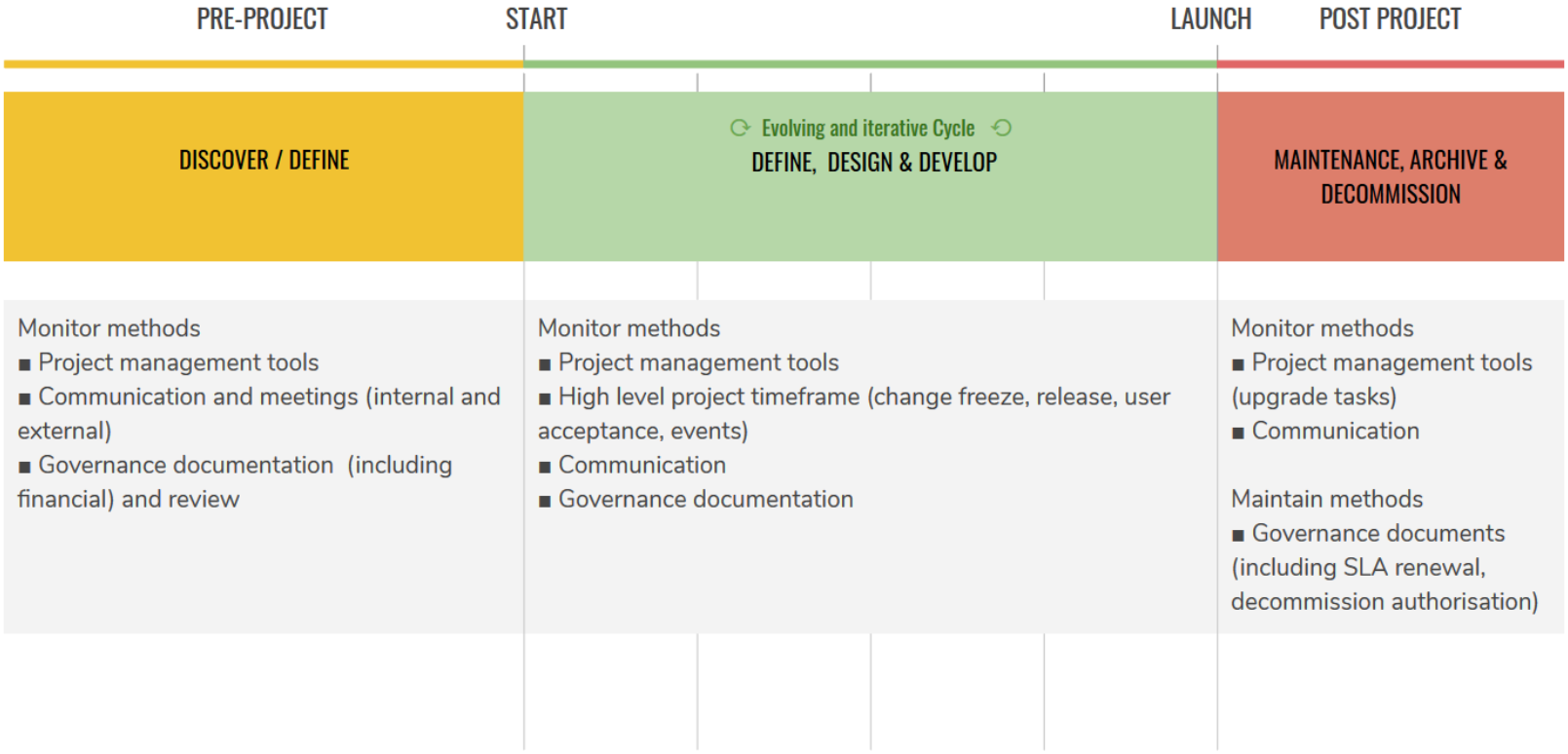
Workflows by RSE role



Smithies (2019), The Continuum Approach to Career Development.

Workflows by role

Project Manager



Team, Systems, Data and Models

Analyst

Monitor methods
- Project management tools
- Communication and meetings (internal and external)
- Governance documentation (including preliminary requirements and forward planning) and review

Design methods
- Research and technical assessment (e.g. terminology, standards, models, datasets, tools)
- Analysis, requirements elicitation and prioritisation (MoSCoW); project conceptualisation (including funding application)
- Review (meetings, workshops and focus groups) (monitor)

Monitor methods
- Project management tools
- Communication (including website and social media) and meetings
- Governance documentation

Design methods
- Research and analysis
- Requirements refinement and re-prioritisation
- Modelling (abstract, data, standards mapping)
- Review (meetings, workshops and focus groups) and reports (monitor)

Build methods
- QA and Testing (e.g. following deployments; acceptance testing)
- Technical documentation
- Increments definition and timeboxing
- Release process and change freeze

Monitor methods
- Project management tools
- Communication (e.g. bugs) and meetings
- Governance documentation (including decommission process) and project review

Maintain methods
- Governance documents and review (including SLA renewal, decomisions process)
- Archiving (including data deposit) and sustainability

Team, Systems, Data and Models

Software Engineer

PRE-PROJECT	START		LAUNCH	POST PROJECT
DISCOVER / DEFINE	Evolving and iterative Cycle DEFINE, DESIGN & DEVELOP		MAINTENANCE, ARCHIVE & DECOMMISSION	
Monitor methods ■ Project management tools ■ Communication and meetings ■ Governance documentation and review Design methods ■ Research and technical assessment (e.g. terminology, standards, models, datasets, tools, re-usability of components) ■ Analysis (e.g. mapping requirements to architecture and datasets), requirements elicitation and prioritisation; project conceptualisation and preliminary modelling (including high level solution architecture) ■ Review (meetings, workshops and focus groups) (monitor)	Monitor methods ■ Project management tools ■ Communication and meetings ■ Governance documentation Design methods ■ Research and analysis ■ Requirements refinement and re-prioritisation ■ Modelling (conceptual, data, standards mapping, algorithms) ■ Review (meetings, workshops and focus groups) (monitor) Build methods ■ Logical and physical data modelling (including data structures and formats) ■ Information architecture ■ Translation and re-use of algorithms/software modules & packages ■ Data workflows pre-processing tools (e.g. import/export/cleaning/validation) ■ Environment set up ■ Back-end interface and functionalities (including search) and mapping to CMS ■ Front-end templates and functionalities ■ Code and other technical documentation (Github - monitor) ■ QA, Testing (e.g. browser testing; unit tests; acceptance testing) and Debug (including server stack side) ■ Optimisation and code refinement ■ Increments definition and timeboxing (monitor) ■ Deployments (to development. staging and live environments) ■ Software upgrade ■ Release process and change freeze (monitor)		Monitor methods ■ Project management tools ■ Communication (e.g. bugs) and meetings ■ Governance documentation (including SLA renewal) and project review Maintain methods ■ Governance documents and review (including SLA renewal, decommission process) ■ Archiving and sustainability (including curation. backup, migration, upgrade) Build methods ■ Server/ices configuration ■ Software upgrade	

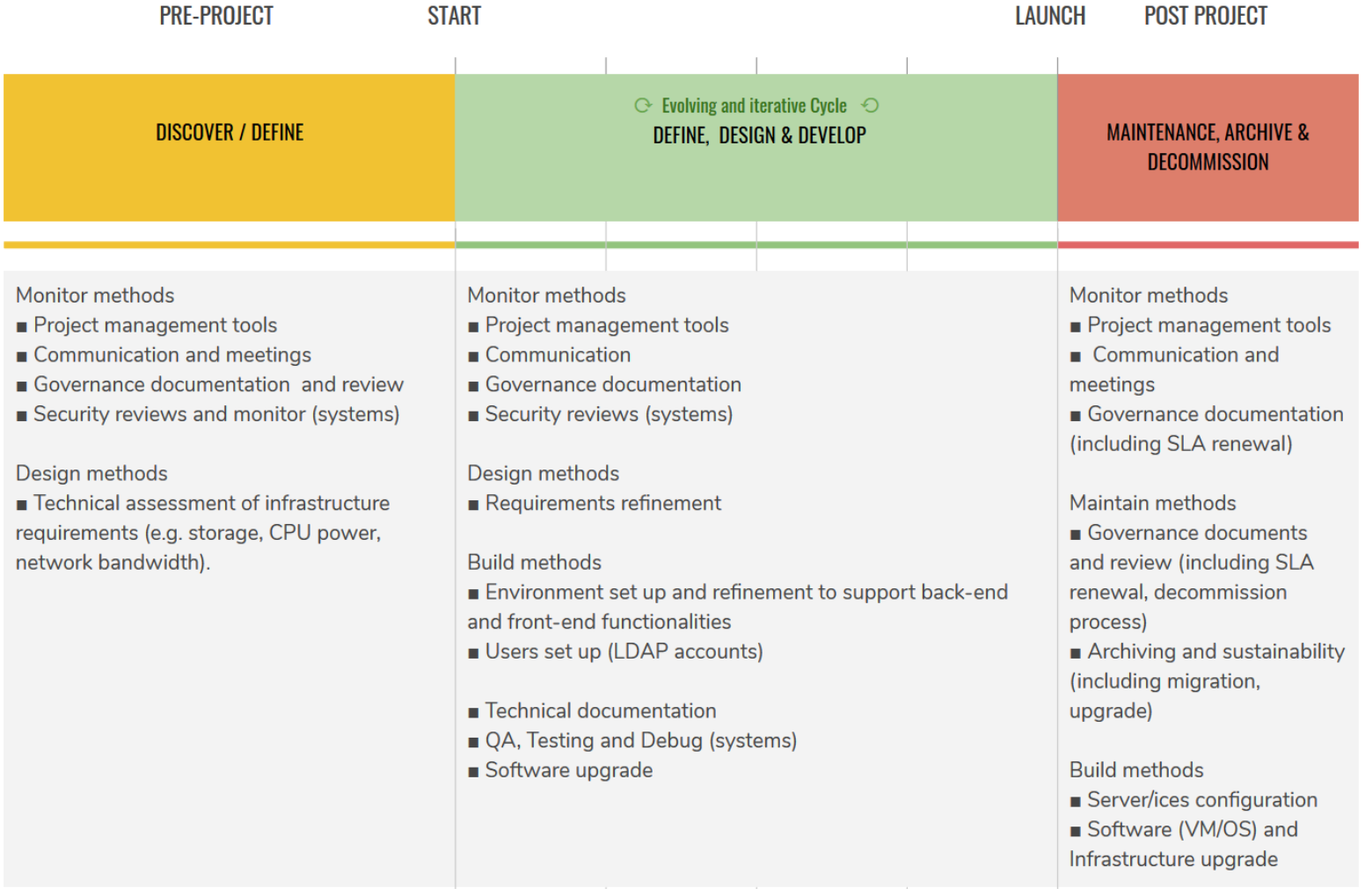
Team, Systems, Data and Models

Designer

PRE-PROJECT	START		LAUNCH	POST PROJECT
DISCOVER / DEFINE	Evolving and iterative Cycle DEFINE, DESIGN & DEVELOP			MAINTENANCE, ARCHIVE & DECOMMISSION
Monitor methods ■ Project management tools ■ Communication and meetings ■ Governance documentation and review (including sign off) Design methods ■ Research and technical assessment ■ Analysis, requirements elicitation and prioritisation; project conceptualisation ■ Review (meetings, workshops and focus groups) (monitor)	Monitor methods ■ Project management tools ■ Communication and meetings ■ Governance documentation Design methods ■ Research (e.g. identity) and analysis (including user research and analytics if applicable) ■ Requirements elicitation (e.g. via questionnaire) and prioritisation; project conceptualisation and preliminary modelling (including content map, user flows and journeys/paths, site map) ■ Requirements refinement and re-prioritisation ■ Modelling (conceptual, refinement of content map, user flows/journeys/paths, site map) ■ User testing ■ Review (meetings, workshops and focus groups) and report (e.g. usability) (monitor) Build methods ■ Style (e.g. concepts and colours) and design (e.g. project title) ■ Prototyping (wireframes, mockups) ■ Translation and re-use of software modules & packages ■ Environment set up ■ Back-end templates (e.g. Django) ■ Front-end templates and interfaces ■ Code (HTML, CSS. Javascript) and other technical documentation (Github - monitor) ■ QA, Testing (e.g. browser testing, devices portability; staging environment testing; instructions for partners; acceptance testing) ■ Optimisation and code refinement ■ Increments definition and timeboxing (monitor) ■ Deployments (to development. staging and live environments) ■ Release process and change freeze (monitor) ■ Add analytics		Monitor methods ■ Project management tools ■ Communication (e.g. bugs) and meetings ■ Governance documentation (including SLA renewal) and project review Maintain methods ■ Governance documents and review (including SLA renew) ■ Archiving and sustainability

Team, Systems, Data and Models

Systems Manager



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