Chapter VI

A Framework for Understanding Information Systems Development

Lemmings migrate every three or four years, following each other in crowds along paths until—as myth has it—they fall off cliffs into the sea. Some readers might remember the computer game *Lemmings*, which was built on this myth. Its object was to prevent such self-destruction by guiding a line of lemmings to their proper destination by various means. According to an interview the author once read, the idea for the game came one day as its creator was doodling with the “repeat brush” facility of the Amiga’s standard paint package.

Most IS do not come into being because of such creative sparks (a good thing too?) but all must be developed. Information systems development (ISD) usually involves a much more structured process of analysis of the users’ requirements (discussed in Chapter IV), deciding what technological artefact or system should be constructed, designing it, implementing it (programming), testing it, preparing it for the user (e.g., documentation, training), delivering it, and subsequent maintenance. During any of these activities mistakes can be made and the ISD project can fail. Large ISD projects are especially prone to such failure.
ISD is human activity. The central practical question is: What should guide ISD? The main theme of most research in ISD is methodology to guide that activity. The central philosophical question addressed in this chapter is: What is the nature of ISD, including its norms? These are the ways this chapter tries to formulate a framework for understanding ISD.

This chapter explores how Dooyeweerd’s philosophy might help us understand the challenges and issues in ISD as they are seen from an everyday perspective (see §2.4.2). The information system that is developed includes both the technical artefact or system and the human context of its use, which is often organisational. The communities of practice and research in this area include those involved in programming, system design, systems analysis, organisational analysis, knowledge elicitation, modelling, and many more. First this chapter reviews the history of ISD and paradigms, and shows briefly why a new paradigmatic approach might be useful. Then it applies Dooyeweerd’s notion of multi-aspectual functioning to understand what goes on in ISD, and derives a tentative framework for understanding it.

### 6.1 Approaches to ISD

Until recently, reflection in this area of research and practice has been directed at the development, not of games, but of “serious” IS used in professional settings. So it is no surprise to find the discussion of frameworks for understanding, including methodologies for guiding, ISD initially theorised practice quite narrowly, and then gradually re-admitted aspects of the lifeworld of both users and IS developers. A brief history is included of such theorisation and a discussion of several philosophically-motivated paradigms; the purpose of this is to situate the main proposal of this chapter in extant philosophical thinking in this area. The reader may, on a first reading, skip directly to the outline of everyday issues which are re-introduced by expanding on the author’s own experience outlined in Vignette 3 in the Preface.

### 6.1.1 Brief History of ISD

In the early days ISD was programming, a technical creative activity, which could be quite unstructured, though techniques found to work in one project would be carried over to others. But, as Hirschheim, Klein, and Lyytinen (1995, p. 29) put it, “projects failed due to the lack of methodical guidelines and theoretical conceptions of IS.” ISD methodology became an important topic for research. Hirschheim et al. give a brief historical overview of the field, as seven generations of ISD methodology which they discern to have arisen since the mid 1960s, each in response to a particular problem that was perceived:
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