Human Factors in the Study of Automatic Software Repair

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Why human factors?

- Software engineering – socio-technical activity

- Steve Easterbrook et al. (2008): 'We need to investigate not just the tools and processes [software engineers] use, but also the social and cognitive processes surrounding them. This requires the study of human activities'
Future directions 1: Beyond usability

- Usability does not necessarily equate to usefulness
- Other important themes, e.g. software developers’ job satisfaction
Future directions 2: Longitudinal studies

• Shift from fixed point in time studies to longitudinal studies

• E.g. studies before a tool’s introduction; in the early stages of its use; and after it has been used for some time

• Allows for greater interaction between researchers and industry
Future directions 3: Diversity of research methods

- Shift from surveys and controlled experiments to a wider range of methods
- Ethnographic research - how tools are used in situ
- Focus groups – considering social norms and conventions
- Design thinking techniques