Continuing education in a geospatial industry

case studies of mining and railroad construction

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Overview

• Continuing education
• New ways of learning
• Case study: mining
• Case study: railroad construction
• Conclusion
Continuing education

• In a professional environment we will always need to learn, no matter what level we are working at.

• As new challenges arise, we need to be able to cope with them

• We live and work in a rapidly changing environment, and the need to adapt to it has increased

• Disruptive technology
Continuing education

The speed at which we can learn new things, is becoming more important than what we learn

- Return on investment
- Disruptive technology
- Focus on the application
Continuing education

But what about the geospatial domain?
• Change is in its nature
• Satellite images
• GNSS
• UAV and mobile mapping
• Online collaboration (synchronise field and office, m2m, WMS, …)
New ways of learning

• class-room training:
  pro: 1 on 1 contact, immediate interaction
  con: not very scalable

• e-learning:
  pro:
    rapid deployment
    customisable content
    throughput to HR
  con: no immediate interaction between trainer and trainee

• blended learning
  combines the best of both
New ways of learning

- Follow progress
- Update training content
- Custom look
- Localized content
- Custom learning trajectories
New ways of learning

What is ...

... technology

UAV

... application

utilities

How to ...

Fixed wing photogrammetry
Case study: mining

- Needs in the geospatial domain
  - Mining site of several km²
  - Management needs up to date maps
  - Terrain changes drastically in only a few weeks
    - Forest – bush clearing – dump area – mining pit
  - Traditional surveying methods not sufficient
Case study: mining
Case study: mining

- Situational need: UAS mapping
- Training requirements
  - Management
    - Map interpretation (contourline map vs orthoimage)
  - Surveyors need
    - Pilot training
    - Photogrammetry
  - Field crews
    - Procedures for ground control measurement
Case study: mining
Case study: mining

• Solution: UAS mapping system
• Processes are automated
• Investment in hardware and software only gives a high return with the right training for the right people
• The technology and its application are new, but with a profound training, efficiency was reached within weeks
Case study: railroad construction

- Situation
  - Train accident
  - Chemical loads
  - Infrastructure damage
  - Environmental impact
Case study: railroad construction
Case study: railroad construction

- Situational needs
  - UAS mapping (early response)
  - 3D model of infrastructure and train
  - Positioning needs for environmental experts
  - Speed is essential
Conclusion

• Continuing education is a necessity for a successful geospatial industry
• Blended learning methods
• Custom trajectories about the same field of work anywhere in the world

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