

Systematic data compilation of Egyptian ballasted track by discretization, characterization and categorization

Abstract

The objective of this bachelor thesis is to determine the information of the ballasted railway track system in Germany and Egypt. It was taken into account the standards and norms that applied in each country for design and construct the track system. Moreover, the types of components that utilized in each country, the role of the boundary conditions for selecting the type and the material of the components, and the interdependency between the components and the boundary condition were investigated. This compiled knowledge is for improving a model that discretizes, categorizes and characterizes the track system (DCC model). The model is developed to assist the user in designing and analyzing new or existing ballasted tracks. The DCC model can serve as a knowledge integrating tool within the railway field and could be simply modified to cater the particularities of other types of track structures.



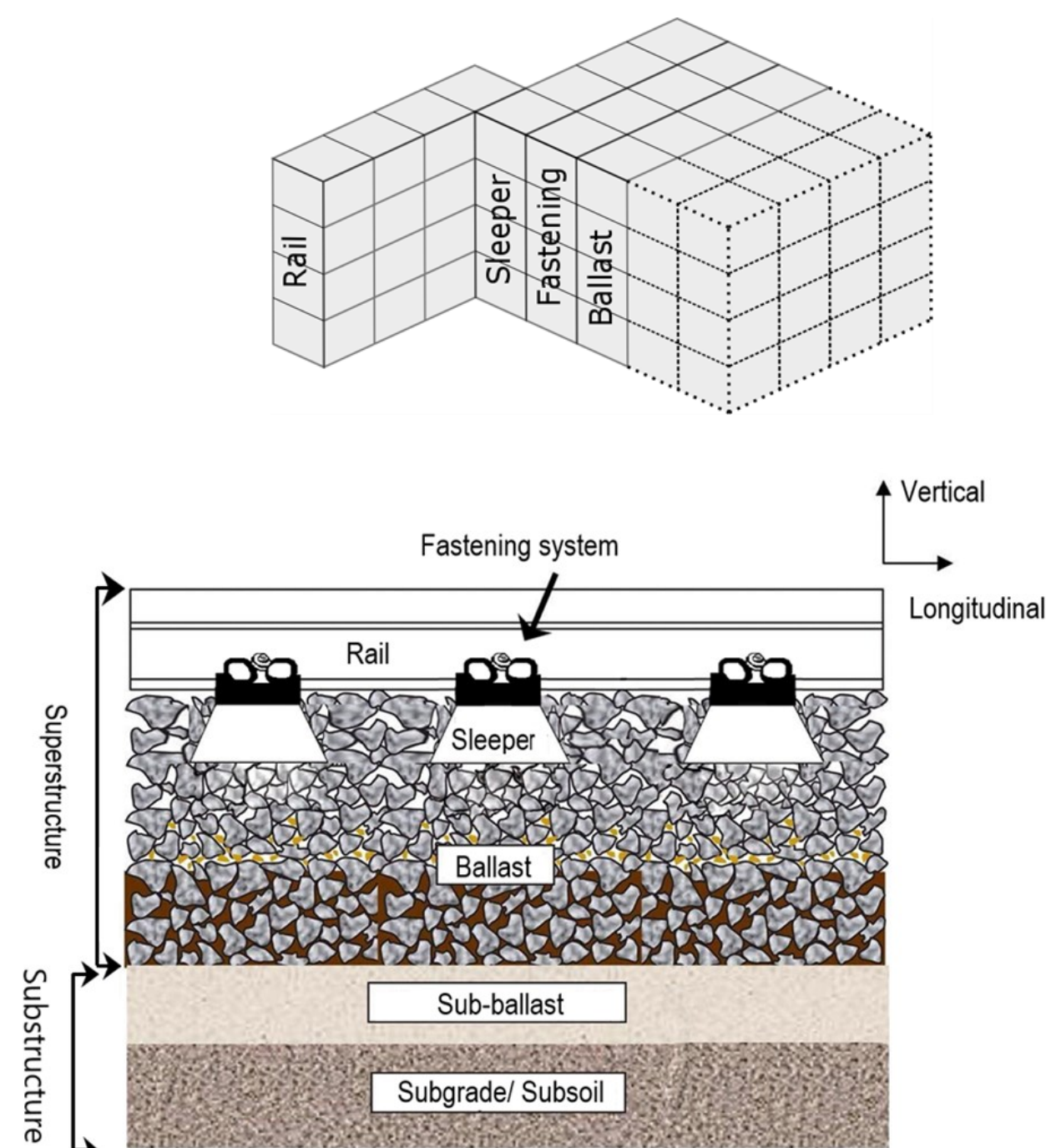
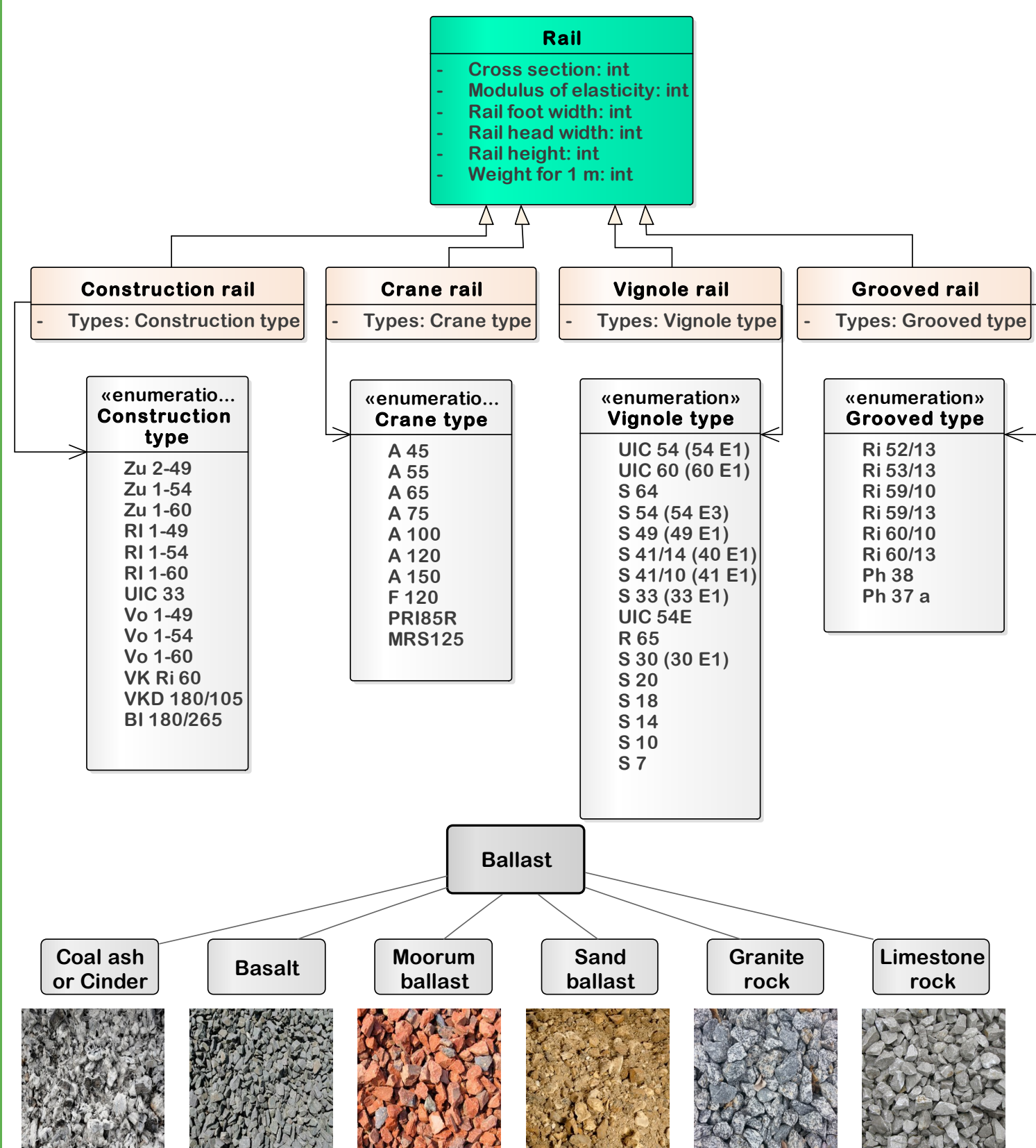
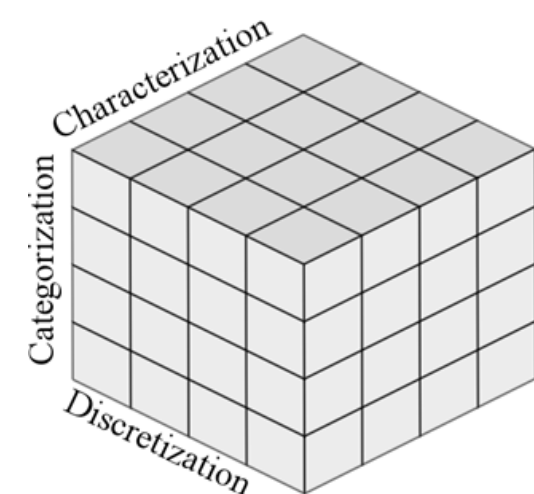
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Methodolgy

- Identify the difference between German and Egyptian standards and norms for ballasted railway tracks and the suggested improvements according to the results
- Compare and specify the ballasted railway construction system in Egypt to the German system and apply this specification and data on the DCC model

Conclusion

- Created structure of the track components and the boundary conditions using Enterprise Architect (EA) to be used in the DCC Model
- Lack of development in the Egyptian railway system due to limited types of components, the strict boundaries, and interdependence between components



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