

Personal Computer Assistant for Supporting University Study

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Our main goal is to create method for prediction of event preparation duration and recommendation of priority events that helps with effective time organization. Students then can allocate sufficient preparation time for semester events. Time organization is a factor that influences stress level of a student [1]. If we eliminate this problem, students would have lower stress level so they can study much more effectively.

We design web-based application for students. It is used to gather all necessary inputs from students. These inputs can be categorized to two main sections – estimations and real values.

Estimations consist of:

- Estimated complexity of events (five-point scale)
- Estimated complexity of courses (five-point scale)
- Estimated time of preparation duration in hours
- Estimated time of preparation duration in days

Real values consist of:

- Real preparation duration in hours
- Gained course points
- Date of preparation ending (if the event is an exam, the date of preparation duration is the deadline of the exam)
- Logical information about current student priority of event

The aim of our work is to find relationship between various inputs and real preparation duration and between individual inputs too. These inputs are important for predicting preparation duration of event for each student. For searching any correlation, we use linear regression model. We evaluate this model with R squared measure, which

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represents the percentage of the variability in Y that is explained by using X to predict Y [2].

After analyzing all inputs data for prediction preparation duration, we start with modelling recommendation of events. Collected data contains subjective ranks about events, subject complexity and logical value about current priority for all of events. These ranked inputs are typical for domain of recommendations. From dataset we train collaborative recommender for recommendation of top three subject, which should be considered as priority events. We compare this recommender with recommendation of events based on ordering by deadline or rank values (naive recommendation). Recommenders are evaluated in offline experiments.

Web application is not primary goal in our work, but it is necessary to evaluate it at least with questionnaire for users (students) about idea of project. Answers should be considered in potential future work in a similar domain.

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References

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