

# TELEMATICS IN IMPROVING THE COUNTER SERVICE IN THE POSTAL SYSTEM

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## ABSTRACT

Customer satisfaction and the quality of service provision in customer handling at counters is reflected in the customer queuing and the time when the counters are closed for customers. There is, therefore, the need for better organization of operation in order to raise the quality-of-service level and to reduce the costs in the postal system.

As part of implementing the information and communication technologies, the methods and possibilities have been considered that would improve the quality of postal service. The ICT implementation can result in the optimization of queues, more efficient usage of postal resources and other direct and indirect benefits.

The analysis of the current condition has led to an improvement proposal through a simulation model for counter service optimization. The model is primarily intended for urban areas with a larger number of users.



## OBJECTIVES OF THE TELEMATIC IMPROVEMENT OF THE POSTAL SYSTEM

Objectives of the telematic improvement of counter postal transactions refer to:

- system user – the user waiting to be served, by:
  - information about free capacities in the postal system;
  - shortening of the total queuing time;
  - guiding the user to the next nearest post office;
  - better usage of the user's time.
- service provider – post operator, by:
  - information about free capacities in the system;
  - provision of information about the offered capacities in the system;
  - better usage of the available employees (better organization of work), and larger number of users;
  - reduction in the costs of the postal operator;
  - satisfied users who receive information and are served in real time;
  - optimization of the queuing process management;
  - possibility of integration into the systems that use the queuing process (banks, hospitals, airports, etc.).
- traffic system – that should be in the function of improving the postal activities, i.e. postal traffic:
  - reduction of queues;
  - postal service becomes more attractive for the users;
  - increase in the efficiency of the counter activities at the post office (Time Management improvement in the postal system);
  - efficient management of postal services reduces the need to construct new capacities;
  - reduction of costs in the postal system;
  - increase of traffic volume for the postal activities;
  - satisfaction of users and the postal employees.

The proposed system has a positive influence on the increase in the attractiveness of the area where the postal facility is located. Possible drawbacks of the system refer mainly to the system components:

- camera precision – if not precise enough it does not provide the presentation of the accurate number of entities in the system;
- TAN – possibility of selecting a wrong service, error in the system operation;
- server – malfunction or breakdown of the system or possible errors while setting the parameters for data processing.

## CONCLUSION

The paper presents a study of the analysis of the current situation and application of telematics in the postal counter transactions, with the proposal of a system that would provide better functioning of the serving management, thus becoming part of the intelligent system of the postal facilities. Facing the fact of having to wait in a queue, which is an integral part of every queuing system, an idea was conceived how to additionally regulate, i.e. optimize the postal system. Since waiting in a queue is frustrating for the users who often give up waiting even before being served, and since this queue generates financial loss and time waste for the company, a system has been proposed that would optimize counter transactions at a post office.

The mentioned example is based on the upgrade of a TAN system and the optimization of the postal system / counter postal transactions, and can also be implemented wherever a queuing system is present. Apart from the user entities (people), the system may be implemented also if the entities were goods. The application is possible in the distributive, i.e. logistic centres where the existing queuing system is optimized.

The presented system is multimodal and its application is very wide. The benefits that companies would have by introducing this system are reduced queues, satisfied service users, and satisfied and less burdened employees. The system allows predictions of congestion in similar situations recorded by the system in its database. The benefit for the users in the system is based on the shorter waiting period in a queue by the distribution of real-time information about the occupancy of the counters where certain postal services are carried out thus contributing to the user satisfaction and preventing their giving up before being served.

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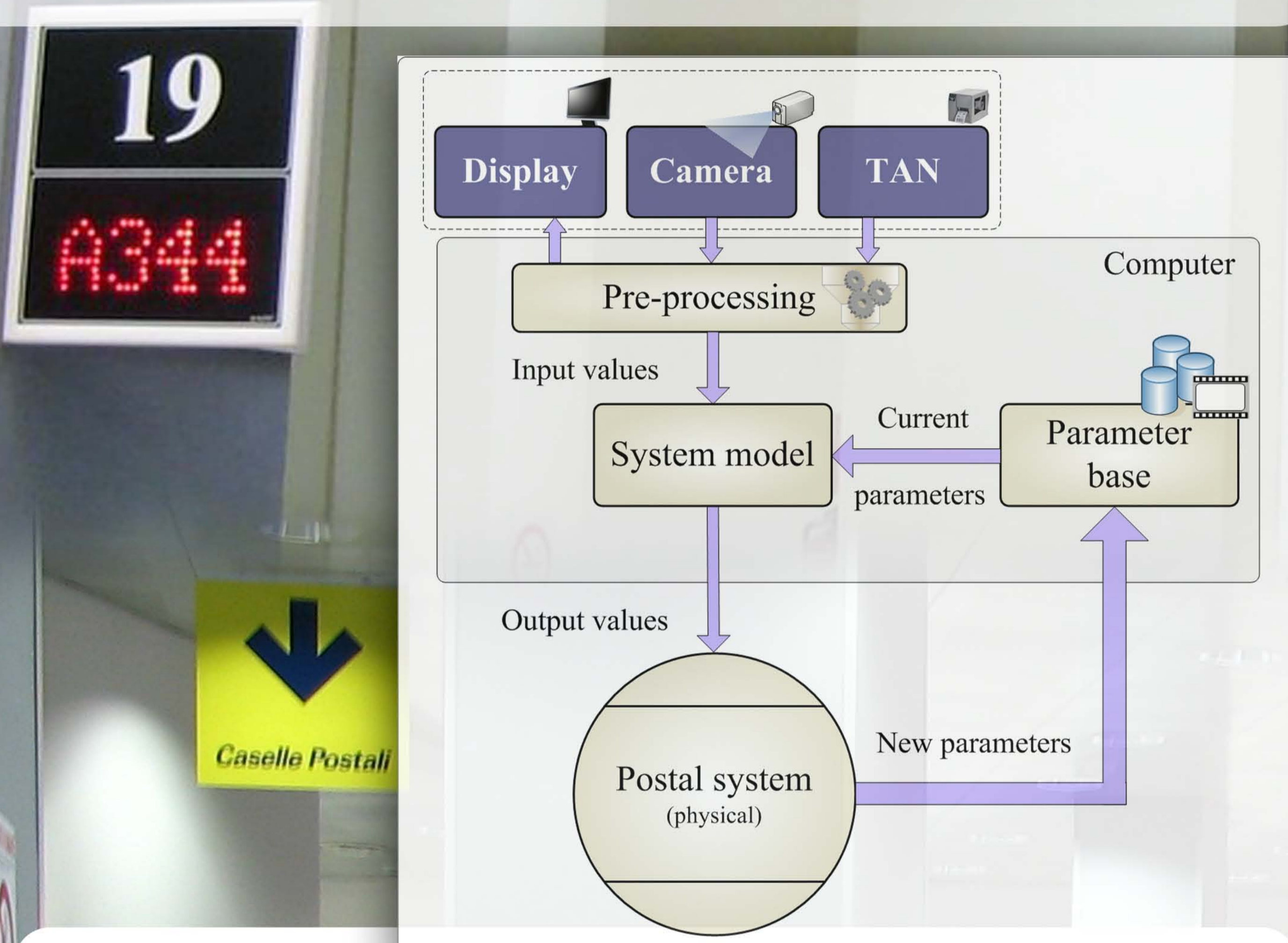


Figure 1: Main working principle of the postal service queuing model

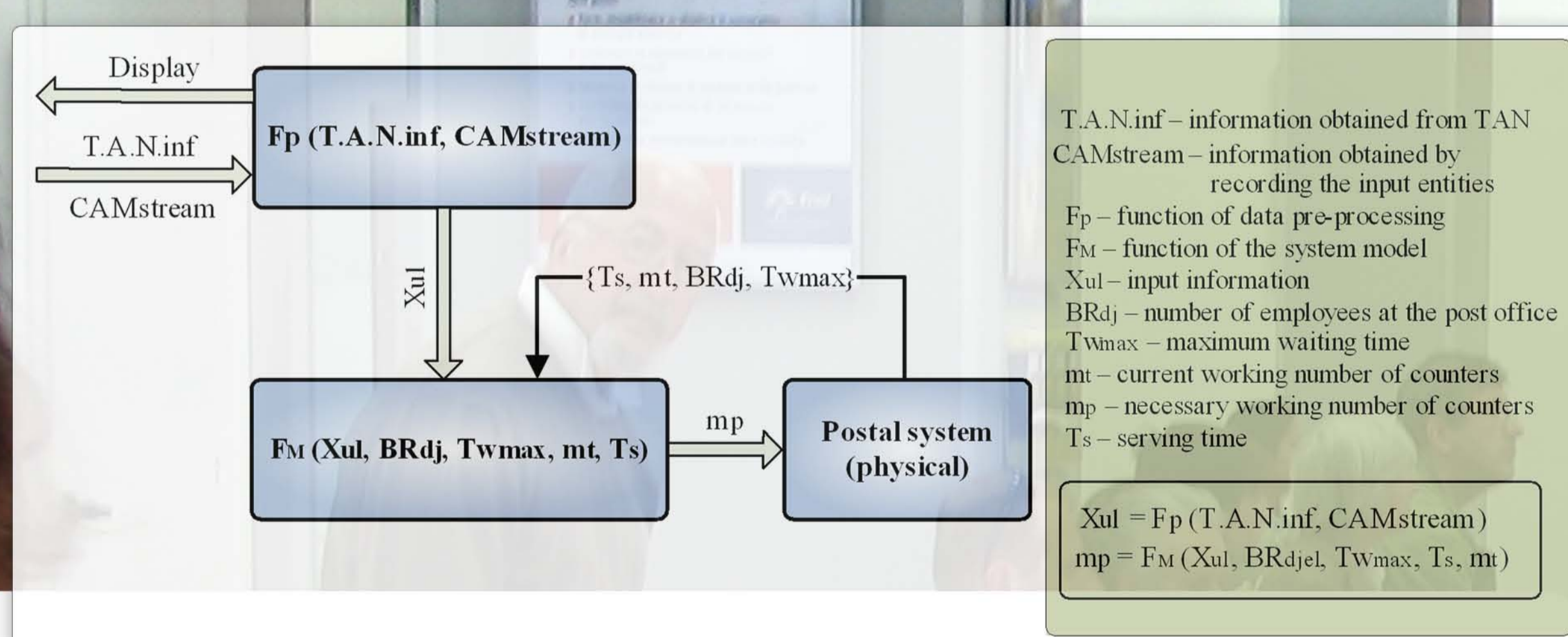


Figure 2: Mathematical description of the postal service queuing model

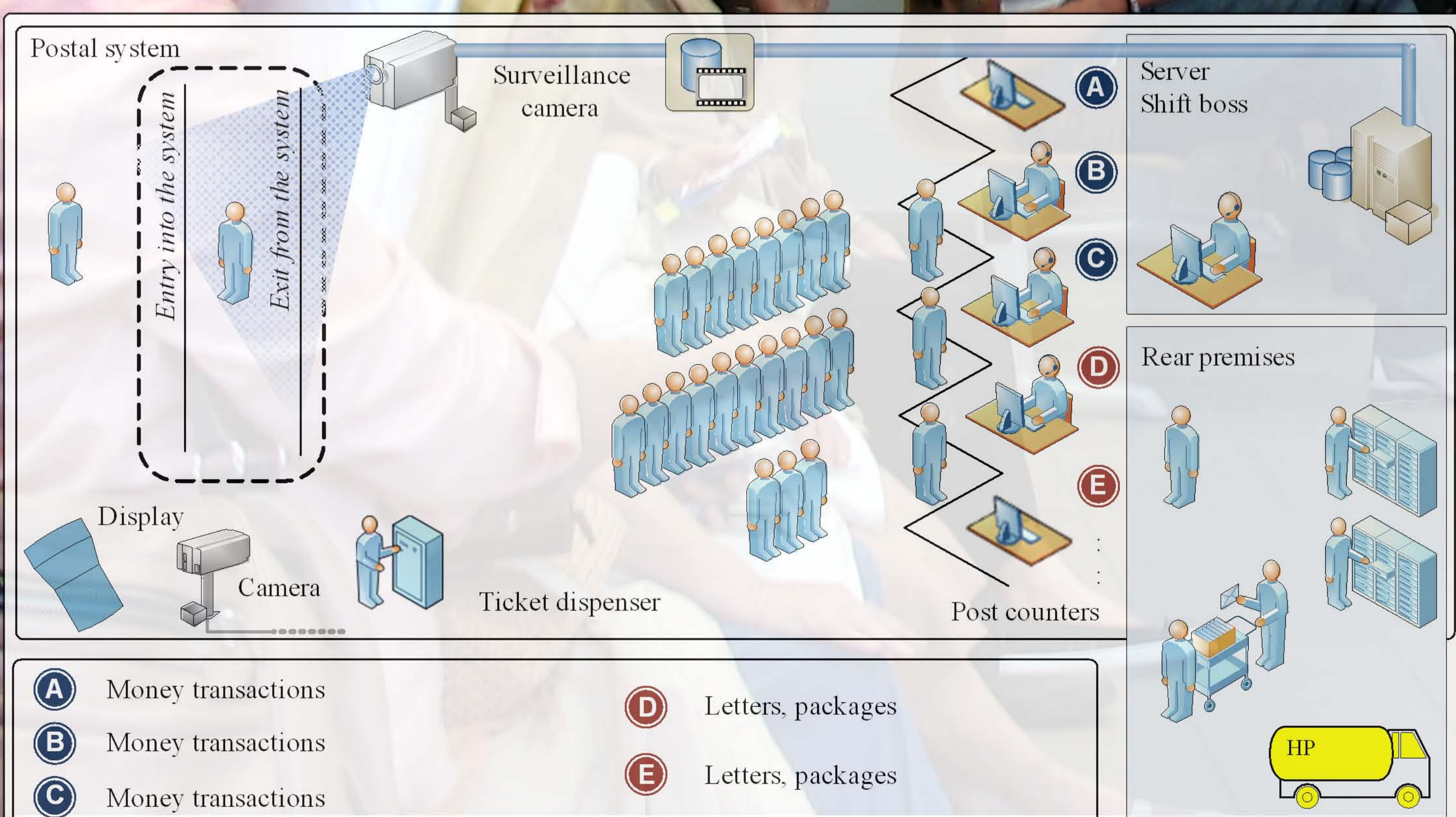


Figure 3: Presentation of the system