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| Vision Document |
| Topic: Sport Stadion |
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1. **The organization acquiring the IT system**
   1. Romper Arena
   2. Description of the organization

The facility is destined to be used during different sport and cultural events and concerts.

Organization is responsible for range of utilities such as: selling parking tickets; providing security stuff; selling food, tickets, souvenirs; planning events.

Employees: security, many kinds of sellers such as for hot-dogs or souvenirs, which sums up to around 2000 employees during events. Stadium has a capacity of 46 900 spectators.

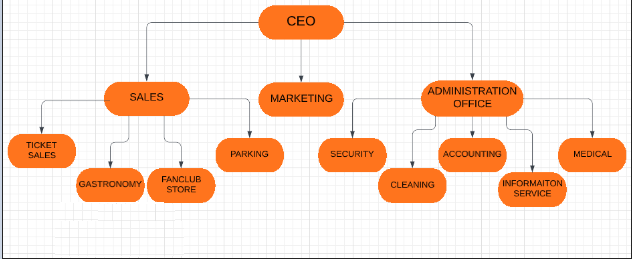
Enterprise is mainly for the city scale, but it also holds country or even international events. Organization is cooperating with local football club. The plan for upcoming years is continuing hosting league matches for local club. Stadium is also one of the main candidates for Europe League Final in 2025, thanks to upcoming modernization plan, which relies on the new IT system which will improve efficiency and spectator experience.

* 1. Organizational structure

A diagram showing the organizational structure org. (insert figure):

Responsibility of the organizational units:

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| **Organizational unit** | **Responsibilities** |
| CEO - Kamil Dędza | Main management, crucial decisions, delegating and directing agendas, setting and executing organizational strategy, communicating effectively with all stakeholders |
| Administration office | Managing office supplies stock and placing orders, preparing regular administrative reports, administration of company databases |
| Accounting department | Managing the finances of an organization, providing centralized support to other teams and managers, paying employees, including bonuses, commissions and benefits, monitoring employees' time off, vacation and sick days, paying taxes |
| Sales department | Preparing and making sales plans, prospecting and researching trends, handling sales issues, building customer relationships to get loyal buyers and get fixed income from subscriptions |
| Marketing department | Producing marketing and promotional materials, monitoring and managing social media defining conducting your brand campaign management for marketing initiatives. |
| Gastronomy department | Ordering food delivery from the warehouse, receiving food delivery, restocking food stands, operating food stands, food delivery to the client |
| Ticket sales department | Setting tickets prices, printing tickets, selling tickets, operating and upkeeping online ticket sales system |
| Parking department | Issues parking citations to drivers of illegally parked vehicles, assists in traffic and crowd control activities, patrols parking lots and parking structures and reports the existence of hazardous conditions. |
| Medical department | Providing first aid, transporting injured patients to the hospital |
| Fan club store department | Running fan club store, making clothes and other souvenirs about the given event. |
| Cleaning department | Responsible for all basic cleaning, cleans floors and rooms, including dust mopping, sweeping, vacuuming, cleaning windows and taking out the trash. |
| Information service department | Answering phone and chat questions, general helping customers about their every doubt, answering spectators’ questions face to face |
| Security department | Ensuring security of the players and spectators, predicting any dangerous situation that may occur during events, ensuring that hazardous materials or dangerous objects won’t be smuggled into the event, |



* 1. Problems occurring within the organization:

1. Not optimized path of spectators from the parking and the entrance to the stadium and their places, which creates unnecessary crowd, and slows down process of entering the stadium, especially while hosting big events.
2. Huge food waste after the events, because of the too big quantity ordered
3. Not efficient ticket pricing that is not generating as much revenue as it is possible
4. Work could be divided more efficiently, without employing too many workers.
   1. Generic concept of an IT system

Optimizing path of spectators from parking to their places, forecasting the quantity of food needed based on the number of tickets sold on the given event, generating more profit by optimizing the price of tickets based on the interest about the event and hiring less people

1. **System goals**

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| **Goal** | **Problem ID (optional)** | **Criteria (measures, levels)** |
| Spectators finding seats faster, making less crowd | 1 | Reducing by a quarter time needed to reach a seat from a parking |
| Wasting less food | 2 | Food waste reduced by 70% |
| Maximizing profits | 3 | Increase in income from ticket sales by 15% |
| Maximizing profits | 4 | Decrease in total wages by 5% |

1. **Stakeholders**

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| **Stakeholder** | **Viewpoint** |
| Spectators | Hopes: less crowded stadium, less chaos, safer;  Fears: higher ticket prices |
| Sales employees | Hopes: easier job, being more efficient with new tools  Fears: being replaced by AI |
| Gastronomy / ticket sales employees | Hopes: better financial performance which may result in raise |
| Parking employees | Hopes: spectators will know from the application where is the best place to park their cars which will result in less work  Fears: Less work can mean layoffs |
| Security employees / Medical staff | Hopes: System can decrease overall chaos which will ease their work |
| Marketing employees | Concerns: getting people familiar with new system and application |
| Information service employees | Concerns: New application can bring many questions from customers, who will call them to resolve their doubts |
| UEFA | Hopes: New stadium which can hold Champions League/Europe League/Conference League final |
| Sponsors | Hopes: less food waste --> better PR;  Innovative system would make the stadium more recognizable hence the sponsors are profiting from that |
| CEO | Hope: Maximizing profits |
| Cooperating IT systems | Fears: adapting to a new system |
| Government | Fears: Layoffs  Concerns: the question if the system will distribute spectators with accordance to the mass events law |
| Food supplier | Fears: Less profit because of less food delivered |

1. **System’s context**
   1. System users and their characteristics

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| **User** | **Characteristics** | |
| Spectators | Profile **[[1]](#footnote-1)** | Nowadays, nearly everyone is familiar with smartphones and simple application. However, some of them might need tutorial on how to use the application. Most of the users will speak in polish, yet during the international events, there will appear abroad spectators. |
| Conditions of use **[[2]](#footnote-2)** | Application will be used after purchasing tickets. They have to be informed about the application, have a smartphone with internet access and application downloaded. Application has to be easy to use, reliable, has to process a lot of data quickly and good GPS connection for reliable position on the map as the application will be used while moving. |
| User interface requirements **[[3]](#footnote-3)** | Different font sizes, help option, undo option, summary with all the important information after purchasing the tickets. Application will have option to be in English. There has to be tutorial and FAQ available and contact number to information service. |
| Office jobs (administration, sales, accounting, marketing) | Profile | The company hires employees in all range of age, and IT skills, so some of them might find some difficulties in getting to know the new system. |
| Conditions of use | Application will be used mostly on the office computers; it will be used for extended period of time (up to 8h office hours); dealing with huge data sets, quick and easy access to essential data. |
| User interface requirements | Different font sizes, dark mode, useful shortcuts that will make the work faster, simplicity and clarity of interface, simple AI to detect small errors, double step verification, hints and contextual help on how to use the system. |
| Security employees / Medical staff /  Parking department | Profile | The company hires employees in all range of age, and IT skills, so some of them might find some difficulties in getting to know the new system. |
| Conditions of use | System will be used by workers in the field (in the boundaries of the stadium), employees might be moving quickly, there may be a lot of noise and crowd around; application has to be error-free. |
| User interface requirements | simplicity and clarity of interface, ability to communicate with each other, interface has to support intercom system, hints and contextual help on how to use the system. |
| Information service | Profile | The company hires employees in all range of age, and IT skills, so some of them might find some difficulties in getting to know the new system. |
| Conditions of use | Application will be used in the small information points across the stadium, while working with the clients, there could be a lot of people waiting in the line, and lots of noises; application has to give quick answers to the user. |
| User interface requirements | Different font sizes, dark mode, useful shortcuts that will make the work faster, simplicity and clarity of interface, hints and contextual help on how to use the system. |
| Gastronomy / ticket sales /  Fanclub  employees | Profile | The company hires employees in all range of age, and IT skills, so some of them might find some difficulties in getting to know the new system. |
| Conditions of use | System will be used in cash registers inside dedicated stadium stands, work with clients, it might be hot in some of the stands, noise, crowd, lots of work; application has to give quick answers to the user and flexible for possible changes such as price, discounts, quantity. |
| User interface requirements | Different font sizes, undo option, simplicity of the interface, hints and contextual help on how to use the system. |

* 1. External cooperating IT systems and their interfaces

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| **Cooperating IT system** | **System’s interface (provided / expected functions, transmitted data, technical means of cooperation e.g. API, web service, export/import)** |
| Online payment system | Price in the system will be updated in real time based on our pricing algorithm, proceeded transactions will be passed to our accounting system |
| Accounting system | System will receive information about sales |
| Parking system | System will get information about client’s dedicated parking spot, then print a parking ticket, system will also have a capability to validate already bought tickets from application |
| Security system | The system will get information about expected number of spectators in each sector |

1. **Functional requirements**

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| **User** | **Function** | **Priority** |
| Spectators | F1.1 Finding the shortest path to the seat | SHOULD |
| F1.2 Buying tickets | MUST |
| F1.3 Buying parking tickets | COULD |
| F1.4 Ticket return | SHOULD |
| F1.5 Buying items from Fanclub store | SHOULD |
| F1.5 Ability to order food with delivery directly to client’s seat (in the stadium boundary) | SHOULD |
| F1.6 Browsing through the already bought tickets | MUST |
| F1.6 Browsing through the list of upcoming events | COULD |
| Food department | F2.1 Forecasting the number of spectators | MUST |
| F2.2 Predicting quantity of supplies depending on number of spectators | MUST |
| F2.3 Showing how much food was sold and is in stock | MUST |
| F2.4 Ordering supplies | MUST |
| Food staff | F3.1 Taking orders | MUST |
| F3.2 Showing the path from the food stand to the spectator that ordered the food | SHOULD |
| F3.3 Allocating worker to the stand | MUST |
| F3.4 Allocating person to a task | MUST |
| F3.5 Executing orders | MUST |
| Security  department | F4.1 Placing security guards in the specific sectors | SHOUL |
| F4.2 Hiring the needed amount of security guards | MUST |
| F4.3 Surveillance system | COULD |
| Security staff | F5.1 Checking tickets at the entrance | MUST |
| F5.2 Reporting emergency situations | SHOULD |
| F5.3 Allocating worker to the sector | MUST |
| Medical Staff | F6.1 Reporting emergency situations | MUST |
| F6.2 Allocating worker to the sector | MUST |
| F6.2 Creating efficient deployment plan regarding number of spectators in each sector | SHOULD |
| Accounting department | F7.1 Optimizing number of employees and their wages | MUST |
| F7.2 System will allow transition of information about sales from ticket sales department directly into accounting system | MUST |
| CEO | F8.1 Checking efficiency by creating plots and comparing them | COULD |
| F8.2 Forecasting future trends | COULD |
| Ticket sales department | F9.1 Pricing tickets at the most profitable price | MUST |
| F9.2 Selling tickets | MUST |
| Fanclub store | F10.1 Browsing currently available items in warehouse | MUST |
| F10.2 Ordering supplies | MUST |
| F10.3 Setting price of the item in warehouse | COULD |

1. **Quality requirements**

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| **Attribute** | **Requirement regarding that attribute**  **(Expressed in a way that enables objective verification whether the system complies to such requirement)** | **Priority** |
| performance | Servers has to be able to give a quick response (smooth for the user, without lags or crashes), application has to be available for 60k users at one time | MUST |
| reliability | Application has to not to crash under 60k users at the same time | MUST |
| availability | Application has to be available 98% of time for workers at any given time while for spectators, short time before (3 days) and during events | MUST |
| security | Data security, resistant from external attacks (malicious software, DDOS attack), preventing unauthorized access to system | MUST |
| safety | System must not overload sectors and work with accordance of the mass events laws. | MUST |
| portability | Application has to be available at any Android, IOS, Windows and Mac devices. | SHOULD |
| flexibility | It will be possible to add new features or change existing ones in the future (short term: location of the food stands, seats numbers or sectors may be changed; long term: stadium may undergo renovation / expansion, so more sectors could be added) | MUST |
| configurability | It will be possible to change the already existing parameters | MUST |

1. **Constraints**

Time: Before the start of new football season (July of the next year)

Budget: 1,200,000 PLN

Specific conditions to be operated in: NONE

Specific equipment to be used on: Cash register, computer, smartphone, parking meter, opening gate

Development technologies imposed by the customer:

Specific data formats to be used: EXCEL

Required documentation: API of the system, manual for the workers and spectators, detailed documentation of all features of the application, license for the usage of the software

Required trainings to be organized: employee training on how to use the system

Required deployment arrangements: All system at once with one week time to do so

Product/development process compliance with specific standards: software has to work with accordance to GDPR and mass events law

Other: NONE

1. Profile – user’s ability of using IT systems, needs of help/support, limitations (impairments, language etc.) [↑](#footnote-ref-1)
2. Conditions of use - specific conditions of using the system, the most important aspects of performed tasks [↑](#footnote-ref-2)
3. User interface requirements - requirements concerning user interface (derived from profile and conditions of use!) [↑](#footnote-ref-3)