

## Project Description

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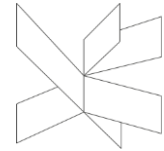
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**Software Engineering**

**Semester 3**

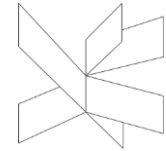
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## 1. Background description

The film industry has experienced a steady growth in recent years, as reported by the Motion Picture Association of America (Motion Picture Association of America, 2017), with the global box office in 2016 for all films increasing by one percent from 2015. In 2016 the number of cinema screens has also increased by eight percent showing an upward trend in what concerns the cinema business. In Denmark there have been reported 11.9 million admissions to movies in 2017 alone (Danish Film Institute, 2017). As the average ticket price for a movie can be estimated at about 9.6 euros the Danish box office revenue for 2017 was approximately 114 million euros. The annual budget of the Danish Film Institute (DFI), for that same year, was 66.9 million euros, the annual accounts reaching a total of 7.4 million euros. The operating costs for the DFI was roughly 1.6 million euros, 26 percent of which was attributed to properties, IT systems, etc.

Over the years, Danish cinemas have experienced a steady decrease in activity and popularity. While the total number of cinemas and digital screens within them has increased since 2011, overall, there has been a decline in the total number of tickets sold, despite the constant sprouting of new cinemas all over the country.

In 2011 there were 12.4m tickets sold in Danish cinemas (155 cinemas) (Danish Film Institute, 2012), in 2016 (Danish Film Institute, 2017) there were 13m tickets sold (163 cinemas) while in 2017, 11.9M (Danish Film Institute, 2018) (166 cinemas). The number of tickets sold per capita fluctuates between 2.1 and 2.4 with 2017 coming in at 2.1.

This overall decline in recent years (Nielsen, 2018) can be attributed to many reasons but the rise in popularity of streaming platforms such as Netflix and HBOGo that offer, subscribed users, movies and tv shows on demand has been one of the main reasons why Danes no longer go to the cinema as often as they did. Netflix launched in 2012 (media.netflix.com, 2012) in Denmark and since then it quickly became the most popular entertainment streaming platform in the country.

There is a new cinema company on the market. Zinema is an up and coming business in need of help. It wants to have alleviated some of the pressure brought by starting in a declining market in Denmark. Its main purpose is to revive the Danish films in a new modern way.

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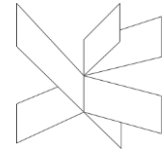


Some of the biggest maintenance costs go into the IT systems. Their software has an old interface that is costly to maintain and built in a way that no further features can be added to it. The customers and administrators have reported that it's hard to handle and crashes often, without having saved what the user has done. This has resulted in a lot of money lost for the starting company.

POStive Cinema, a company that offers management solutions to cinemas, states that their product helps their clients “achieve better results and improve operational efficiency” (POSitive Cinema, 2018). Knowing that software has a big influence on the future success, Zinema wants to provide their clients with the best possible software that will not only “enhance the cinema experience” (Vista Cinema, 2018), but also emphasize Zinema’s unique features.

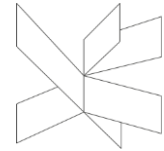
The cinema business is in search of a way to improve the user experience and the functionality while also lowering the costs of maintenance.

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## 2. Definition of purpose

The purpose of the project is to facilitate Zinema's management process regarding ticket booking, advertisement placing and movie screening.



### 3. Problem Statement

Below, there are some overall questions that encompass the final goal of the project.

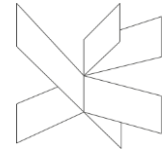
**Overall Question:** What are the main problems of Zinema's current system that needs to be addressed?

**Specific Question:** How we can ensure the system will be scalable?

**Specific Question:** If an issue arises, how can it be assured that it doesn't affect the whole system?

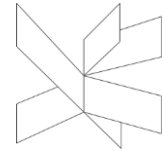
**Specific Question:** If the system crashes, how can data loss be avoided?

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#### **4. Delimitation**

- Real currency transactions will not be supported
- Legal issues will not be handled



## 5. Choice of models and methods

The project will be built upon the use of SCRUM and UP.

Scrum is a framework with which people can address complex adaptive problems, while productively and creatively delivering products of the highest possible value, according to Scrum.org (Scrum.org, 2018). This model will help in collaborating, dealing with unpredictability and solving complex problems to obtain the final product.

As documented by upedu.org (<http://www.upedu.org/>, 2018) UPEDU is a software engineering process. It provides a disciplined approach to assigning tasks and responsibilities within a development organization. Its goal is to ensure the production of high-quality software that meets the needs of its end users within a predictable schedule and budget.

This process divides the development process into four phases:

- Inception
- Elaboration
- Conception
- Transition

Using both frameworks will ensure having a methodology to follow while working and a detailed documentation of how the problem was approached.

## 6. Time schedule

10 ECTS = 275 Hours per Student

1375 hours in total (5 students)

Project Deadline: 19<sup>th</sup> of December 2018

Inception start: 20<sup>th</sup> of December 2018

Finalized Project Description: 2<sup>nd</sup> of October

Preparing the environment for the project: 4<sup>th</sup> of October

Inception end: 5<sup>th</sup> of October 2018

First Product Backlog: 7<sup>th</sup> of October

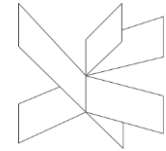
Sprinting starts: 8<sup>th</sup> of October 2018

There will be 9 sprints until the 19<sup>th</sup> of December

Each sprint will be composed of 5 days, 6 hours per person

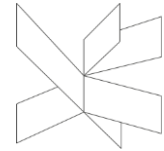
150 hours per week for all the team





## 7. Risk assessment

| Risks  | Description   | Likelihood                 | Severity                   | Risk mitigation<br>e.g. Preventive &<br>Responsive actions  | Identifiers                | Responsible |
|--|---|----------------------------|----------------------------|---|----------------------------|-------------|
|  |   | Scale 1-5<br>5 = high risk | Scale 1-5<br>5 = high risk |   |                            |             |
| Risk not to meet the requirements              | Lack of time, poorly made schedule, insufficient knowledge; | 2                          | 5                          | Preventive:<br><br>Proper management of the requirements;<br>Respect the schedule;<br><br>Responsive:<br><br>Accomplish what was agreed on; | Being behind the schedule; | Andrei      |
| Technical issues                               | Software crashes, broken computers, unsaved files;          | 2                          | 5                          | Preventive:<br><br>Having everything backed up on GitHub;<br><br>Responsive:<br><br>Restore data from GitHub;                               | Corrupt data;              | Claudiu     |
| Injuries or illness                            | Seasonal viruses, bicycle accidents;                        | 3                          | 2                          | Responsive:<br><br>Work from home;  |                            | Dominika    |
| Insufficient knowledge in software development | Lack of knowledge in networking and web services;           | 2                          | 4                          | Preventive:<br><br>Read additional materials and keep up with class exercises;  |                            | Stefan      |
| Group conflicts                                | Fights and disagreements between members;                   | 1                          | 4                          | Preventive:<br><br>Follow Group Contract;<br><br>Responsive:<br><br>Try to compromise;  |                            | Nikita      |



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