

# RealME: A Digital Tool for Prisoners to Develop Employability Skills

Interaction Design Project

Date: 10 February 2017

Daniëlle Duijst  
University of Amsterdam  
Student number: 11266988  
dmsduijst@gmail.com

Xander Koning  
University of Amsterdam  
Student number: 10439099  
xanderkoning@hotmail.com

Charilaos Mulder  
University of Amsterdam  
Student number: 10474129  
charilaosmulder@outlook.com

Grigorios Tsardanidis  
University of Amsterdam  
Student number: 11407506  
pastsar@gmail.com

Anneke Wiltenburg  
University of Amsterdam  
Student number: 10669582  
annekewiltenburg@gmail.com

## ABSTRACT

Lack of employment is a severe problem ex-prisoners face. Interventions are required inside prison to strengthen their changes to get a decent job and equip them with valuable knowledge and skills. We aimed at creating such a digital interventions as part of the Real Life Project for Dutch jails. For this purposes we collaborated with different organisations working on the Real Life Project and conducted tutors and prisoners in both juvenile and adult prison. We aimed to use the feedback provided to create a system fitting the needs of both the organisations and the end users. As a result we developed RealME, a system through which the prisoners are able to explore several professions and enroll in course and tasks provided in prisons. Prison tutors and companies representatives can add professions and courses related to these professions. With this system a portfolio is created for each individual prisoner which they can take with them when they are released from prison. Finally, we conducted a usability test of the proposed system with prisoners and the results were overall positive.

## Keywords

Interaction Design, Employability, Prisoners, Digital, Portfolio

## 1. INTRODUCTION & MOTIVATION

In the Netherlands, around 30.000 prisoners return to society every year<sup>1</sup>. The percentage of ex-prisoners that has

<sup>1</sup><https://www.rijksoverheid.nl/onderwerpen/recidive/inhoud/begeleiding-tijdens-de-gevangenisstraf>

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. To copy otherwise, to republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee.

Copyright 2016 ACM University of Amsterdam ...\$15.00.

to go back to prison within two years, is currently 47%. This percentage is 34%, if the prisoner has to undergo community service or is under probation. According to the Scientific Research and Documentation Centre (WODC), the recidivism number is decreased between 2002 and 2010<sup>2</sup>.

Still an important amount of ex-prisoners re-engage in criminal activities. An important factor for this outcome is their inability to find a job when they are released and therefore acquire a decent income. While in prison, prisoners lose touch with society and the professions needed. Occasionally, they lack basic knowledge which, in combination with the social barriers faced by society, eliminate their chances of getting employed. For this purpose, employability empowerment interventions inside prison are of high importance.

In this context, the Project RealLife has been developed, an international program aiming at preparing prisoners for their life after prison. Our goal is to design a digital intervention in order to contribute to the Phase 2 of Project RealLife, which aims to prepare the prisoners for their first three months after prison and focuses on the aspect of employability.

We aim at putting the prisoners in the center of our design process and identify what they consider important for finding a job after prison. With these things in mind we started to develop a system without having a pre-set plan, willing to listen to all feedback, and gathering requirements from all the stakeholders.

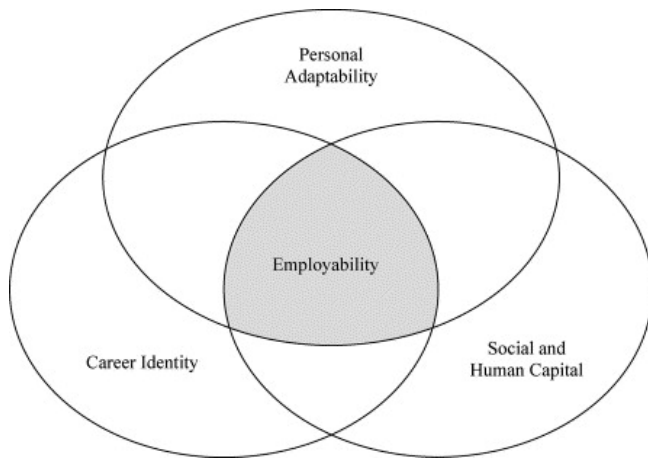
## 2. RELATED WORK

### 2.1 Employability

Employability can be defined and described with different views. Sometimes employability means: *the individual's relationship with his or her job*. When looking from the employer's point of view, employability can mean: *the skills and attributes the person has to have to become employable*. Mostly used is the narrowed down concept, where employa-

<sup>2</sup><https://www.rijksoverheid.nl/onderwerpen/recidive/inhoud/vermindere-recidive>

bility means: *the skills and attributes possessed by the employee* (McQuaid & Lindsay, 2005).



**Figure 1: Three dimensions of employability (Fugate et al., 2004)**

Employability can be divided into three dimensions: career identity, personal adaptability and social and human capital (see Figure 1). Career identity encompasses career goals, hopes and fears, personality traits, values, beliefs, norms, etc. (Fugate et al., 2004). Another aspect of career identity is if the individual can reflect on their behaviour and identity related to their career. We will discuss three types of people. Firstly, people with an "information orientation" do their own research and find their own information about improving their job situation and general careers. Secondly, there are people with a "normative orientation", they try to fulfill expectations from others. Lastly there are people with an "avoidant orientation", who mainly avoid self-reflection (Ashforth, 2000). Our user group consists mainly of people with an avoidant orientation.

Personal adaptability is an individual's quality to deal with uncertainty, vagueness and when working with different temporal and geographic boundaries (Pearlman & Barney, 2000). Besides the already mentioned factors, optimism, the propensity to learn, openness, internal control and generalized self-efficacy contributes to personal adaptability (Ashforth, 2000).

Social and human capital are both ingrained in a person's career identity, which means it's also integrated in the construct of employability (Fugate et al., 2004). Social capital focuses more on the goodwill inherent within social networks. Human capital consists of multiple factors which influence an individual's career path: age & education, work experience & training, job performance & organization tenure, emotional intelligence and cognitive ability (Fugate et al., 2004).

## 2.2 Employability systems

In this paragraph we will focus on the systems we found that try to help their users improve their employability skills or are related to career identity, personal adaptability and social and human capital.

In Dunwell's paper, they propose a serious game that gives career guidance, such as: character development and deci-

sion making (Dunwell et al., 2013).

*Unlock Employability* is a serious game in which users can train their employability skills <sup>3</sup>. The makers describe employability skills interchangeably with social skills. They divided these social skills into 6 sections:

1. Communication skills, for example: effective listening, appropriate and good use of questions, clear and concise direction
2. Decision Making/Problem Solving, e.g. The ability to identify and analyse an issue, take effective and appropriate action, recognise effect of decision
3. Self-Management skills, e.g. Self-motivated and proactive personality traits, loyalty, adaptability and the ability to work well under pressure
4. Teamwork skills, e.g. Positive and encouraging attitude, accountability, willingness to share ideas and listen to others' views, punctual
5. Professionalism skills, e.g. Appropriate language use, trustworthy, accepting of criticism, realistic understanding of job role
6. Leadership skills, e.g. Strategic thinking, conflict management, respect for others knowledge, recognise others strengths and weaknesses, ability to build relationships

They do not have any proof of positive results of this serious game. *Employability Unlocked* could be implemented in a variety of sectors, but it is discussable if it would be suitable and feasible for prisons.

## 2.3 Human-Centered Design

One of the goals of Human-Centered design is to provide a great usability and user experience. The international standard for Usability is ISO 9241-11, where usability is defined as:

"The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use." (Bevan, 2001)

So by taking usability into account, we try to tackle and improve these three factors in our solution:

- Effectiveness - can the prisoners complete the tasks they want to do?
- Efficiency - what is the effort the prisoner has to do, to complete those tasks (e.g. time of task)?
- Satisfaction - are the prisoners satisfied about the ease of use and user experience of our system?

In the Interaction Design, we will explain further how we designed our system in a human-centered way.

<sup>3</sup><http://www.totemlearning.com/totemblog/2015/11/20/a-game-to-unlock-employability-skills>

### 3. THE PROJECT

In this section we will describe our project. We will briefly mention the overall goal of this project with the given problems related to this matter. We will also discuss which are our main stakeholders in this project. Subsequently, we show the PACT analysis we conducted. This analysis tells us about the people using our system, the kind of activities they will be doing with it, in which context and with what kind of technologies.

Before we start explaining what our project is about, we should explain the context of our project more thoroughly. Our project is ingrained in the RealLife project<sup>4</sup>. RealLife is an EU funded project that involves Virtual Reality and Serious Gaming to improve 21st Century skills and increase employability of prisoners.

#### 3.1 Stakeholders

The following section will sum up all the stakeholders involved in this project. During the course of this project, a lot of different organisations and projects were discovered. Figure 2 pictures all the different organisations and the projects they are involved with. The organisations we got involved with during the course of this project will be explained in more detail in this section. As mentioned before, the system we designed during this project needed to fit into the RealLife project.

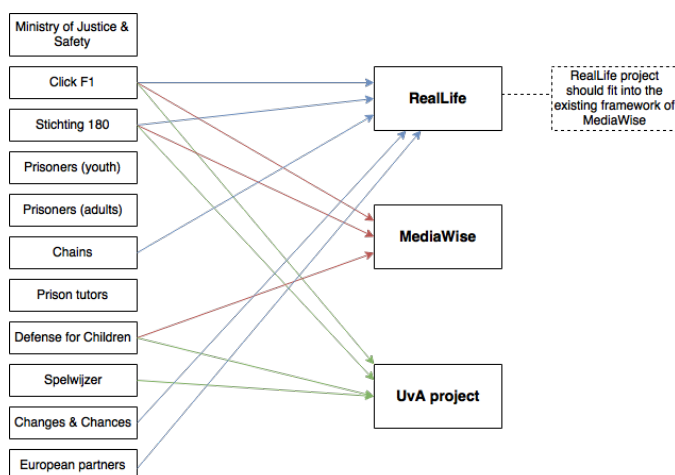


Figure 2: Diagram of all involved organisations and projects.

##### 3.1.1 Click F1

Click F1 is the organisation to which our client (Alice Erens) belongs to. It is an organisation that creates educational systems. They create the systems when ordered by the government, schools, other social organisations and the business sector. They have a permanent group of people in their managing board, and they have several preferred partners with whom they work with on several projects. Their focus is the empowerment and the future of children<sup>5</sup>.

They are one of the main creators of MediaWise and are highly involved in the RealLife project.

<sup>4</sup><http://reallifeproject.eu>

<sup>5</sup><http://www.clickf1.nl>

##### 3.1.2 Stichting 180 (foundation)

Stichting 180 is a foundation that has three areas of expertise. Those three areas are youthcare & small government, high school education and safety & justice. In the safety & justice department, they have over 10 years of experience in the development and implementation of (personal) guidance. They are also the administrators of YOUTURN, which is a method collectively used in juvenile prisons since 2010 to prepare the juveniles for entering the society again.<sup>6</sup>

##### 3.1.3 Chains (foundation)

Chains is an organisation whose goal is to "implement more human and effective justice systems for all people incarcerated, either mentally or physically, by combining the knowledge of science, governments, and society"<sup>7</sup>. It is a rather small organisation with Veronique Aicha as the founder. Chains is also one of the main creators of RealLife and works closely together with Click F1.

##### 3.1.4 Changes & Chances

Changes & Chances is a network organisation lead by Ed Santman, who is also involved in the RealLife project<sup>8</sup>. Ed is involved in the RealLife project by brainstorming ideas together with Click F1 and Chains. He is also involved in the implementation of phase 1 of the RealLife project.

##### 3.1.5 European Partners

The RealLife project is meant to be an international project, with also tests running in other European countries (e.g. Turkey). Subsidies for this project are also being given by the European Union<sup>9</sup>. The RealLife project also collaborates with several international organisations, e.g. the Nottingham Trent University<sup>10</sup>.

##### 3.1.6 Ministry of Justice and Safety

The ministry of justice and safety is part of the Dutch government. They are responsible for the law and order in the Netherlands. They work together with small government, educational institutions, businesses and the tax authorities. They are important for this project, because they make the laws and rules that apply within the prison. Also, they give the funding to the different organisations working on RealLife. Their wants and needs can have great influence on what is allowed within in prisons (e.g. in terms of what computer systems will be available and what websites are allowed).

##### 3.1.7 Prisoners (juveniles)

The juvenile prisoners are mostly male youngsters who have to stay in a juvenile institution for various reasons. They are in there because they were a harm to themselves or to their environment. Most of them are between 16 and 20 years old. Most of them do not have job and did not finish school. They will be the end-users of the system.

There are two main groups of juveniles; the ones on which the PIJ-measure (Plaatsing in een Inrichting voor Jeugdi-

<sup>6</sup><http://180.nl>

<sup>7</sup><http://www.chainsinternational.com>

<sup>8</sup><http://changeschances.com/about/>

<sup>9</sup><http://www.erasmusplus.nl/reallife-serious-gaming-and-virtual-reality-to-develop-21st-century-and-employability-skills>

<sup>10</sup><http://reallifeproject.eu/partners/>

gen) is imposed and the other juvenile prisoners. The juvenile prisoners of the first group also have some (severe) psychiatric problems. The length of their detention is unknown and can be prolonged at any time. The juvenile prisoners on which the PIJ-measure is not imposed, have a set date on which they will get out of prison.

### 3.1.8 Prisoners (adults)

The adult prisoners also consists mainly of men. The main age group the RealLife project is targeting the age group between 16 and 35 years old. In the adult prison, this system will be targeted at everyone who does not have a job when they get out of prison or who wants to change their profession when they get out of prison.

### 3.1.9 Supervisors of the prisoners

The supervisors of the prisons are heavily involved in the lives of the prisoners. They are a contact point for the prisoners if they are interested in following education. A system such as this paper proposes, should be maintained and supervised by the supervisors of the prison.

## 3.2 PACT Analysis

According to Benyon (2005), a PACT analysis is a good starting point of design (Benyon, Turner, & Turner, 2005). The PACT analysis stands for 'People', 'Activities', 'Context' and 'Technologies'. We use this analysis, because it covers a broad range of aspects we should take into account before designing this system. We hope that with the results we can design a system that is usable and useful for the majority of the prisoners.

### 3.2.1 Persons

In this section we will describe the differences of the end users of our system. Firstly we will discuss the physical differences we should take into account. Secondly, the psychological differences between prisoners and thirdly the differences in the usages of the system will be discussed.

Physical differences between users can be related to the five senses of human beings or differences in height and weight. It is possible that some prisoners have for example limited vision or hearing which can have an effect on using our system.

Psychological differences are for example differences in intelligence, personalities, cultural or logical thinking of prisoners. People end up in prison for a broad range of offences, from financial to violent offences. This means that there is a great difference in intelligence and personalities of our end users. For our system we have to take this into account.

The level of previous education among the prisoners differs a lot. Some of the prisoners have a finished education, while some others have no certificates and have fallen behind in school and might have some reading and writing problems.

Next up, a lot of the prisoners lack focus. They find it difficult to start and finish tasks. When they are obliged to read large pieces of text, they tend to lose concentration and focus. They need other stimuli than just text to obtain information.

Also, the differences in the usage could be that some prisoners are obliged to use this system to show that they are motivated, they have to be motivated extrinsically to use this system. Other prisoners are intrinsically motivated to use this system, because they see, for example, the use of it.

Lastly, we have to take differences in the usage of our system into account. Also the usage depends on the technical experience of our users. If they are not used to work with digital systems, it might be harder for them to navigate and understand the system than for prisoners that are more technically experienced.

### 3.2.2 Activities

Activities can be divided into smaller parts such as temporal aspects, co-operation, complexity, security critical and the nature of the content. These will be described below.

Temporal aspects tell us about the frequency of an activity. This system should be used under the supervision of a tutor, especially in the beginning. The supervision will probably be on a weekly basis. The prisoners will not have unlimited access to the system. It is important that the system is self-explanatory, because the prisoners will have to understand the system on their own.

It is also important that the system keeps track of the progress of the prisoners, so they can continue their process where they left. Every prisoner should have a personal account, wherein this process can be saved. Another temporal aspect is the reaction time of the system, this should be a two second limit (Shneiderman, 2010).

Cooperation is about using the system alone or together with other prisoners. Within the first phase of the RealLife project, every prisoner will have a personal account and avatar. These accounts should be used in this system as well. The prisoners will use the system individually when they log in with this personal account. However, they will sit in a computer-room with more prisoners working with the same system, so the prisoners are able to discuss the activities they are working on. Security critical is about the risk of the system when a mistake is being made by the prisoner. The prisoners will have limited access to the system. Only tutors and people of the prison organisation will be able to make changes when something goes wrong. An example may be that a prisoner entered some incorrect information on the profile page.

The nature of the content of our system will be either accessible by a normal computer or in a future stage maybe by means of a tablet. With both media, all the system's functionalities have to be supported.

### 3.2.3 Context

In this section, the social, organisational and physical context of our system will be explained.

For this project, the physical context of the prisons has to be taken into account. In this case, the final system designed needs to be able to be implemented in a prison environment. This brings some limitations along. Namely, certain privacy issues which have to be taken into account. Also, Internet access and computer availability within the prisons is limited. This slightly differs for each prison. For juvenile prisons sometimes other rules are applied compared to adult prisons.

The social context of this system is the environment of the computer room where the prisoners will work on this system. In this space, several prisoners will work with the system at the same time, each one using a different computer. A tutor will be available to give them help whenever they need it. Since more people are working in the same room, sound should be limited or headphones need to be used.

The organisational context for this system should be able to work within prisons. Within the prisons, there are computer rooms set up where the system will be executed. During set times of the week, the prisoners will have the availability to work with the system. A tutor will be available during this time to help the prisoners where needed. The timing and place of the working with the system will be the same every time.

Normal personal computers or laptops are available within every prison (even though not for unlimited use for the prisoners), so the system needs to fit this environment. Besides personal computers, some prisons will start experimenting with tablets. If the design of the system would also be able to be implemented on tablets, this would be beneficial for future use.

### 3.3 Technologies

In the last part of the PACT analysis, we will describe the technologies of our system. We will base this paragraph on the aspects Input, Output, Communication and content of our system.

The input for our system is about the data that will be entered by our user. The prisoners will input our data mainly via keyboard or by selecting things with the mouse. In case of using an iPad, the data will be inputted by using the touchscreen.

The output of our system will be mainly text, video's and images used to describe or support within the navigation of our system. It is necessary that the users can listen to the audio of the videos, therefore the system needs an audio output device, like speakers or headphones.

The communication of our system is mainly about how the system is communicating with the prisoners. It is important that the system clearly communicates if something is happening, or wrong. It is also important that the progression of a process is being communicated, for example when the user has to wait (Benyon et al., 2005). We want our system to be as transparent and clear about what is happening as possible so that any misinterpretations can be avoided.

## 4. REQUIREMENT ANALYSIS

During this project, we had several appointments with some of our stakeholders. Namely with Alice (our client from ClickF1), Ed (from Chances & Changes), Veronique (from Chains) and in prison. Using these meetings and interviews, the requirements from the client are created. Also, some requirements from the prisoners are mentioned when we first visited them in October.

### 4.1 Requirements from Click F1

As discussed before, our solution has to fit within the overall project called RealLife. RealLife consists out of four different phases:

1. The first two days out of prison
2. The first three months out of prison
3. The first year out of prison
4. After the first year out of prison

During phase 1, the focus should be on the first needs, like shelter and food. During the second phase, the prisoner

needs to develop himself, build a CV and find a job. The third phase is about responsibility and the fourth phase is about complete immigration and potentially also transferring your knowledge to other people getting out of prison.

This project focuses on phase 2 (the first three months out of prison). Mainly, this system needs to increase the employability of the prisoners. Using the information we got from Alice, a list of requirements was created. The MoSCoW method is used to prioritise the requirements (Vestola, 2010).

#### *Must have's:*

- System must be adaptable to every prison in the Netherlands.
- System must fit male prisoners in the age of 17 to 35.
- System must be digital.
- System must help prisoners to find work in the first three months they are out of prison.
- System must be sustainable.

#### *Should have's:*

- System should create a portfolio for prisoners when they leave prison.
- System should be modular.

#### *Could have's:*

- System could teach 21st century skills.
- System could be adaptable to every prison within Europe.

#### *Won't have's:*

- Teaching anything other than employability skills
- Implementation on anything else than desktops and maybe in the future iPads.

## 4.2 Feedback from prisoners

The first visit to prison (on the 27th of October) we interviewed four prisoners about their ideas of digital tools to help them find a job. The complete notes of this visit can be found in appendix A. During this visit, the most important things that were found by the prisoners were that the tool should have an direct impact on their lives, not too much distractions or 'silly' games and a clear and visual design. They emphasised that they were scared they would not be able to find a job anyhow, because they have been in prison. They wanted more security that taking certain steps will actually lead to a job.

## 5. INTERACTION DESIGN

In this section we explain our design process, describe the system components and show a technology overview of our system.

## 5.1 Design Process

### 5.1.1 Initial Ideas

In the beginning of our design process we investigated different ideas, based on the client's requirements and literature. Two basic concepts emerged.

The first concept was to create a walkthrough game where the prisoner would guide his avatar through different circumstances and conduct tasks that would empower his employability skills. This game could provide the user with different stories for each profession and would be implemented either as a 3D or comic-style interactive game. The main setback for this concept was the cost and the fact that it would not be highly modular since new graphics needed to be created for each profession story.

The second concept was to focus on the actual employment status of the prisoners when they leave prison. The goal was to create a system that would link companies with prisoners and allow them to work for them while in prison. We found the second concept more appealing because we thought that it would have direct impact on the prisoner's life and would allow them to gain experience and even generate some income. At this phase we focused on tasks that could be conducted digitally and by distance. The system would resemble a project management system and would allow companies and prisoners to communicate and collaborate on certain tasks.

These two ideas were presented to the clients Alice Erens (Click F1) and Ed Santman (Changes & Chances) in Utrecht on the 18th of October. The clients strongly preferred the second idea. Nonetheless, the client pointed out two basic constraints in this idea. The first constraint was that Internet access of the prisoners is limited. It is doubtful in what extent companies and prisoners would be allowed to communicate. In addition, tasks provided by companies would often require the prisoner to access websites that are not on the whitelist managed by the prison. The second constraint regarded the sort of professions the prisoners were likely to have. We were informed that most of the prisoners were better in practical jobs. Not every job is possible to practice from within prison.

### 5.1.2 Design Goal

With this concept we started to visit the prisoners in order to hear their needs and finalise the design of the prototype. The first visit was in the form of a meeting of 2 members of our team with 4 juvenile prisoners. From our first visit on 27/10/2016 it became clear that the prisoners wanted an intervention that would have an actual and clear impact on their lives. They found previous digital intervention boring, vague and clearly unrelated with their current status. They wanted to gain real experience and make their chances of getting hired better. In addition, most of the jobs the prisoners are interested in are practical jobs. From this we learned that a lot of the job experience we can offer prisoners should be practical tasks, performed in the real world.

With this feedback by the prisoners we decided to follow our second concept and create a relevant digital tool. Our primary focus was to create something that would engage them. We decided to design a platform that provides the prisoner with valuable information about professions and engages them in tasks and courses in the real world. Their progress is tracked by the tutors and silently transformed

into a portfolio that can be used when they leave prison. All tasks and courses are conducted in a physical space and monitored or demonstrated to tutors.

We chose not to create a closed system where the prisoners live a parallel reality but to design a digital tool that would engage them in activities outside the system. The goal is not to make them temporarily escape the reality they are leaving but engage them in a process to change it every day and stimulate a change in their lifestyle when they leave prison. With this idea in my mind the system was named *RealME*, probing the prisoners to find their real personality through work, education and self-development.

The above choice was also aligned with the necessity of the physical space as the venue for the courses and the tasks. The practical jobs that the prisoners are keen to follow are primarily taught outside the digital environment, regardless of if some information can be provided within the system. Moreover, the progress report process is linked with the physical space. The prison organisation does not trust the prisoners to self-report their progress. As a result, any tasks that need to be completed during a course must be demonstrated or tested by a tutor. Given the limited possibilities regarding digital communication within the prison environment, part of this process must take place in the physical space.

### 5.1.3 Early design prototype

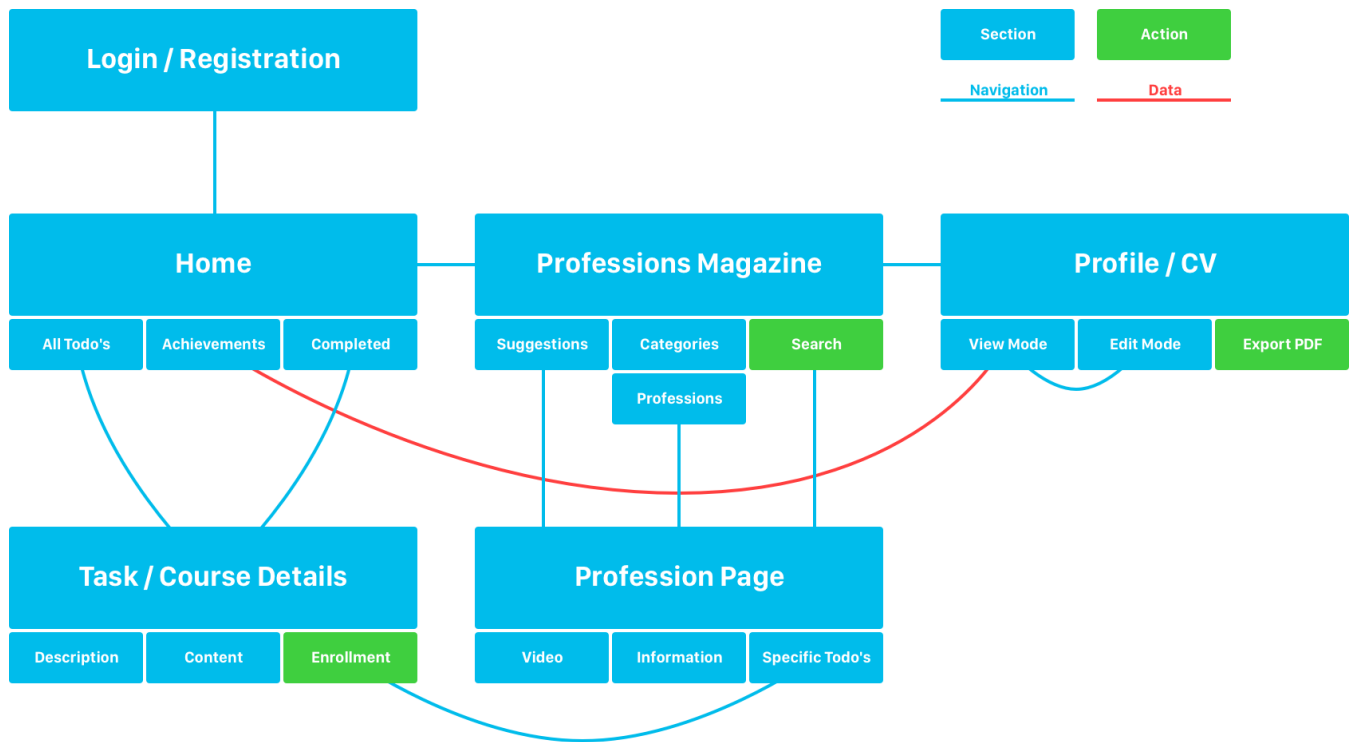
With our design goal derived from the initial requirements, using a human centered approach (Bevan, 2001), we had our first shot at an interaction design. We logically distilled three main sections. First, a digital magazine for exploring professions and enrolling into courses and tasks. Second, a dashboard where users have an overview of their enrolled courses and tasks, including their details. Third and last, a user profile composed of basic information, course and task progress and a plain and simple CV.

Using our intuition, we designed the information hierarchy and interaction for these sections. For the design of the screens we used Sketch, an advanced vector editing tool. When we had the screens, we inserted them in Flinto, a tool that brings the design to life by adding a layer of interaction. With Flinto, a navigational model was created by linking the screens by our defined interactive areas. The result is an interactive demo where the user can navigate through our design and test the usability of the information and functionality.

### 5.1.4 Early prisoner feedback session

We first used our interactive prototype to verify with the stakeholders that our design is in line with the initial intentions. After that, we showed this early design prototype to prisoners to monitor our end users' first impressions. After harvesting the feedback, we categorised individual remarks into a few key points of improvement. The feedback categories include the following:

- Simplify to reduce the learning curve of the system
- More guidance to suggest what to do at any time
- Make it more enticing by replacing most text with visual content
- Rewards and other gamification elements for motivational reasons



**Figure 3: Data and interaction flow diagram.** Via the homepage the Professions Magazine and Profile are accessible. Also the tasks can be found there. When achievements are completed, they automatically appear in the Profile page's View Mode.

We learned from these popular remarks and we incorporated them in our design before starting implementation of our final WordPress prototype. We re-thought the sections of the system to be more single-purpose, thus creating a more focused experience for our users. Additionally, we provided a few tutorials in the system to guide our users through all essential functionality. Since text remains the best medium for transferring certain information, we did not remove it entirely. However, we ended up with a visual-first system, where all professions are displayed starting with an explanatory video. To increase approachability we added a few gamification elements. The users are motivated to complete their achievement circles, indicating the progress of their tasks and courses. When completing an achievement, the CV of the user is automatically upgraded, providing a meaningful reward for tasks and courses.

### 5.1.5 Clarification of data and interaction flow

With the feedback from representative users incorporated into our interactive design prototype, we had an interaction model to use as a blueprint for our final WordPress prototype. To clarify the interaction design on a global level we created a flow diagram, as seen in Figure 3.

## 5.2 Main Components

In this section, we will dive deeper into the main components that we chose to be included in our proposed solution. These components are the exploration of professions, enrolling for courses and tasks, tracking progress and creating the portfolio. Within each section, we will discuss a variety of features we have added to increase either the

usefulness or user friendliness of our system. You can access the prototype online in dutch through <http://bit.ly/2kASVYo> with username: test\_student and password 123.

### 5.2.1 Exploration of professions

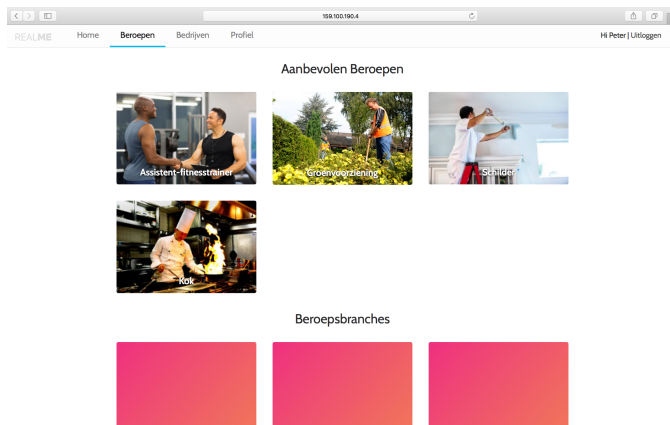
In phase 1 of the RealLife project, the prisoners do a personality test. The output of this test will be used in our system to give the prisoners a variety of recommended professions. The way in which professions are shown can be seen in figure 4. Also, the other professions are accessible, when they are interested. Our system enables the exploration of a variety of professions which are suitable to do for prisoners.

When selecting a profession, the prisoners will see a screen which consists of three tabs: Video, Information and Get Started. There is no specific order in that the tabs should be selected, because it depends on the user's preference how he wants to explore the profession. Nonetheless, the user will first land on the video tab where the user can see a video about that specific profession. In the video a person that does that profession will explain the daily activities, the advantages, what kind of person is suitable for this job and what they find interesting about their profession. For the prototype, we made two videos (in collaboration with Klaus Neumann). One for 'assistent-fitnesstrainer' and one for 'painter'. We chose these two professions because those courses were offered in the prison of Lelystad where our last testing would be. In appendix C is a link to a guidebook can be found which contains guidelines on how to create the video and content. When the user selects the second tab (Information), he will see first a header image to pull their attention and make it clear what the profession is about.



When the user scrolls down, there will be shown a paragraph that explains the profession in text. In a concise way, the interests and the advantages of this profession are shown. Besides that, the text explains where you can learn for this profession and where you could eventually end up being in this profession.

In the third tab, the user will see different colorful blocks that show the courses and tasks available for this profession within the specific prison. The prison can decide if they want to show only tasks or courses or to be making the tasks belong to the course itself. In the next paragraph, we will explain how enrolling in courses and tasks works more specifically.



**Figure 4: Overview of the Professions Magazine page in RealME. On the top some recommended professions are listed, below are three categories visible.**

### 5.2.2 Enrolling in courses & tasks

When the user wants to enroll in a course, he can click on the colorful block in the specific profession page which says: "course...". Arriving on this page, the user sees more information about the course offered within prison, for example: the duration, the number of hours per week. This is also the page where a user can enroll for that course, in such a way that the user can read the full details about the course before he can enroll. When the user selects that he wants to enroll, the request will be sent to an overview that the tutor, or administrator, will see. In this way requests can be accepted or rejected by the person responsible for admissions of courses in prison.

### 5.2.3 Tracking progress

When the user is successfully enrolled in a course, he will be able to see this on his home screen. On the home screen are also 3 tabs: To-Do's, Progression and Completed. The first tab shows all the To-Do's that have to be done by the prisoner (see Figure 5). These To-Do's can be courses or tasks. Here the user can also see quickly his progression of the course and if he received feedback. To see the feedback, the user has to click on the colorful box and the information page of the course shows up, with a box containing specific feedback on that course.

The second tab contains the progression of the courses and tasks in a visual way. There is a circle, which visualises the

percentage of completion of the courses and tasks. A whole circle for example represents that a course is completed for 100 percent or that all tasks for a certain profession are completed. A half circle represents a completion of a course of 50 percent or visualises that 2 out of 4 tasks are completed.

The third tab shows the completed courses and tasks. The courses and tasks are represented as the same colorful blocks, like in the To-Do's tab.

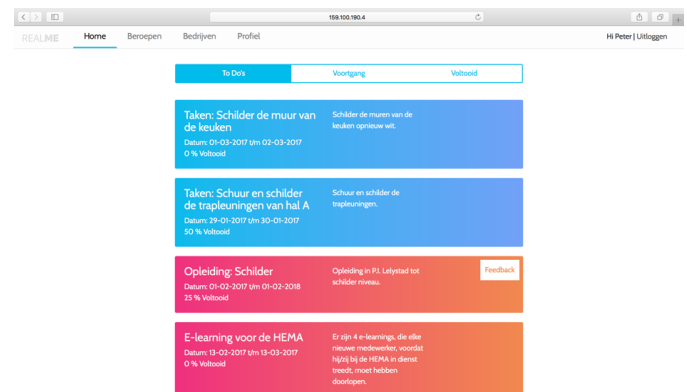
### 5.2.4 Personal Portfolio

Each user has access to a page named "Profile" which is also silently a CV or Portfolio. There he can add his personal and contact information, his work experience, his education and his skills. In addition, every course and task completed by the user within the system is automatically added to the user's personal Portfolio.

### 5.2.5 Tutor & Company Interface

The tutors of the prisoner can also login in the system with his personal credentials and is directed to specific administration interface. There he has the ability to add and modify professions and classes. Moreover, through a customised dashboard he can see the prisoners enrolled in the courses where he is in charge and give them feedback about their progress. This feedback can be a numeric value of the prisoner's progress but also textual information typed in by the tutor specifically for this prisoner. This feedback appears in the prisoner's Dashboard.

Companies' representatives have also access to the system. These representatives can add courses and manage the prisoners enrolled in them in a similar manner as the tutors but only for the professions regarding their companies. Before being able to add information in the system, a company is supposed to undergo a strict process of evaluation by the prison organisation.



**Figure 5: Home page of RealME brings the user to the To-Do's tab. Here the Courses and Tasks that the user has to complete are listed. Also the tabs 'Progression' and 'Completed' are available.**

## 5.3 Technology Overview

For the development of our proposed system two main components are required: a database and file directory for the storage of the required information and an interface through which the user can access and interact with them.



The technology perplexity is the least possible to meet the requirements of the stakeholders for an easy and quick to implement system.

For our prototype we used the open-source Wordpress Content Management System. This consists of an SQL database and a PHP file directory. For the front implementation of the design we used HTML, CSS and Javascript. We based our prototype on the Bootstrap framework and used additionally three JQuery libraries. Our prototype was also designed to run locally on a Personal Computer in order to be tested inside the prisons where there was no Internet access.

Nonetheless, the system when implemented would require local network access at least in order to circulate the data required such as courses, student subscriptions and feedback.

## 6. EVALUATION PROCEDURE

### 6.1 Goals of the evaluation

The aim of our system is to inform prisoners on several professions and engage them in the process of learning about them and receiving education and training. To evaluate our project, we will do a usability test to test the user interface of the system. This will be done by using the think aloud method.

Besides a usability test, we will also conduct a TAM questionnaire to evaluate the perceived usefulness (PU) and the perceived ease of use (PEOU) of our system.

### 6.2 Usability test

In the last visit to prison we conducted a usability test. There were five prisoners available to conduct the testing. During this test we asked the prisoners to do several assignments to walk through the system. We let the prisoners log in to the system with an account which was not enrolled in any course or task. In this account, we gave them 4 assignments to go through the system. After this, we asked them to log in into an account which was already registered into several courses and tasks. Here, some feedback and achievements had been inserted. In this account, they were asked to do two assignments. These assignments can be found in appendix D.1. After these assignments were finished, the prisoners were asked to go around the system freely as they liked and give any (either positive or negative) comments.

When the prisoners went through the system (using the assignments and also freely), they were asked to 'think aloud'. They were asked to say all the positive and negative things that come to mind about the system. Since it is not possible to record audio in prison, we made notes about everything they said. The notes of these test can be found in appendix D.2. This usability test was conducted personally with each prisoner. The other prisoners were in the same room, but were involved in other interviews so we can assume that peer influence on the usability tests were non-existent.

#### 6.2.1 Results usability test

From the notes of the usability test, we decided to implement the things that were mentioned by most prisoners.

The prisoners mentioned that the video about the painter and the fitness trainer were quite boring and unrelatable. These would have to be changed in more engaging and relatable videos. The prisoners proposed this could be done by adding an upbeat music, not doing an interview sitting

down, using younger persons or maybe even ex-prisoners with a success story.

Secondly, they mentioned that we should add an expected salary for each profession. Also, they mentioned that there are different levels in the course for a painter, given in Lelystad. This was not clear now. This might also influence your salary. For this, we added an extra box of with the information about the expected salary in it.

A lot of the prisoners did not find it clear that they were able to click on the box of a course or task before enrolling in it. They thought that you could only register for it without getting further information about the course or task. In the design, instead of seeing the 'register' button right away, we changed this into a 'more information' button. And then, when you reach the page with more information about the course or task, there is a button so the user will be able to register for the course or task.

Some prisoners also mentioned that the tab called 'dashboard' should be changed into 'home'. The name 'dashboard' was quite unclear for them and they preferred 'home'. Besides this name, the tab 'to-do's' was also a bit unclear about the page of each profession. This would better be called 'let's get started'. Also, someone would have liked it if he would be able to see the name of the person logged in on the top right corner of the screen. We implemented all three of these changes.

In general, the prisoners liked the clear, not distracting, and visual design. Most of the prisoners were able to go through the system without too much trouble. The more visual the design is and the less text it contains, the more they liked it. One point of criticism was that it was unclear when a task belonged to a company instead of a profession. Therefore, a task of a profession is now changed into a different colour so this gives more clarity. One prisoner also suggested to add icons into the course blocks, characteristic for each profession. This will instantly give more clarity on the 'to-do' page. We did not implement this change yet because of time limitations.

### 6.3 TAM analysis

The TAM questionnaire was given to the five prisoners we tested our system with during the last visit to the prison in Lelystad. After they had gone through the system with the usability testing, they were asked to fill in the TAM questionnaire. The TAM questionnaire can be found in appendix E. The questions were asked using a 5-point Likert scale.

There was no significant correlation found between the PU and the PEOU. However, since we only had five respondents, this might greatly influence the significance. The median of the overall PU question was found to be 4.00. This represents that the respondents were quite positive about the perceived usefulness of the system. The answers of some PEOU questions first needed to be reverse coded, since some of them were asked positive and some were asked negative. Then, the median of the overall PEOU question was also found to be 4.00. This also represents that the respondents were quite positive about the perceived ease of use of the system. The question about the uptake of the system had a result with a median of 5.00. This means they were very positive about using the system.

## 7. DISCUSSION & CONCLUSION

## 7.1 Discussion

An important discussion point is that it is fairly difficult to set appointments with the prison and the prisoners. We were able to get three appointments in total, of which one was in a juvenile prison (this was the first meeting). Our last visit to prison, which contained our final testing, took place in an adult prison and therefore we were not able to test the system with juveniles. Juveniles might have preferred different options or have different opinions about the system. During the design process, we of course took the information we gained during the visit to juvenile prison into account. However, we were unfortunately not able to test the opinions of the juveniles on the final system.

Adding onto the difficulty to test with the end users, the final usability test was done with five prisoners. This is a large enough group for usability testing, however for a TAM analysis this is rather small.

Another restriction caused by meetings with the prisoners is that the prisoners selected for us to talk to, might have been more motivated to change their lives in general compared to all prisoners. Even though the prisoners gave good comments and insights on the behaviour and motivation of the general prison population, this still might restrict the information and feedback we got from the prisoners.

Also, only two different prisons were visited. This system is supposed to be helpful in prisons throughout all of the Netherlands. Our system is adaptable to different prisons because of the modularity, but we were not able to get feedback from tutors in different prisons.

A few aspects of the final system are not within our capabilities to change. In this project, we propose for prisons to also create small tasks and eventually also work together with companies. Prison organisations are not very prone to change very fast due to lots of legislation. These proposals of our system were positively received, but it is unsure to what extent and in what time limits these proposals can be implemented.

## 7.2 Conclusion

Concluding this project, a system was developed to help prisoners get a job when they get out of prison. Because this system needs to be implemented into a prison environment, there were some restrictions. Within prison, there is no internet access. It is also not allowed for the prisoners to have a chat function that connects them with people either in or out of prison. The only available tools are desktop PC's in a computer room. The prisoners do not have unlimited access to the computers. In general, the educational level of the prisoners is rather low. All these things had to be taken into account when developing this system.

This system shows a variety of professions to the prisoners. These professions are mostly practical, since those jobs will be most suitable for the prisoners. For each profession, a video, an overview of the most important information and tasks and courses in which the prisoners can enroll in are shown. The system also contains a tab called 'companies'. In here, different companies can post information about their business and post small tasks (e.g. an e-learning course) the prisoner can complete to prepare for a job at this company when they get out of prison.

Besides the information about the professions and companies, there is a profile page. This contains all the information a normal resume would contain. In addition to this, when

a prisoner finishes a task or course, this gets updated automatically to the resume. This resume can be downloaded as a PDF-file and the prisoners can use it when applying for a job when they leave prison.

The last functionality of the system is the feedback the prisoners see. On the homepage of the system, the prisoners can see in what courses and tasks they are enrolled and if they have gotten any feedback on these by their teachers. There is also an achievements page, so that the prisoners can keep track of their progress in the courses they are currently enrolled in. This will help keep them motivated to complete the task or course.

The overall design of the system focuses on a simple and clear visual design. As much images and videos instead of text are used as possible. This is because of the concentration problems most prisoners are dealing with. If text is used, it is as short as possible and written in clear lists. On the homepage, the 'To-Do's' can be found for the prisoner. The box for a task, course or a company task have a different colour. Also, the achievements are visually represented so it is easy and quick to see the personal progress.

The final version of the system is tested among the five prisoners. The overall results of the usability testing were positive. Some small changes in the design were made afterwards. The main difficulty is to get prison organisations to change the structure and legislation of their organisations to create tasks and connections with companies. Courses are already available.

Concluding, this system will help prisoners find information about different professions that will fit their capabilities. If they find a profession that interests them, they will be able to follow the steps and enroll in a task or course that will prepare them for a job. Their resume will be automatically updated, so they can show the experience and motivation they gained in prison, to companies when applying for a job when they get out of prison.

## 8. FUTURE WORK

As already shortly mentioned in the discussion above, for some parts of our system to work, some things need to be changed in the prison organisations themselves. The tasks are not currently available. Also the connections with the companies are not currently available. To create the tasks, this will take some work and time within the prison organisations to adapt the rules that are currently set. This will be even more the case for the connections with the companies. In future work, time will need to be invested into creating a network of willing companies, besides changing legislation and structure within the prisons.

E-learning courses are something that is currently not available within this system. It is only possible to add links to existing e-learning courses. Future work might extend this by also creating e-learning courses for some of the tasks that will be made available for the different professions.

Another feature that might add value to the system is a filter function. Right now the system shows recommended professions and it is possible to search through different branches, but it is not possible to, for example, filter on jobs where you do not need a VOG for. A more elaborate filter and search system might be needed in the future to improve the user experience.

## 9. ACKNOWLEDGMENTS

We also would like to thank some people that were part of the project and supported us in a great way! First of all, we would like to thank Alice from Click F1 and Veronique from Chains for all their advice, useful meetings, making prison arrangements and giving great feedback. Secondly, we would like to thank the prison and prisoners of Lelystad and the Juvenile institution and the juveniles of de Hartelborgt for their cooperation and useful feedback. Thirdly, we would like to thank Klaus Neumann for his help with creating the videos and editing them. Lastly, we would like to thank Peter Bogaards from Informaat and Frank Nack from the University of Amsterdam for their weekly feedback and critical questions to keep us sharp throughout the project!

## References

- Ashforth, B. (2000). *Role transitions in organizational life: An identity-based perspective*. Routledge.
- Benyon, D., Turner, P., & Turner, S. (2005). *Designing interactive systems: People, activities, contexts, technologies*. Pearson Education.
- Bevan, N. (2001). International standards for hci and usability. *International journal of human-computer studies*, 55(4), 533–552.
- Dunwell, I., Lameris, P., de Freitas, S., Petridis, P., Star, K., Hendrix, M., & Arnab, S. (2013). Metyccon: a game-based approach to career guidance. In *Games and virtual worlds for serious applications (vs-games), 2013 5th international conference on* (pp. 1–6).
- Fugate, M., Kinicki, A. J., & Ashforth, B. E. (2004). Employability: A psycho-social construct, its dimensions, and applications. *Journal of Vocational Behavior*, 65(1), 14 – 38. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0001879103001611> doi: <http://dx.doi.org/10.1016/j.jvb.2003.10.005>
- McQuaid, R. W., & Lindsay, C. (2005). The concept of employability. *Urban studies*, 42(2), 197–219.
- Pearlman, K., & Barney, M. (2000). *Managing selection in changing organizations: Human resource strategies*. San Francisco: Jossey-Bass.
- Shneiderman, B. (2010). *Designing the user interface: strategies for effective human-computer interaction*. Pearson Education India.
- Vestola, M. (2010). A comparison of nine basic techniques for requirements prioritization. *Helsinki University of Technology*.

## APPENDIX

### A. NOTES PRISON (27TH OCTOBER)

- Be critical of yourself.
- No forms that have to be filled in.
- There is a difference from PIJ and normal detention (PIJ is similar to TBS, only for youth). There is also short-stay and long-stay.
- Making money is important to the juveniles.
- Juveniles get a small amount of pocket money.

- Working is important to the juveniles.
- Juveniles do not get paid for work, they would like tasks or work when they get paid. In adult prison, prisoners earn €0.70 per hour.
- VOG (verklaring omtrent gedrag) is not available for people who have been to prison (for the first 5 years out of prison), so focus on jobs without a VOG.
- There is a program (U-turn), but you have to redo it when you have longer detention. This gets really boring.
- Some want to study, but do not know what direction they want to go.
- They mainly want information about jobs, not necessarily about education.
- Juveniles like the idea of proving themselves when they are in prison, so they have connections when they get out of prison.
- Juveniles do not like too many distractions in digital interventions. They easily think it is childish.
- "Real life conversations help us prisoners the most"
- Paper forms do not have added value.
- Keep design simple and clear.
- Juveniles want to see direct results of the things they do.

### B. NOTES PRISON (4TH JANUARY)

Below you can find all the notes that we made when we went to the prison in Lelystad the 4th of January. These notes are literally translated from Dutch, are mainly from keywords and we try to make it as objective as possible, without a subjective interpretation used in the translation. During this meeting, we spoke with two groups of three prisoners, where one group was younger and one group was older. One of the goals of this meeting was to find out if and how our system can be useful for older prisoners.

#### B.1 General feedback

- Offer of courses is not very big in prison
- Supervising is not as it should be, should be good from the start of detention.
- A big part of the prisoners with the course before they are finished.
- Focus is not only on juveniles, target and biggest group is between 17 and 35 years old.
- Even for people that already have a job, they can still find this system useful for self-development.
- There's almost no education

## B.2 Most important points for our system

- More supervising (steps clearly described), make sure for every step there is the supervisor available, digitally or not digitally
- Could be more game-ish, good to make it more exciting and 'sexy'
- Integrate bonus or more rewards
- Less is more, keep it simple
- Portfolio should be updated and when prisoners are released, they should be able to get it somehow
- At least text as possible. Mostly videos, images, animations: everything visual is better than text
- System has to be accessible and approachable, since the thinking level of the prisoners
- Make a score per profession like "I can do this, and this, and this".

## B.3 Old prisoners

- There was slight confusion about how the project fits in within the RealLife project (They were told that our system was going to be a VR game).
- The system looks like a boring form, can also fill these things in with a paper
- It doesn't hold my attention, not interesting
- Don't put certain things in the system when they don't have to
- Make a clear red thread through the system
- Make the path clear for the user
- It is important to create a perspective, but make it interesting, sexy or exciting
- The system has to be approachable, not a difficult step
- There is a case-manager and a mentor who supervise the prisoners, they also have to use this en be a good supervisor
- Supervising is keyword!
- Has to be fun! Prisoners don't want to do effort because they are lazy
- You have to start innocent with the questions, like: "What was your dream job as a child?". And then you work to a higher cause. That's a way to make prisoners not think of their limitations immediately, but they start from their dreams and positively.
- A funnel that becomes more seriously. Or make something like a filter before they start with this system. Because you have prisoners who don't want to, prisoners that want to but they can't and prisoners that want to use it and actually can do it successfully. Not everyone is suitable for this system/solution.

- Keep it simple
- Maybe solve more broad problems, like housing
- Maybe you can make a virtual mentor that helps the prisoners through the system
- Try to create a real flow out of it.

## B.4 Young prisoners

- Looks nice, compact and fun!
- Maybe it's nice to make a kind of dating app with a profile, where you can put all your assets. The things that make you attractive, career wise. For example, I am always late, so I don't want to do work somewhere I have to wake up early. "I have to offer this and this". Take yourself as the starting point.
- Good overview with the to-do's, very clear
- It seems easy to make a plan
- Grow to a goal with taking nice steps, that is good.
- Helping with the basis, the starting point
- Offers of courses in prison is scarce.

## C. GUIDEBOOK

<https://docs.google.com/document/d/1pwn5B86fW6XfzugMn9hiT> here for a link to the guidebook with guidelines on how to create the video and content.

## D. USABILITY TESTING

### D.1 Usability testing assignments

1. Log into the system.
2. Try to enroll in the course 'painter'.
3. Search for 'HEMA' and enroll for a task if they offer one.
4. View your profile and add a skill.
5. View the feedback that has been given about the painter course.
6. View the achievements of the painter course.

### D.2 Usability notes

#### D.2.1 User 1

- Painter Video: not relatable, I don't care about his whole family being painters, my situation isn't such. I'm an employer, as a detainee you do regular work to kill time and not become a criminal again. I understand this, most others probably don't. The persons you interview better be ex detainees to make their situation more relatable and believable.
- Painter Video: The fact that the painter mentions one can be proud of his work. That might seriously motivate/trigger detainees.

- "VCA Required": looks like a button but isn't clickable.
- I don't have a VCA so end of story for my Painter career. I want to know what I CAN do, show me my possibilities given my situation.
- Emphasise places to work that don't need a VOG, since you're probably not getting one.
- Think twice about the info on the info page (for any profession). Is this really what all people become when they have a painters degree? A lot of people go work in construction sites. If you leave prison, you need a basis to start with, you don't simply start independently.
- Success stories would be a motivating addition to the info page. "After working some time as a painter, I became independent and I'm able to support my family."
- Professions page: no stupid fake images of little boys pretending to be something they aren't. The painter boy isn't a real painter, the paint roller is dry, his nails aren't messed up, he's clearly not painting in these hipster clothes and he looks way too happy. (Although I get you're on a low budget)
- I read the info page and I'm interested. I want a button here that triggers me to do something (that is, a button that brings the user to the courses/tasks page).
- So I clicked a button and it seems I'm subscribed now. Thanks for that. Now what?
- "To-do's" is a weird name. How come I have to-do's out of thin air? Call it "Sign up" or "Get started"
- Rename "Companies" to something like "Job examples" or "Places to work" or something
- HEMA video: cool video, but they only employ kids
- Would go to Dashboard to see whether any HEMA (or other company) courses or tasks are offered
- Profile page should include phone number
- Profile page: first Education, then work

### D.2.2 User 2

- Scrolling needed to be explained, user clearly hadn't typed much on a qwerty keyboard
- In profession page - information, user clicked on "Courses" in body text, expecting to find courses
- Thought he needed to go to "information" to find Courses, while he already was on information tab. User was instructed to click the To-do's tab
- User couldn't make a clear distinction between courses and tasks
- Couldn't find HEMA, user was instructed to click the Companies tab

- Would prefer years of expertise on their skills, rather than stars (although years of expertise can't be applied to all sorts of skills. It's more relevant for Work rather than Skills)
- Achievements: didn't understand why progress for courses and tasks was measured separately
- Achievements: thought he completed one fourth (as in 25%) of all tasks, instead of 1 out of (a total of) 4 tasks

### D.2.3 User 3

- Painter information: Wants added information about what the expected pay is. Wants a clearer vision of the different levels of painter that are available and what the expected pay is for each level. Maybe add if there is a CAO.
- Profile page: Highlight 'vaardigheden' a bit more. It is clear for me, but maybe for someone with less or no computer experience a clearer difference might help.
- To Do page: To go to the feedback wasn't clear at first.
- 'Voortgang' page: maybe colour something green when something is completely finished. Gives more clarity
- Rename 'Dashboard' to 'Home'.
- To do page: Make a different colour for tasks of professions and tasks of companies.
- To do page: Make an icon for each profession. E.g. when the tasks belongs to 'painter'; put a small paint-brush there. Gives more clarity.
- About the movies of painter and fitness guy: Are a bit boring. The painter is too old and for the fitness trainer I expect someone more muscled. Do not do an interview sitting down, make it more active, more fun.
- In general: more images, less text.

### D.2.4 User 4

- Painter page: Misses information about the different levels of painter educations and how long they take.
- Painter page: add more information that you get a diploma afterwards, the different things you learn, and that there is a selection to get in to the course.
- Hema information page: With information, it should say that there is an elearning available. Also if it is possible to apply for a job there after the elearning.
- Profile page: 'vaardigheden' not completely clear. It is not unclear where to click to type the text.
- General comment: Put the name of the person logged in on the right top of the page.
- Painter information page: Do not put VOG in the information about the job.
- To do page: on top of the page: rename 'todo' in something more like 'mijn profiel'.

- Voortgang pagina: Show in which phase you are of the education.
- Profile page: Already add some options of 'vaardigheden' to choose from. Keep the possibility to add anything you like though.

#### D.2.5 User 5

- Starting page: the 'ga' button is not very clear. I thought the whole box was clickable.
- Video painter: Boring video. Maybe use a person of colour since most prisoners are colored more relatable. Add music.
- In general: add a stripe between the different buttons of 'video', 'informatie' and 'to-dos'. Was not clear that this was a button.
- Information painter: Add indication of salary.
- Profile page: when adding 'vaardigheden' it is not clear where to click. I thought i had to click only on the stars.
- In general: the name 'realme' is an option, but
- Profile page: Nice page, but I wouldn't use it. I wouldn't want to advertise that i'm from prison when i get out.
- About feedback: It has to be positive so it keeps you motivated.
- At information about painter: I forget to scroll down. (he only sees the image at first, forgets to scroll to the text).
- Profile page: Is it possible to have the courses and tasks done in prison also added in the part 'onderwijs' in the profile page?

#### D.2.6 Coordinator of prison in Lelystad

- Video has to be more interesting
- The tasks can be practically a difficulty, he doesn't see this happening in 5 years
- Tasks are already integrated within the course
- The video is complete, all the info is in it, quality is important. Should also be nice for choosing studies
- Geographically it's interesting to link the courses of prison to what is useful in the area (prison in Zeeland should maybe give course on dykes)

## E. TAM QUESTIONNAIRE

### E.1 TAM questionnaire English

1. It would be difficult to find a job or education without this system.
2. Using this system gives me greater control in finding a job or education.
3. This system addresses my job or educating needs.
4. Using this system will save me time.
5. This system enables me to accomplish tasks more quickly.
6. This system supports critical aspects of finding a job or education.
7. This system enhances my effectiveness on finding a job or education.
8. This system makes it easier to find a job or education.
9. Overall, I find this system useful in finding a job or education.
10. I often become confused when I use this system.
11. I make errors frequently when using this system.
12. Interacting with this system is often frustrating.
13. Interacting with this system requires a lot of my mental effort.
14. I find it easy to recover from errors encountered while using this system.
15. This system is rigid and inflexible to interact with.
16. I find it easy to get this system to do what I want it to do.
17. This system often behaves in unexpected ways.
18. I find it cumbersome to use this system.
19. I would use this system.

### E.2 TAM questionnaire Dutch

1. Zonder dit systeem is het moeilijk om een opleiding of baan te vinden.
2. Het gebruik van dit systeem geeft me meer onctrole over het vinden van een opleiding of baan.
3. Dit systeem richt zich op mijn behoeftes voor het vinden van een opleiding of baan.
4. Het gebruik van dit systeem zal mij tijd besparen.
5. Dit systeem maakt het mogelijk om sneller een opleiding of baan te vinden.
6. Dit systeem ondersteunt curciale taken om een opleiding of baan te vinden.
7. Dit systeem verbetert de effectiviteit van het vinden van een opleiding of baan.
8. Dit systeem maakt het makkelijker om een opleiding of baan te vinden.

9. Dit systeem maakt het makkelijker om een opleiding of baan te vinden.
10. Over het algemeen vind ik dit systeem heel bruikbaar.
11. Ik raak vaak in de war als ik dit systeem gebruik.
12. Ik maak vaak fouten als ik dit systeem gebruik.
13. Interactie met dit systeem is vaak frustrerend.
14. Interactie met dit systeem kost mij veel denkvermogen.
15. Ik vind het makkelijk om mijn fouten te herstellen die ik tegenkom terwijl ik dit systeem gebruik.
16. Dit systeem is inflexibel om te gebruiken.
17. Ik vind het makkelijk om dit systeem te laten doen wat ik wil dat het doet.
18. Dit systeem doet vaak dingen die ik niet verwacht.
19. Ik vind dit systeem moeilijk te hanteren.
20. Het is voor mij makkelijk te onthouden hoe dit systeem werkt.
21. Over het algemeen vind ik dit systeem makkelijk te gebruiken.
22. Ik zou dit systeem gebruiken.