IRIS Utrecht presenteert:

MijnWoonwijk
In samenwerking met de gemeente Utrecht

Auteurs of makers:
Niek Takken, Eva Werkman, Francine Burema, Urbanus Kiio & Guille Quintana. Studenten aan de Universiteit Utrecht.

Leendert de Bell. Docent aan de Universiteit Utrecht

Achtergrond of context van het rapport of product:
In opdracht van de gemeente Utrecht is onderzoek gedaan naar mogelijkheden om bewoners actiever te betrekken bij door de gemeente geplande veranderingen in hun buurt. Daarbij is specifiek onderzocht of en hoe 3D modelling van de fysieke leefomgeving hier een bijdrage aan zou kunnen leveren.

Projectduur: november 2018-januari 2019.

Doel: inwoners van Utrecht meer te betrekken bij veranderingen in de buurt.

Onderwijs: Master opleiding Business Development and Entrepreneurship: cursus "Lean Start Up"

Kernvraag:
Hoe kan de gemeente Utrecht de inwoners van Utrecht informeren over en betrekken bij veranderingen in de buurt?

Opbrengst:
In een traject van 8 weken lopen studenten een Lean Startup traject door en ontwikkelen een Minimum Viable Product (MVP) voor een App "MijnWoonwijk" waarmee bewoners actiever betrokken kunnen worden bij ontwikkelingen in hun buurt. Via de App krijgen bewoners o.a. inzicht in lopende en geplande veranderingen in hun buurt. Verder kunnen ze specifiek inzoomen op projecten door middel van een 3D applicatie. Zo kunnen burgers inzicht krijgen in de impact van een verandering en daarbij hun mening doorgeven.

De App "MijnWoonwijk" is ontwikkeld op basis van interviews met burgers en App "MijnWoonwijk" is ook getest onder (beperkte) groep van burgers.

Tags:
Dataservices, Citizens, App MijnWoonwijk, MVP, Lean

Contact:
Leendert de Bell, l.a.debell@uu.nl

IRIS

Integrated and Replicable Solutions
for Co-Creation in Sustainable Cities

Guille Quintana	**6385192**
Francine Burema	**5710081**
Eva Werkman	**5644909**
Niek Takken	**4010248**
Urbanus Kiio	**6490352**

Lean Startup
Dr. Leendert De Bell
Utrecht University

January 22th, 2018

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1. Reflection on Problem Interviews

1.1. Problem Description

The municipality of Utrecht expects a significant growth in the population of the city, from 350 thousand inhabitants in September 2018 to around 400 thousand by 2025. This growth translates to more constructions and adjustments of infrastructure. However, the planning of such constructions has different effects on neighborhoods and the city, making it a challenge to design a sustainable and functional city which pleases the citizens (Municipality Utrecht, 2018a, 2018b).

It has been explained by the municipality that changes have been taking place in the city which are not always well received by the local residents. City planners do not always have enough knowledge of the neighborhoods and may consequently plan and approve changes which do not benefit the local residents. The city hall attempts to minimize these cases by involving residents in the planning phase of the neighborhood, however this involvement process still has space for improvement. Other Dutch cities are currently starting with implementing 3D models, which help communicate changes in an easier way in the respective neighborhoods. The question we try to answer with this research is: How can the citizens of Utrecht be informed about and involved in relevant changes in their neighborhood?

1.2. Customer profile

Figure 1: Customer persona

We believe that the target group in our research are the inhabitants that have been living in the same place for a while and are not planning on moving in the near future. These people are most likely to benefit from resident involvement in city planning. Furthermore, we believe that this group consists mainly of homeowners and (starting) families.

1.3. Hypothesis
The team believes Utrecht residents are interested in changes occurring within the city which affects their quality of life and are interested in participating particularly in those ones which negatively influence their lives. They are currently not involved in the decision making process because the costs of going to city hall meetings are too high (time-wise & inconvenience).

1.4. Interview results (Round 1)
To test the hypothesis, we have conducted 15 interviews. The interviewees were all between 25 and 60 years old and living in Utrecht or the surrounding smaller cities. All of the interviewees are working, and most are not planning on moving in the near future. The majority of the interviewees has experienced changes in the neighborhood, both positive and negative. On average, they want to be informed and involved in new changes, but most of them do not go to meetings organized by the municipality because they feel that their voice will not be heard. If they had the chance, almost all would actively participate in the planning of new changes in the neighborhood, especially the ones they are personally affected by. Examples of topics they would be interested in are changes in road traffic, changes that affect how crowded the neighborhood is, decrease in green spaces and noise pollution.

Most of the interviewees trust the municipality in making decisions about changes in the city. Furthermore, most would like to be more informed and involved about changes occurring around their neighbourhood. They would prefer to be updated about changes via regular mail, e-mail or social media and possibly participate via these channels as well. The majority feels that going to meetings takes too much time and energy, as they do not feel that their opinions and suggestions are taken into account. Giving suggestions via email, social media or other online platforms would lower the costs of getting involved, which would make people more willing to help.

1.5. Key takeaways
The data gathered by the interviews showed that citizens, on the contrary with our believes, are not willing to participate in all the changes that could be taking place in their neighborhood; only those which affect them directly. It is worth to mention that people feel like their opinion is not strong enough. Despite all of the interviewees believing that the municipality makes an effort to contact the citizens, they believe that this is just to inform them rather than make them part of the decision. We consider that the main problem faced is that people are not motivated to participate in changes around their neighbourhood since they feel "unheard" or not taken into strong consideration. For them, the municipality has already decided by the time they are informed of the changes. Considering this, one of the biggest challenges will be to motivate the citizens to be more involved in the changes in the neighborhood.

1.6. Next steps
From the problem interviews, it is clear that the biggest challenge is to motivate citizens to participate more in the planning process. The municipality already informs its citizens of any new changes by

sending letters and scheduling information evenings. The next step in our research will be to find new ways to involve the citizens in the planning process at an early stage. The municipality has come up with the idea of 3D models as a tool for citizens to understand how changes will affect them personally. We will look at this as a solution for our problem, as well as trying to find other methods that might be more effective. Examples of this could be engaging citizens through social media and through a mobile application.

We will investigate this by doing another round of interviews, in which we will go into more depth in the ways people would like to be involved. Next to this, we will look at other municipalities that already implemented some new methods, like the 3D modelling.

2. Reflection on Solution Interviews

2.1. Current Value Proposition

Devoting to urban growth and development, digitally, together with local residents and professional urban planners. All through one App which helps residents connect to the city hall planners.

2.2 The minimum viable product

The minimum viable product (MPV) is an application shown in figure 2. We developed an app with the purpose of involving citizens more in the changes and new projects in their neighborhoods. To sum, this app informs the citizens about new changes and projects, gives an option to vote about these changes, and gives citizens the option to share their opinion. Thus, the app has multiple features.

The first option of the app informs citizens about present and future changes. It explains what these changes contain and where these changes will take place. Citizens can filter this (long) list of changes by indicating their preference. For example, people can indicate which changes they want to be informed about (like road infrastructure, buildings or supermarkets). Moreover, they can indicate the radius from their home for which they want to be informed about changes. Eventually, they can also indicate specific neighborhood(s) of interest.

Another option of the app is that people can view all changes and projects on a map. When they click on a specific change or project in the map, people can see these projects in a 3D model. For example, when the municipality is planning to build a new flat in a certain neighborhood, people can see how this building is going to look like in 3D, the shadows it will cast and more. Moreover, they can look around the building and see how the new building fits into their neighborhood.

The next option of the app is that people can easily give their opinion regarding a future change or project. People can vote for or against projects. If you think that a change will add value to the neighborhood, citizens can vote positive. Otherwise, citizens can vote negative. People are only allowed to vote once and are only allowed to vote for a project which is close enough to their home. Reacting positively or negatively for a construction or change can only be done using your DigiD logins.

Finally, people can see the statistics of these votings (e.g. 86% vote positive about the project and 14% vote negative about the project). People can vote until a certain deadline. After the deadline, a short summary will be written by the municipality. In the summery, the municipality explains what they decided and the arguments for the decision taken. This will be done to give the citizens the feeling that

they are taken seriously and that they are heard by the municipality. Furthermore, the fact that people can see the live polls of people voting in the project gives them a greater feeling of involvement and participation.
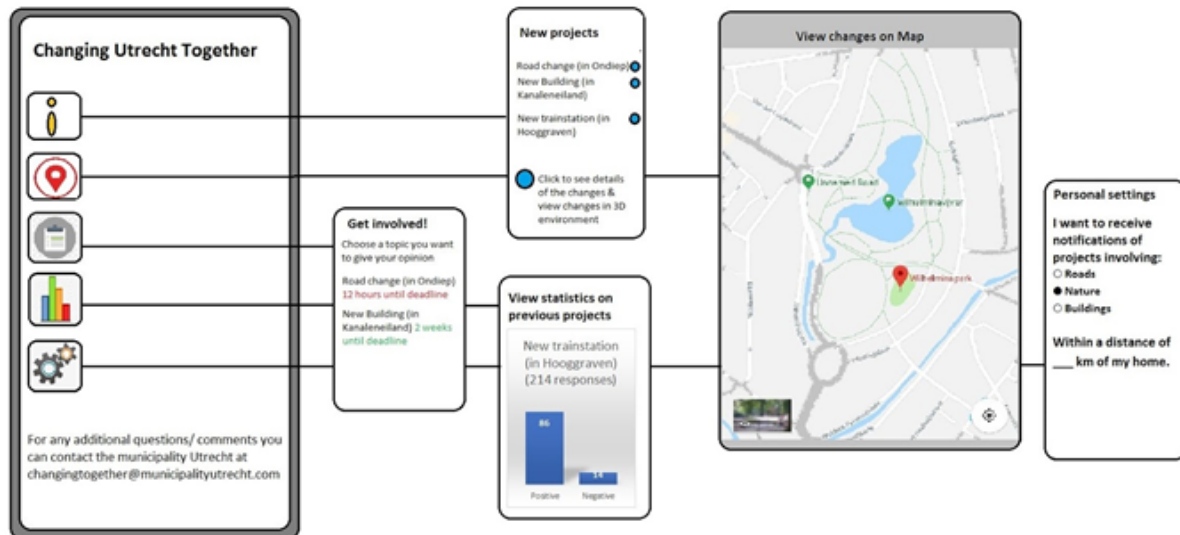

Figure 2: Minimum viable product

2.3 Other ideas

Next to the app, we had two other ideas which could involve citizens more in changes in the neighborhood. To test them, we proposed these two ideas to the interviewees as well. The first other idea was a physical 3D model on changes that were going to happen that would be placed somewhere in a public space. For example, it could be that a physical 3D model of a new flat or new road which is planned to be built by the Municipality. These 3D models could, for instance, be placed in a library or a community center.

The last idea that was tested during the interviews is the Neighborhood Council. We developed this idea because we know from the first round of interviews that most of the citizens are willing to participate in the planification and the organization of projects that affect their neighborhood. Imagine that the city council creates a small council around the neighborhood (NC). The aim of it is that people from the neighborhood could identify improvements, develop projects and ideas and present them in this NC. These ideas will be voted on by the neighbors and the winner will be presented to the city council for approval. Imagine a new public space, a playground, a square, a training spot; designed by the neighbors addressing the necessities of the neighborhood. The objective is to have one citizens' project per year, created by them and aimed for the neighborhood. Looking with that a major involvement of people in the develop of the city.

2.4. Interview results (Round 2)

For the second round of interviews, we interviewed a total of 14 people, between the ages of 25 and 57. The majority has been living in the same place for over 10 years and have no intentions of moving in the near future. From the first round of interviews, we found out that people want to be informed about changes that are going to happen in their neighborhood. Moreover, they are willing to get involved in the decision-making process if it would not take too much of their time and if they felt like the municipality would take their opinions into account in the decision making process. In this second round of interviews, we first asked the interviewees about the best way to get informed and most of them thought regular mail or e-mail would be the best way. Some of the other suggestions were to get informed through a website, by text message or by putting the changes in the newspaper. The most important feature they had in common was that it needed to be a way in which most people would actually get the information.

When we showed our MVP, the results were positive. People liked the simplicity of the app and the fact that it showed how the municipality takes into account the results of the votes. Other features the majority of the interviewees liked was that it does not take much of your time to see the changes happening around you and to give your opinion. Next, we asked what changes to the idea could be made or if there was anything missing. Not a lot of ideas came forward, except that some people wanted the opportunity to communicate with the municipality directly if anything about the changes was not clear.

Regarding the physical 3D model, most of the interviewees preferred the app over this idea. They only saw the added value of the physical 3D model in that it could promote the app and encourage people to download it. The option in the app to see a 3D model digitally was preferred over the physical 3D model.

Finally, regarding the Neighborhood Council, the overall reactions were positive. However, the interviewees mentioned that the Neighborhood Council should not replace the app, as the app increases the number of people informed and involved where the Neighborhood Council only gives more power to the people that are already actively involved. In addition, many interviewees said that they are not willing to be a member of the Neighborhood Council because they think that it would take a lot of time. Therefore, we conclude that this solution would fit a different customer persona, namely people that really care about the neighborhood and could dedicate time to improve it. For instance, it could be aimed for elders, that have been living there many years, probably retired so they have time to dedicate to the council. Additionally, the neighbors should feel represented. Moreover, it may also require social skills. We believe it could be a good proposal for the municipality, but not as our main solution.

2.5. Key takeaways

The interviewees are very positive about our MVP. So, the main key takeaway is that we are going in the right direction with respect to creating an app. The key takeaways with respect to the other two ideas (physical 3D model and neighborhood council) is that people are not very enthusiastic or that people prefer the app over the neighborhood council or the physical 3D models. The app has to be very intuitive and regardless of the solution proposed, it must be convenient and useful for the people.

2.6. Next steps

As people liked the app the most and the interviewees are very positive about that idea, we will focus from now on only on the app. We stop focusing on the neighborhood council and the physical 3D models.

Regarding the application, our first next step would be to make some small changes in in the MVP based on the feedback we received during the interviews. Multiple interviewees mentioned that they would like to see a feature in the app which gives them the opportunity to communicate with someone of the municipality when they have questions or when something is unclear about a project. They emphasize that this communication needs to be quick and easy. We are planning to include this in our app by communication via WhatsApp and a small FAQ section. A phone number is added to the app and people can WhatsApp their questions or confusions to the municipality. The municipality will respond to these WhatsApp's within 24 hours. An internal forum was also suggested. However, this could be a feature which can be analyzed later on more in depth as it could make the application a lot more complex. In addition, the interviewees stressed the need for a very simple app interface, where navigation was mostly done intuitively and without too much reading. Lots of pictures and 3D design should be used and text should be kept to a minimum. During the coming weeks we will focus on this need as well.

After we made these small adaptations to the app, we will continue testing the app by conducting more interviews and by collecting more data to receive more feedback. Then, we can improve the app even more. For the next round of data collection, we may start with collection quantitative data. A smoke test will be performed to evaluate if the demand for such product is serious in the market. In other words, we will attempt to validate it at a bigger scale using a landing page which visitors can subscribe to for more information regarding the MVP being developed. Using analytical tools, we can also review the amount of traffic which is generated, therefore providing us with more insights on the MVP demand. This will be executed using nl.wix.com website developer.

3. Reflection on Key Metrics

3.1. Landing page

After finishing the multiple rounds of interviews and the collection of qualitative data, we started collecting quantitative data. For this, we made a landing page on wix.com (www.bderp5.com). On this landing page, we presented our unique value proposition: "*Together easily developing neighborhoods. We provide you with relevant updates and we make sure your suggestions and complaints are heard by the Municipality of Utrecht*". Below this value proposition, people get the option to subscribe with their email. When someone subscribed with their email, they received an email from us with 2 short questions: 1. Would you like to be involved in the decision-making process of your residence (yes/no). 2. Would you like to use a mobile application for this? Why or why not? We asked them in a friendly way to answer these questions shortly. Both the landing page and the questions we send to the subscribers were in English and in Dutch. The goal of the landing page was to receive as much feedback as possible on our idea and on our app.

3.2. Promotion of the landing page

To get people to visit the landing page, we did multiple activities. First, we started a paid Facebook campaign. The Facebook campaign, which was live between 24th to 28th of December, was configured to a daily budget of 2 euros and to spend the lowest CPC (using the algorithms of Facebook). Furthermore, the campaign was set to reach individuals above 24 years of age and with *no* interest on "student" related factors. The languages targeted were English and Dutch and located within a radius of about 15 miles from the city center of Utrecht.

This campaign was purely to review the interest of unknown individuals outside of the teams' personal network. Therefore, targeting those scrolling through their timeline in Instagram and Facebook which would come across an ad called "Mijn Woon Wijk App" (see figure 3).

Due to plagiarism we need to remove this picture.
Figure 3: Facebook campaign

When the paid Facebook campaign ended, we started our own campaign. We shared the link with our private networks, for instance our own Facebook accounts. Furthermore, we shared the link in specific neighborhood Facebook groups. For example, we shared the link in the Facebook group 'Hoograven Prikbord'. Finally, we talked face-to-face to some people about the topic to become more involved in the neighborhood and about the option to use an app for this. When people were interested, we referred them to the landing page. However, the decision whether they want to subscribe with their email was up to them.
In general, in order to get objective results, we stayed passive. We did not push people to subscribe. We did not ask people to subscribe. The people were free to subscribe to get an objective group of subscribers as much as possible. We shared the link to the landing page without asking for anything, but rather just sharing a page.

3.3. Landing page results
As we did multiple promotion actions and the landing page itself has some statistics, this section includes multiple results from the different campaigns. First, the total numbers of the subscribers are given. Thereafter, the results of the Facebook campaign are analyzed. Finally, an analysis is give about the statistics of the landing page itself. The statistics of the Facebook campaign and the landing page can be found in the appendices.

In total, we got 20 subscribers (a person who registered their email in the landing page). The first subscribers were on the 27th of December 2018 and the last subscribers subscribed on the 4 of January. Each of these 20 subscribers received an email with the above-mentioned questions. From the 20 subscribers, 3 of them responded to these questions. Each of them mentioned that they want to be involved in the changes in the neighborhood. Regarding the mobile app, all three responses were positive. Two of them said that an app is easy to use and that it would be modern, as almost everything is digital nowadays.

Regarding the Facebook campaign, in total 962 impressions were made and it "reached" 872 people. Out of the entire 962 impressions, the ad was clicked 12 times, reaching a link click through rate of 1.25%. Out of the 12 people who clicked the ad, we received 2 signups in our website. Cost per click ended rounding to 0.67-euro cents. Furthermore, most of the ads were shown in Instagram, with approximately 600 impressions and Facebook with approximately 300. For more details about the campaign, please view the appendices.

Finally, an overview of the statistics of the landing page are given. We will analyze the website visits within different time periods. The first period reflects the visits before any campaigns were started. The second period reflects the Facebook campaign (24.12.2018 - 28.12.2018). The end of period 2 until the

last period is our personal non-paid campaign.. The statistics of each of these periods can be found in the appendices.

The first period was between dates 17.12.2018 – 23.12.2018. The number of visitors at our landing page was 17. Each spent on average 26 seconds viewing the landing page. There were 1.2 page views per visit, which means some people navigated to a different page and then returned to our original landing page "MijnWoonWijk". Eight people visited as a result of direct entry, six people out of the social media campaign, one due to search engine, and two from domain referrals.

The second period was between 24.12.2018 – 30.12.2018. The number of visitors at our landing page was 42. Five visitors came back to visit the website more than once. Each visitor spent a total of 22 seconds on the page on average. There were 1.1 page views per visit. Entry rate to "MijnWoonWijk" was 100%. 20 people visited through direct entry, 20 people out of social media, and two by domain referrals.

The third period was between dates 31.12.2018 – 6.1.2019. The number of visits to our landing page was 16 with a total of 15 visitors, meaning 1 came to visit the website multiple times. Each visitor spent a total of 1 second on the page on average. There were 1.1 page views per visit. Entry rate to "MijnWoonWijk" was 100%. 13 people visits came from social media, 2 directly via url, and 1 from domain referrals.

The fourth period was between 7.1.2019 – 13.1.2019. The number of visits were 17 in total, 12 coming from direct URL entry, 2 referral domain, 2 social media and 1 through search engine. Again, the visit duration was about 2 seconds and 2 people revisited the website. Visitors viewed in average 1.2 pages.

The last report was between dates 10.1.2019 – 16.1.2019. The visits generated in this last report are 14 in total, with an average visit duration of 3 minutes. There were 1.4 page visits and 3 people revised more than once. Out of the 14 visits, 9 came from direct URL entry, 2 from referral domain, 2 from social media and 1 from search engine.

When analyzing this data, we notice that statistically the observations are too low to make strong reliable conclusions from the smoke test. Also, the visitors' duration in the landing page was biased for period three and four. Nonetheless, we can focus on periods where we were strongly active and review how the campaigns performed. In period two, Facebook states the ad was displayed almost 1,000 times and clicked 12 times (statistics recollected from Facebook). This matches the statistics collected from the landing page and can conclude that the click through rate is fairly low. The non paid campaign which was conducted through our personal network generated more visits, as can be seen in period two and three. It is also important to note the time period these statistics were collected; Christmas holidays and beginning period of January. Results could be different if collected in another time period without holidays.

3.4. Key takeaways
Analyzing the results of the landing page lead to some key takeaways. Regarding the numbers of people attracted to the landing page, it became clear that the page did not attract a lot of people and the ones that did visit the site only stayed on it for a few seconds. Next to this, only a small group signed up to learn more, which tells us that the page did not make people curious about our product. The people that signed up to learn more and answered our questions about the product, however, were very enthusiastic about

our product and thought it was a great way to get more involved in the planning. This confirmed our own beliefs about the product and the results of the solution interviews.

3.5. Next steps
To increase the number of page visitors, we need to promote it more. We need to share the link to the page with our networks more often and change the message we share it with, to make it more appealing to click on. Before, we tried to keep the message as neutral as possible, but this has not yet provided the number of visitors we would like to achieve. Therefore, we need to share it again, with a more appealing message and the invitation for people to share it with their networks as well. However, this should always remain unbiased.

Only a few people signed up to the landing page from all the visitors generated to it. This could mean that our product is not appealing enough. We do not think this is very likely, however, as the people we interviewed face-to-face were all very positive about the product. More likely is that our web page does not reflect enough of the key features of our product. Therefore, we need to change our landing page and make sure the key features of the app are promoted.

Finally, we want to learn from the people that sign up to learn more about our product, which is why we send them an email asking whether they would like to be included in the city planning and whether they would think an app would be a good idea and why it would or would not be a good idea. Only a few people responded, however. And even though the people who did respond were all very positive about our idea, we would like some more input from actual potential users. As we already got the feedback that the app would be a good idea, for the future people signing up we could switch to more detailed questions about features of the app. This way, we can learn more from the potential users and we do not only get confirmation about the ides we already have.

4. Conclusion
The goal of this research was to figure out how the municipality could inform its citizens about and involve them in relevant changes within their neighborhood. We hypothesized that the residents would like to be involved and informed, but that the costs of getting involved were too high. During our problem interviews, we found out that our hypothesis was partly true. The citizens did want to be involved and informed, but only about changes that affected them personally. Also, they did not currently get involved. The reason for this was that the costs of getting involved were too high compared to the rewards. They wanted to become involved, but they felt like the municipality does not take their opinions into account. As a result, we came up with a solution that lowered the costs of getting involved, while at the same time increasing the perception of consideration by the municipality. Our MVP was an app that showed people what changes were happening and gave them the option to give their opinion about these changes. The solution interviews showed approval for this idea and we continued testing the MPV by performing a smoke test using a landing page. Although the smoke test did not provide us with much information, it did confirm that people are positive about the idea of using a mobile application as a solution for this problem.
Finally, we developed a prototype for the app, which can be reached through the following link: https://xd.adobe.com/view/f3acedfd-daf3-451e-5a1e-68d8bfb11173-859d/ . Through informal contact

with people within the focus group, we received positive feedback on the app. This included feedback from a member of a different municipality that would implement this app in their municipality if it would be a finished product.

4.1 Next steps for the Municipality
We suggest that the municipality should do some additional research using the final prototype, to find out whether any features should be changed. After this, they could develop the app and start promoting it. This could be done by naming the app in their regular newsletters informing people about changes happening in their neighborhood. They can perform a more extensive smoke test, creating different types of campaigns to further validate the MVP.

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