Assignment 1

Defining Requirements

Team: Annika Gerigoorian, Dilvan Güler, Maha Kloub, Michael Arenander, Mustafa Ali
Leader: Maha Kloub
Developers: Annika Gerigoorian, Dilvan Güler, Michael Arenander
Customer/Company: Mustafa Ali - Italian restaurant
Project: The client wants to develop their website for their restaurant since it is currently empty.
Requirements:

1. The website should have pictures and design which represents the restaurant.
2. Categorized information (menu, opening hours, contact information, about us, FAQ) in shape of tabs.

Four different formats have been used in order to describe the requirements.

Format 1:

Description of the requirement	*The website should have pictures and a design that represents the restaurant: the website should have pictures on italian food like pasta, pizza and so on.*
Rationale	*Having a platform for the restaurant on the internet that attracts customers.*
Reference	*html, css, JavaScript*
Source	*The restaurant owner.*

Description of the requirement	*Categorized information (menu, opening hours, contact information) in the shape of tabs: The website should contain information about the restaurant which is relevant for the customers to know, such as menu, opening hours and contact information.*
Rationale	*Want their customers to be able to find information easily and smoothly.*
Reference	*html*
Source	*The restaurant owner*

Format 2:

Requirement 1	*As a visitor I want the restaurant's website to give me a good idea of the theme of the restaurant so I know what to expect.*

Requirement 2	*As a visitor I want to navigate through the website easily so I can find relevant information about the menu, opening hours and contact information.*

Format 3:

- **Use Case ID**
  - *UC1*
- **Use Case Title**
  - *Tempting Website*
- **List of roles/tools**
  - Client: *Mustafa Ali*
  - Projekt team: *MADMM*
  - Language: *HTML, CSS, JavaScript*
- **Flow of Events**
  - **Header**
    - *Picture on the restaurants logo (given by the client)*
  - **Background**
    - *White*
  - **Color Theme**
    - *Red, green , white*
  - **Font**
    - *Times New Roman*
- **Alternative Events**
  - **Background**
    - *White*
  - **Header**
    - *Picture on the restaurant logo (given by the client)*
  - **Font**
    - *Times New Roman*
  - **Color Theme**
    - *Red, green, white*
- **Pre-condition**
  - *Website*
  - *Operating phone*
  - *Physical restaurant*
- **Post-condition**
  - *Tempting front page*
  - *Operating phone*
  - *Physical restaurant*
- **Assumptions**
  - The client should provide this:
    - *Color scheme with selected design*
    - *Pictures*
    - *Web Developer gets a free hand in the creative process of everything that is not provided as a requirement from the client.*
- **Priority**
  - *2*

- **Use Case ID**
  - UC2
- **Use Case Title**
  - User Friendly File System
- **List of roles/tools**
  - Client: Restaurant
  - Project team: MADMM
  - Language: HTML, CSS, JavaScript
- **Flow of Events**

- **Ordning av flikar**
  - 1. About us
    1. A description about the owners history and passion for the italian kitchen. This description is written by the client.
  - 2. Menu
    1. Main course
    2. Desserts
    3. Drinks
    4. Allergens
  - 3. Opening hours
    1. Weekdays, Weeknds, Holidays
  - 4. Contact us
    1. Mail, Telephone, Address
  - 5. Frequently asked questions/FAQ
    1. *What are your opening hours? - redirected to the tab for "Opening hours"
       *Allergens - redirected to /menu/allergens
       *Are you fairtrade?
       *I'm going to have a party , can I buy food with me? Yes, redirected to Contact us.
       *Do you provide take away?
       -
       *Are you looking for staff?
       - Please come by and present yourself and hand over your CV, alternatively email us at"xxx@restaurang.com"
       List of FAQ provided by client
- **Alternative Events**
  - 1. Menu
  - 2. About us
  - 3. Opening hours
  - 4. Contact us
  - FAQ
- **Pre-condition**
  - *No tabs*
  - The main page should have:

        - *Opening hours*
        - *Telephone number*
        - *Menu*
- **Post-condition**
    - *A working website with tabs.*
- **Assumptions**
    - The client should provide us with:
        - *The information about: faq, opening hours, about us*
        - *pdf, references etc*
        - *Pictures (logo and pictures that the client wants to design the webpage with.)*
        - *Web Developer gets a free hand on everything that is not stated as a client requirement.*
- **Priority**
    - *1*

Format 4:

<table>
<tr>
<td><u>General Requirement Description</u>
Requirement ID: R1
Requirement Title: Tempting Website
Requirement Description: To have a platform for the restaurant that intrigues the customers.
Requirement Type:
Internal/External Requirement:
We will face a problem while designing the interface and our demand is that our developer gets a free hand in the design process.
Rationale:
Platform that tempts the customer.
Event/Use Case ID: UC1
Related to Requirements:
Non-functional Req: True
Constraints: Budget and time
Conflicting Req: None
Intended User: Customers of the restaurant
Specific user who stated the req:
Customer Satisfaction:
Customer Dissatisfaction:
Reference documents:</td>
<td><u>Requirements Management Data</u>
Preliminary Implementation Plan:
Preliminary outline of activities:
Change Activities:
Planned and Actual Activities:
-Activity Description:
-Activity Start Date: 20/4-2020
-Activity End Date: 20/5-2020
-Expected Result of Activity Take:
-Actual Result of Activity Take:
-Activity Conducted By:
-Activity Approved By:
-Effort Spent on Activity:
-Cost of Action: 1.000$</td>
</tr>
<tr>
<td><u>Requirements Evaluation Data</u>
Business Value: 100.000$
Other Value: 30.000 $
Requirements Priority (Rank): 2
Acceptance Criterion/Criteria: Tempting website
Fit Criterion: A website that should have relevant pictures and design. It should be pleasing to the eye.</td>
<td><u>Requirements Management Progress Data</u>
Requirement Management Status: Active
Requirement Mngmt Status Date: 17/3-2020
Requirement Age: 0 days
Requirement Changes: 0</td>
</tr>
<tr>
<td><u>Other Description Data</u>
System Data:
-System ID:
-Sub-System ID:
-Component ID:
Adjacent/Interfacing Systems ID:
Environment: Browser/Interface
Assumptions:
Clienten provides us the following material:
- Color Scheme with a pre skissed and chosen design
- Pictures (ex. logo)
If client does not provide with adequate material:
- Web Developer gets a free hand in the creative process of designing a suiting website.</td>
<td><u>Requirements Completion Data</u>
Actual Completion Date: 15/5-2020
Planned Completion Date: 20/5-2020
Relation To Tests:
Released In:
Requirements Completion Approved by: MADMM
Signed Off Data:
Signed Off By: MADMM
Estimated Total Effort: 18h
Actual Total Effort:
Estimated Total Cost: 8.000 $
Actual Total Cost:</td>
</tr>
<tr>
<td><u>Requirements Reporting Data</u>
Requirements Reporting Date: 17/03 -2020
Originated by:
Reported by:
Requirements Owner:</td>
<td><u>Post Implementation Data</u>
Analysis of the Requirements Implementation Process:
Lessons learned:</td>
</tr>
</table>

General Requirement Description

Requirement ID: *R2*
Requirement Title: *User Friendly File System*
Requirement Description: *Categorised Filesystem on website*
Requirement Type:
Internal/External Requirement:
We will face a problem while designing the interface and our demand is that our developer gets a free hand in the design process.
Rationale: *V*
Wants their customers to find relative information about the restaurant quick and easy.
Event/Use Case ID: *UC2*
Related to Req:
Non-functional Req: *Design requirements*
Constraints: *Budget and time*
Conflicting Req: *None*
Intended User: *Customers of the restaurant*
Specific user who stated the req: *Mustafa Ali*
Customer Satisfaction:
Customer Dissatisfaction:
Reference documents:

Requirements Management Data

Preliminary Implementation Plan:
Preliminary outline of activities:
Change Activities:
Planned and Actual Activities:
- ***-Activity Description:***
- ***-Activity Start Date:*** *20/3-2020*
- ***-Activity End Date:*** *20/4-2020*
- ***-Expected Result of Activity Take:***
- ***-Actual Result of Activity Take:***
- ***-Activity Conducted By:***
- ***-Activity Approved By:***
- ***-Effort Spent on Activity:***
- ***-Cost of Action:*** *2.000 $*

Requirements Evaluation Data

Business Value: *100.000 $*
Other Value: *2.000 $*
Requirements Priority (Rank): *1*
Acceptance Criterion/Criteria: *A user friendly file system.*
Fit Criterion: *Users should be able to navigate through the file system.*

Requirements Management Progress Data

Requirement Management Status: *Active*
Requirement Mngmt Status Date: *17/3-2020*
Requirement Age: *0 days*
Requirement Changes: *0*

Other Description Data

System Data:
- ***-System ID:***
- ***-Sub-System ID:***
- ***-Component ID:***

Adjacent/Interfacing Systems ID:
Environment: *HTML*
Assumptions: *Klienten ger oss följande material:*
- Text
- PDF, references etc
- Pictures (logos etc)
If client does not provide with adequate material:
- Web Developer gets a free hand in the creative process of designing a suiting website.

Requirements Completion Data

Actual Completion Date: *15/5-2020*
Planned Completion Date: *20/5-2020*
Relation To Tests:
Released In:
Requirements Completion Approved by: *MADMM*
Signed Off Data:
Signed Off By: *MADMM*
Estimated Total Effort: *15h*
Actual Total Effort:
Estimated Total Cost: *15.000 $*
Actual Total Cost:

Requirements Reporting Data

Requirements Reporting Date: *17/3-2020*
Originated by:
Reported by:
Requirements Owner:

Post Implementation Data

Analysis of the Requirements Implementation Process:
Lessons learned:

- Compare you requirements with respect to the following:
    - Detail of information:
        - First demand is much less detailed than the second demand since, second demand needs more effort and is also more expensive for our client.
    - Level of documentation effort:
        - 10/10
    - Difficulty to write the requirements:
        - Difficult since we have to determine what can change throughout the project and our own demands as a developer and as a business.

Requirement conceived was moved to the completed stack because the initial preparations of the project were completed.

Requirements Coherent

i listan Doing

ETIKETTER

Beskrivning Redigera

Requirements shared with MADM therefore team knows what to deliver.
Requirements origin from client.
No conflict between requirements
Priorities addressed for requirements.
Rationale clear reasoning clear.
Usage is clear since client needs website for business.

Checklista Dölj färdiga objekt Ta bort

100%

- [x] ~~Requirements shared~~
- [x] ~~Requirements origin clear~~
- [x] ~~Rationale clear~~
- [x] ~~Conflicts addressed~~
- [x] ~~Essential characteristics clear~~
- [x] ~~Key usage scenarios explained~~
- [x] ~~Priorities clear~~
- [x] ~~Impact understood~~
- [x] ~~Team knows & agrees on what to deliver~~

Requirements Fulfilled

i listan Doing

ETIKETTER

Beskrivning Redigera

The stakeholders accept the requirements
We made sure we did not have any hindering requirements
The requirements are fully satisfied by the client

Checklista Dölj färdiga objekt Ta bort

100%

- [x] ~~Stakeholders accept requirements~~
- [x] ~~No hindering requirements~~
- [x] ~~Requirements fully satisfied~~

Lägg till föremål

Requirements Bounded

in list Done

LABELS

Description Edit

The development stakeholders have been identified
The purpose of the system was agreed upon with the client and stakeholders
The system success is clear.
The shared solution understanding does exist.
The requirements management is in place.
The prioritization scheme is clear.
The constraints have been identified and considered.
The assumptions are clear.

Checklista Hide completed items Delete

100%

- [x] ~~Development stakeholders identified~~
- [x] ~~System purpose agreed~~
- [x] ~~System success clear~~
- [x] ~~Shared solution understanding exits~~
- [x] ~~Requirements management in place~~
- [x] ~~Prioritization scheme clear~~
- [x] ~~Constraints identified & considered~~
- [x] ~~Assumptions clear~~

Requirement Conceived

in list Done

LABELS

Description Edit

stakeholders has agreed
users have been identified
the funding stakeholder (the restaurant owner) has been identified
the opportunity is clear,

Requirement conceived was moved to the completed stack because the initial preparations of the project were completed.

Checklist Hide completed items Delete

100%

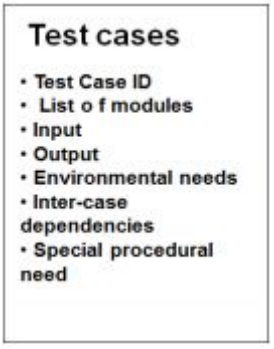
- [x] ~~Stakeholders agree system is to be produced~~
- [x] ~~Users identified~~
- [x] ~~Funding stakeholders identified~~
- [x] ~~Opportunity clear~~

Add an item

Assignment 2

Writing high-level test cases and designing the system

Test cases were written for the requirements. This template has been used:



Test case

- TC1
- List of modules:
    - Contact information page
        - Telephonenumber
        - Physical address
        - Mail address
- Input: “GET /contact.html”
- Output: “contact.html”
- Environmental needs: HTML, web-browser
- Inter-case dependencies: T6
- Special procedural need: can be reached from the other sites

Test case

- TC2
- List of modules:
    - About us page
        - A description about the owners history and passion for the italian kitchen. This description is written by the client.
- Input: “GET /about.html”
- Output: “about.html”
- Environmental needs: HTML, web-browser
- Inter-case dependencies: T6
- Special procedural need: can be reached from the other sites

Test case

- TC3
- List of modules:
    - Menu
        - Starters
        - Main course
        - Desserts
        - Drinks
        - Allergens
- Input: “GET /menu.html”
- Output: “.html”
- Environmental needs: HTML, web-browser
- Inter-case dependencies: T6
- Special procedural need: can be reached from the other sites

Test case

- TC4
- List of modules:
    - Front Page
        - front page stuff
- Input: “GET /index.html”
- Output: “index.html”
- Environmental needs: HTML, web-browser
- Inter-case dependencies: none
- Special procedural need: can be reached from the other sites

Test case

- TC5
- List of modules:
    - FAQ
        - Questions
- Input: “GET /faq.html”
- Output: “faq.html”
- Environmental needs: HTML, web-browser
- Inter-case dependencies: T6
- Special procedural need: can be reached from the other sites

Test case

- TC6
- Module: Navigation menu
    - button “Home”
        - Input: button click
        - Output: redirect to “GET /index.html”
    - button “Menu”
        - Input: button click
        - Output: redirect to “GET /menu.html”
    - button “Contact information”
        - Input: button click

        - Output: redirect to “GET /contact.html”
    - button “About us”
        - Input: button click
        - Output: redirect to “GET /about.html”
- Environmental needs: HTML, web-browser
- Inter-case dependencies: TC4
- Special procedural need: can be used from all sites

Test case

- TC7
- Module: Design of every page
- Input: “GET /index.html” → “GET /menu.html” → “GET /contact.html” → “GET /about.html”
- Output: Correct design observed
- Environmental needs: HTML, CSS, web-browser
- Inter-case dependencies:
- Special procedural need: applies to all sites

Test case

- TC8
- Module: Pictures on the pages
- Input: “GET /index.html” → “GET /menu.html” → “GET /contact.html” → “GET /about.html”
- Output: Existing and correct picture placement observed
- Environmental needs: HTML, web-browser
- Inter-case dependencies: TC7
- Special procedural need: applies to all sites

Step 1

The effort required for implementing the requirements using the agile version of planning poker can be observed in the following tables (**Table 2.1a** and **Table 2.1b**).

Table 2.1a: In this table we estimated the time it takes to implement and fulfill the test cases from assignment 2, in person-hours. The estimated time is rounded up to the full hour.

Implementation of code to fulfill test cases	Annika	Maha	Dilvan	Mustafa	Michael	Collective time agreement
TC1	2h	2h	2h	1h	1h	2h
TC2	2h	2h	2h	2h	2h	2h
TC3	7h	4h	3h	3h	3h	4h
TC4	7h	5h	5h	2h	4h	5h
TC5	3h	3h	3h	4h	3h	3h
TC6	4h	7h	6h	4h	2h	5h
TC7	33h	36h	30h	28h	30h	35h
TC8	9h	5h	12h	7h	5h	8h
Total:	67h	64h	63	51h	50h	64h

Table 2.1b: In this table we estimated the time it takes to implement the test cases from assignment 2, in person-hours. The estimated time is rounded up to the full hour.

Implementation of testing system	Annika	Maha	Dilvan	Mustafa	Michael	Collective time agreement
TC1	0h	0h	0h	0h	0h	0h
TC2	0h	0h	0h	0h	0h	0h
TC3	0h	0h	0h	2h	0h	1h
TC4	0h	0h	0h	0h	0h	0h
TC5	0h	0h	0h	1h	0h	0h
TC6	1h	0h	0h	1h	1h	1h
TC7	0h	0h	0h	0h	0h	0h
TC8	0h	0h	0h	0h	0h	0h
Total:	1h	0h	0h	4h	1h	2h

Step 2

The effort required for implementing the requirements using the traditional version of planning poker can be observed in the following tables (**Table 2.2a** and **Table 2.2b**). The requirements were broken down into low-level requirements as can be observed in **Figure 2.2a** and **Figure 2.2b** so that the

Table 2.2a: In this table we estimated the effort it takes to implement the test cases from assignment 2, in lines of code (LOC). The estimated effort is rounded up to the nearest full line of code. The names of the values for the column furthest to the left can be traced in **Figure 2.2a**.

Implementation of requirement (LOC)	Annika	Maha	Dilvan	Mustafa	Michael	Collective LOC agreement
1.1.1	14	10	12	15	13	13
1.1.2	28	25	22	35	3	23
1.1.3	10	5	5	7	1	6
1.2.1	0	1	1	0	0	0
1.2.2	5	1	1	4	1	1
1.2.3	20	7	20	15	30	19
1.1	60	40	40	30	17	35
1.2	45	40	30	50	100	45
1	140	150	100	40	200	60
2.1	15	30	10	20	100	20
2.2	35	30	15	45	80	55
2.3	20	20	10	10	100	45
2.4	20	20	20	30	500	150
2.5	20	20	20	40	200	90
2	110	160	180	200	1000	240
Total:	600	700	280	541	1400	792

Table 2.2b: In this table we estimated the time it takes to implement the test cases from assignment 2, in person-hours. The estimated time is rounded up to the full hour. The full names and identity of the values for the column furthest to the left can be traced in **Figure 2.2b**.

Implementation of requirement (person-hours)	Annika	Maha	Dilvan	Mustafa	Michael	Collective time agreement
1.1.1	5h	4h	3h	1h	1h	2h
1.1.2	6h	5h	5h	2h	1h	4h
1.1.3	3h	3h	2h	1h	1h	2h
1.2.1	0h	1h	1h	0h	0h	0h
1.2.2	1h	1h	1h	1h	1h	1h
1.2.3	1h	3h	2h	2h	3h	2h
1.1	17h	15h	15h	6h	3h	10h
1.2	4h	8h	8h	3h	4h	5h
1	28h	25h	30h	18h	10h	18h
2.1	2h	2h	2h	2h	3h	2h
2.2	6h	3h	2h	5h	4h	3h
2.3	1h	1h	2h	2h	2h	2h
2.4	1h	3h	3h	2h	3h	3h
2.5	1h	3h	3h	3h	3h	3h
2	15h	15h	15h	14h	16h	15h
Total:	60h	50h	50h	32h	30h	40h

Figure 2.2a: In this figure the first requirement (R1) has been divided into low-level requirements and structured as a tree.

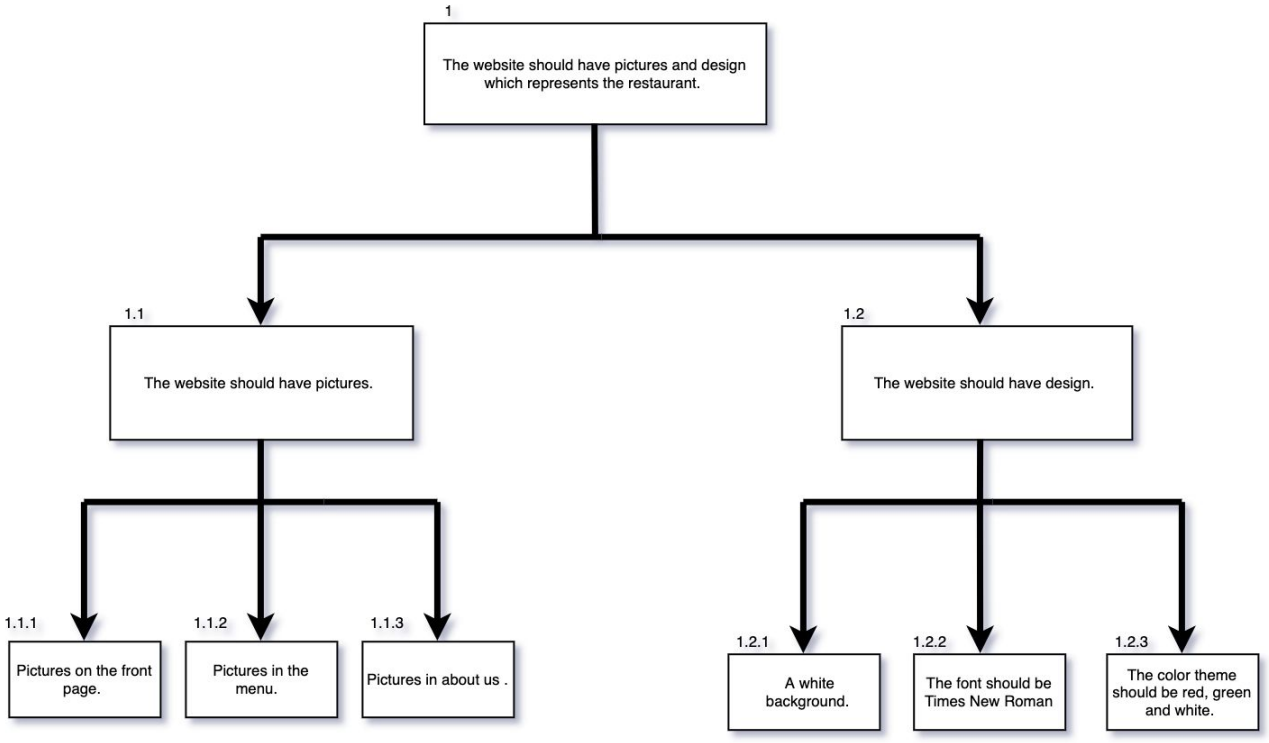
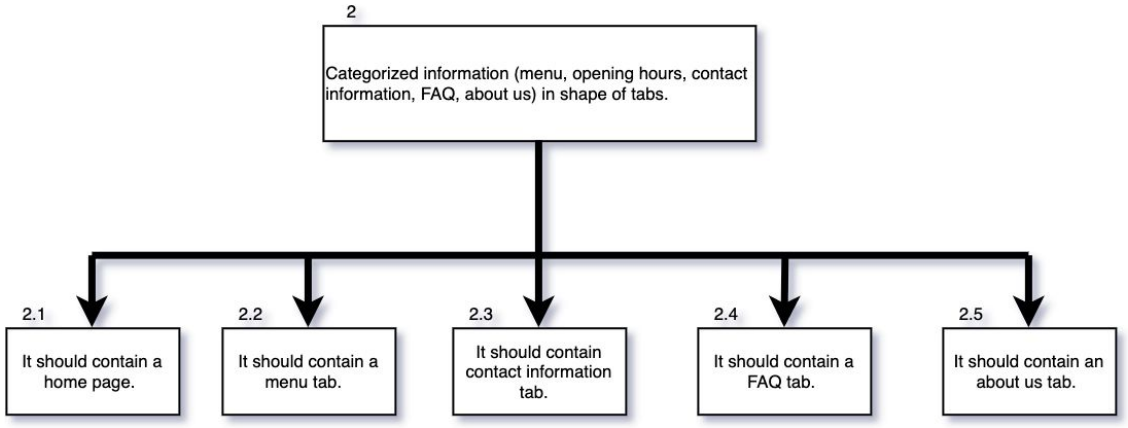


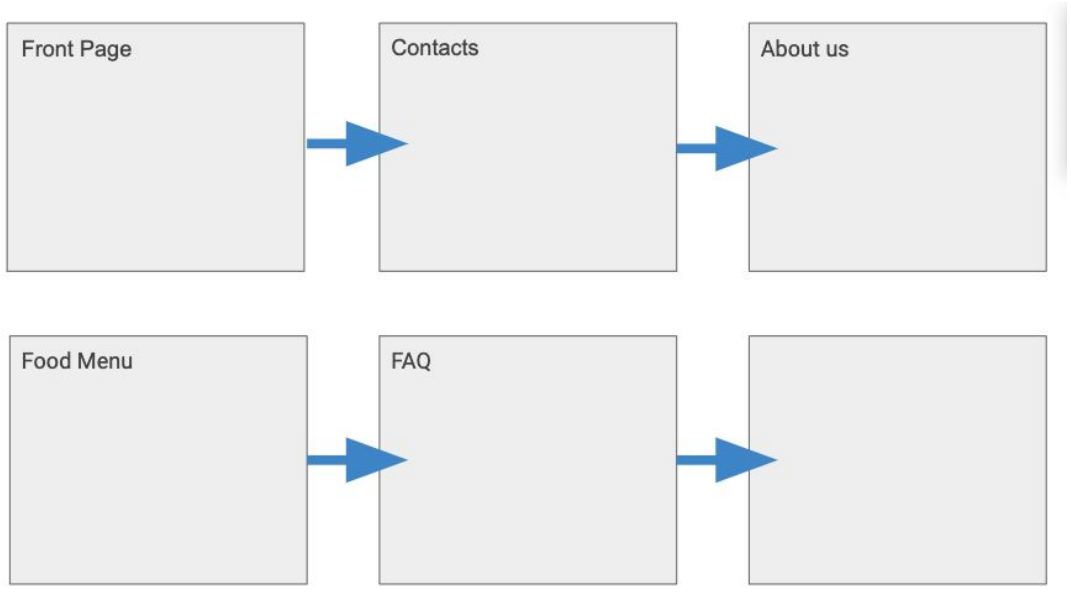
Figure 2.2b: In this figure the second requirement (R2) has been divided into low-level requirements and structured as a tree.



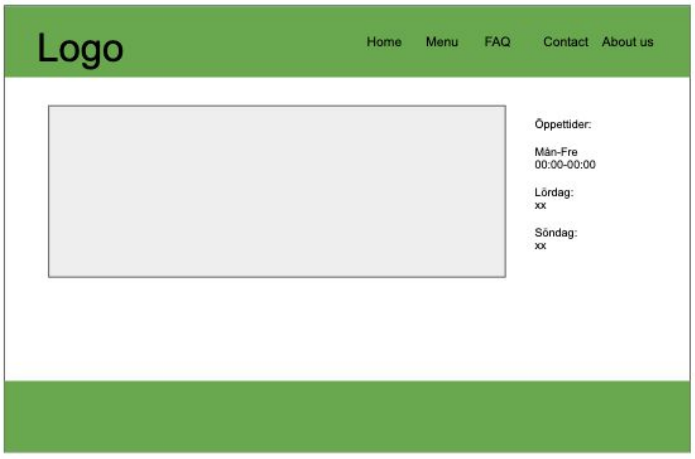
Comparison between the methods - agile and traditional:

- The estimated effort in person-hours were fewer when using the traditional method than the Agile method.
    - The traditional method provided us with an understanding of the fundamental pieces that had to be implemented and gave us a detailed view of the project which we used to estimate the time needed to complete it.
    - The agile method resulted in a more generalized estimation of the effort where the relative effort between each case was considered.

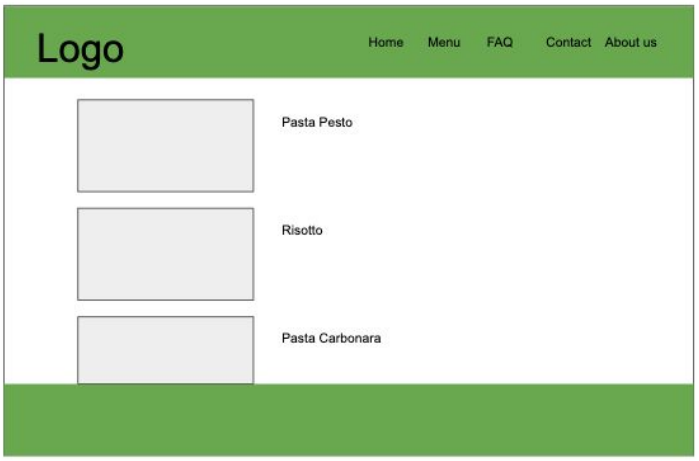
Design of our system according to the requirements:

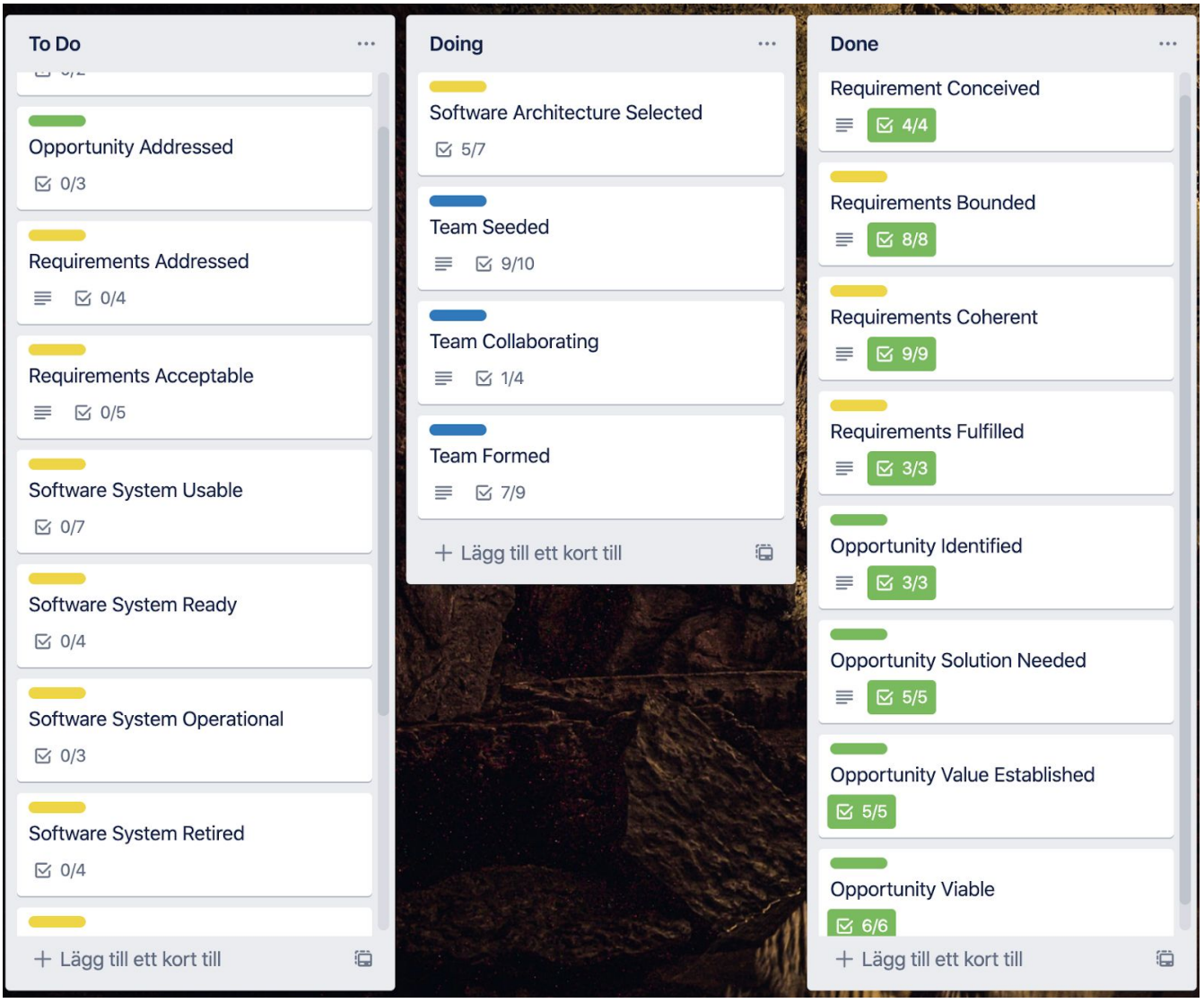


Front Page



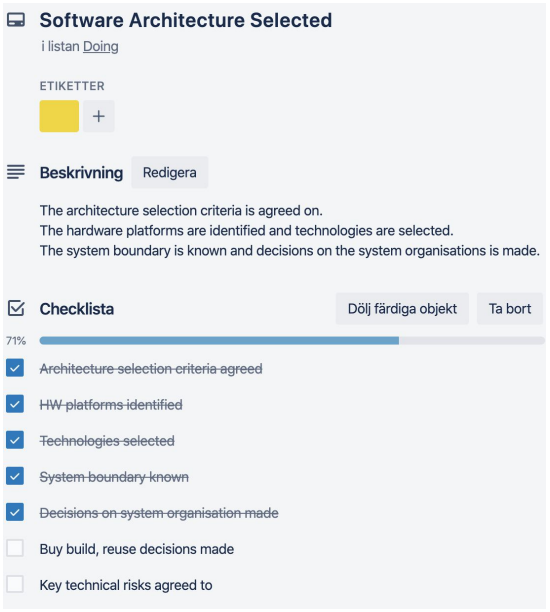
Menu

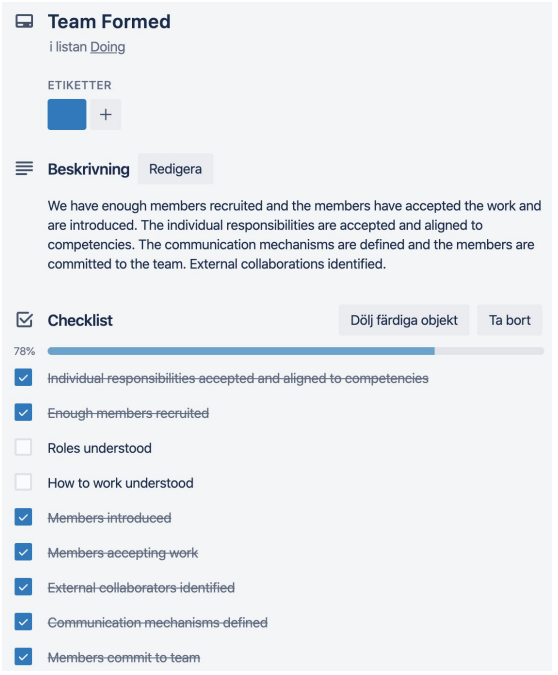


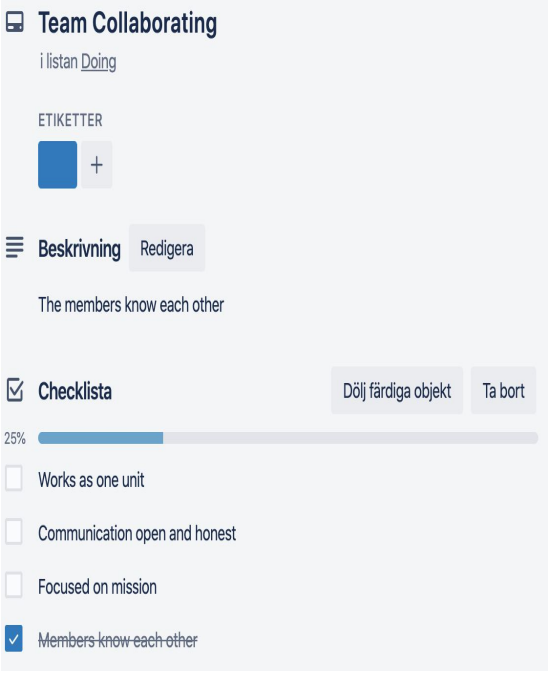


Team will not be able to fulfill requirements for the cards “Opportunity Addressed” and “Requirements Addressed”, until after the project is almost done.

These were the results for the alphas after completing assignment 2:







Opportunity Identified

in list Done

LABELS

Description Edit

The idea behind the opportunity has been identified and at least one investing stakeholder is interested.
Other stakeholders have been identified.

Checklista Hide completed items Delete

100%

- [x] ~~Idea behind opportunity identified~~
- [x] ~~At least one investing stakeholder interested~~
- [x] ~~Other stakeholders identified~~

Add an item

Opportunity Solution Needed

in list Done

LABELS

Description Edit

Solution has been identified and stakeholders' needs have been established.
Problems and root causes have been identified.
Need for a solution is confirmed.

Checklista Hide completed items Delete

100%

- [x] ~~Solution identified~~
- [x] ~~Stakeholders needs established~~
- [x] ~~Problems and root causes identified~~
- [x] ~~Need for a solution confirmed~~
- [x] ~~At least one solution proposed~~

Add an item

Opportunity Value Established

in list Done

LABELS

Description Edit

The opportunity and system value has been quantified and the solution impact has been understood by the team.
The success criteria is now clear.
The outcomes are now clear and quantified by the team.

Checklista Hide completed items Delete

100%

- [x] ~~Opportunity value quantified~~
- [x] ~~Solution impact understood~~
- [x] ~~System value understood~~
- [x] ~~Success criteria clear~~
- [x] ~~Outcomes clear and quantified~~

Add an item

Opportunity Viable

in list Done

LABELS

Description Edit

The solutions have been outlined and considered possible within the constraints.
The risk is considered acceptable and manageable.
The solutions are considered profitable and the reasons to develop them have been understood.
Pursuit is viable.

Checklista Hide completed items Delete

100%

- [x] ~~Solution outlined~~
- [x] ~~Solution possible within constraints~~
- [x] ~~Risks acceptable & manageable~~
- [x] ~~Solution profitable~~
- [x] ~~Reasons to develop solution understood~~
- [x] ~~Pursuit viable~~

Add an item

Assignment 3

Planning the project work

Our understanding of the scenario given to us:

- We thought the text was straight to the point and easy to understand.
- We got a better understanding of what the cards and their items signified, as well as concrete examples of how they could be applied to a project.
- We realized how effective the cards could be for a project's structure and for the team's shared understanding of the project.
- We understood that this method is easy to apply in real life situations.

Our impression on playing games within software engineering:

Advantages	Disadvantages
• Good methodical and fun procedure that helps group see the next step in project development • Process ensures the team has good understanding of the state of project • Ensures team members share similar perspective • A fun way of engaging the whole group • Planning poker is a structured way of planning a project • Good for discovering issues	• Time Consuming • Not applicable for small projects • Not a formal way of planning • Cards can get misunderstood, defeats the purpose • Card criterias are not suitable for all projects and team could have to customize the game for project

Our reflections on encapsulating the whole subject of software engineering with essence cards scenarios:

- Team agrees that this method is a good methodical procedure that helps the team find the next step in the project, but that this process takes a long time.
- This process is necessary for bigger projects but smaller groups could take advantage in doing something similar.
- This process ensures that the team shares a good understanding of the state of the project.
- This process ensures that the team is aware of the possible directions that the project can be worked on to reach the next step.
- Good way of ensuring that the team doesn't miss any steps in project planning, making sure all parties involved agrees on following steps.
- First time trying this method is tricky to understand but the protocol is much easier to apply after that and is more systematic and universal than one would guess.

No changes to the alphas were made during assignment 3.

Assignment 4

Implementing requirements

Risk identification

Mini risk method: Probability and impact are rated from a scale from one to five. The risk value is calculated by multiplying the probability with the impact.

Risk	Probability (P) (1 to 5)	Impact (I) (1 to 5)	Risk value (PxL =)	Comments
The system is too slow.	1	4	4	
Lack of knowledge in problems that can appear	2	3	6	
Internal resource deficit.	3	4	12	If someone in the team gets sick.
Client changing their mind about decisions	2	5	10	Will cause delays in the project and exceed the planned costs
Insufficient budget.	1	5	5	
Bottlenecks in production pipeline	2	4	8	
Immature technology causing issues	1	5	5	
Deprecated technology	2	3	6	
Code languages unable to talk to each other (API-problems)	2	5	10	
Conflicts in the group	3	5	15	Can cause delays.

The risks with the highest risk value should be managed first, in this case :

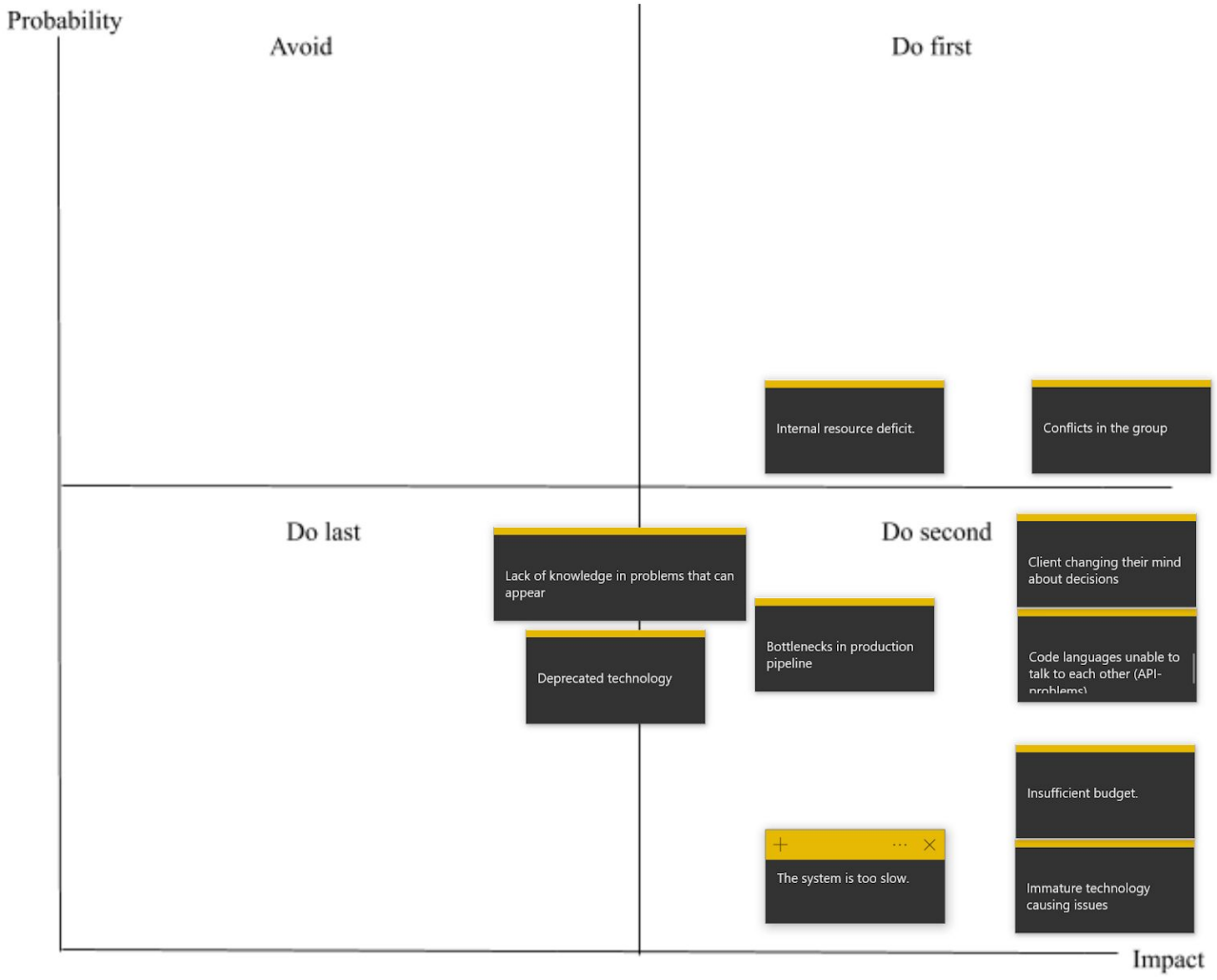
- conflicts in the group.
- internal resource deficit.

The risks with high impact, but low probability should be managed secondly:

- Bottlenecks in the production pipeline.
- The system is too slow.
- Insufficient budget
- The client changes their mind about decisions.
- Code language unable to talk to each other (API- problem).
- Immature technology causing issues.

The risks with low impact and low probability , should be managed last:

- Lack of knowledge in problems that can appear.
- Deprecated technology.



Summarization about our experiences with pair programming:

Good:

- More creative ideas.
- More interactive.
- Great for team bonding.
- Easier to solve problems.

Bad:

- Time consuming.
- Not so productive at all times.
- It's not efficient for not complex coding.

Summarization about pair programming according to external sources:

Good:

- Fewer mistakes and bugs (Verypossible, 2020)
- Increased code quality. (Kniberg, 2015, p.104) (Verypossible, 2020)
- It improves team focus (Kniberg, 2015, p.104)

Bad:

- Cost more (Verypossible, 2020)
- Pair programming is exhausting (Kniberg, 2015, p.105).

Summarization about our experiences with test-first programming:

Good:

- We know how the program will be tested
- We already know most of the problems that can occur

Bad:

- The programmer does not always know all problems that can occur
- If the client decides to change the program, the test case is useless
- Can be a waste of time

Summarization about our experiences with refactoring programming:

Good:

- The code is clean and easy to read
- Fewer lines of code

Bad:

- Time consuming

Summarization about our experiences with designing the code first before programming:

Good:

- Already know what to implement
- Have a game plan about how to implement the code
- Knows what data structure to use

Bad:

- Time consuming
- For simple program it's a waste of time
- Not so useful if the client decides to change programs.

Summarization about the estimated effort:
With our current understanding of the programming languages that we needed to use to complete the requirement, we managed to fulfill the requirement (R1) in an average time of 6h where the slowest group worked for 8 hours. We expected the requirement to be fulfilled after 18 hours yet only worked for 8 hours. This implies that our estimated effort was inaccurate, although considering our inexperience with programming, this problem was expected.

Flow of execution:

1. The index.html page was first filled with all required data for the website. We could then copy over recurring data to all other websites by using the index.html site as a template.

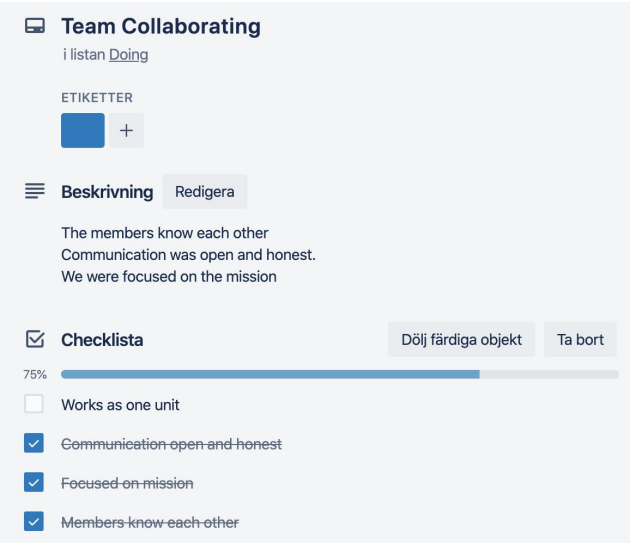
2. The menu.html page was then to be filled with all required data for the website.

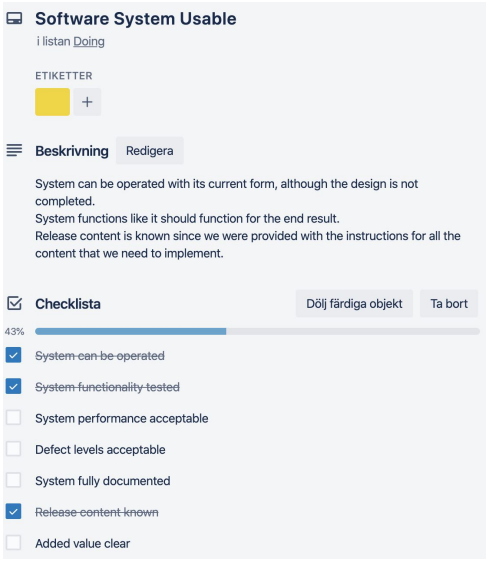
3. The contact.html page was then to be filled with all required data for the website.

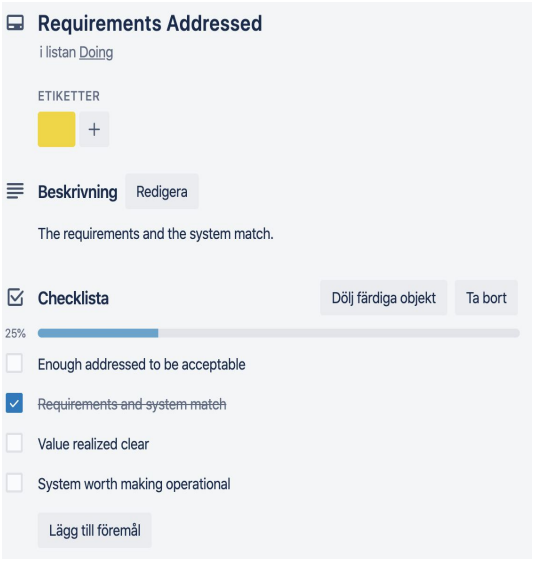
4. The about.html page was then to be filled with all required data for the website.

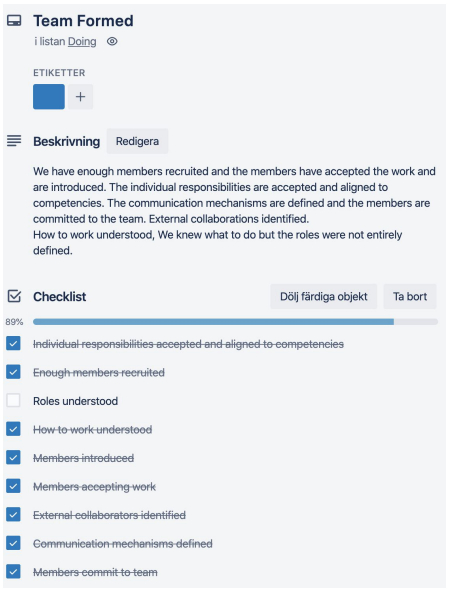
5. The faq.html page was then to be filled with all required data for the website.

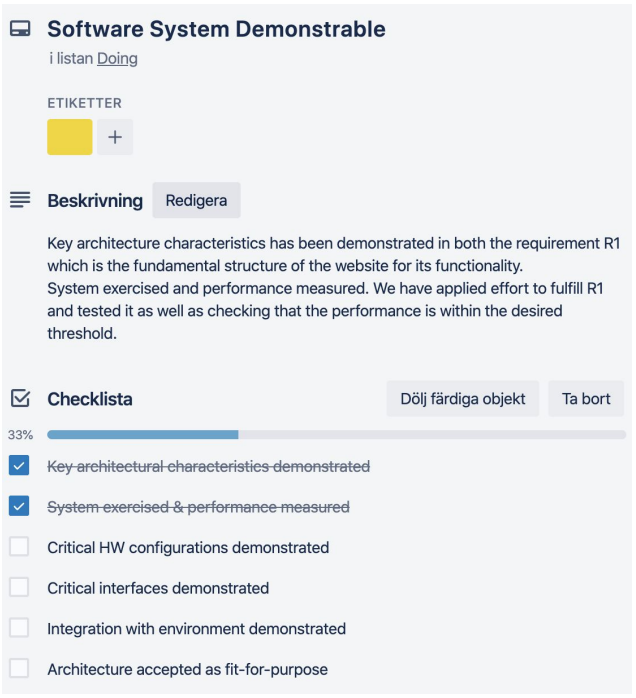
These were the results for the alphas after completing assignment 4:

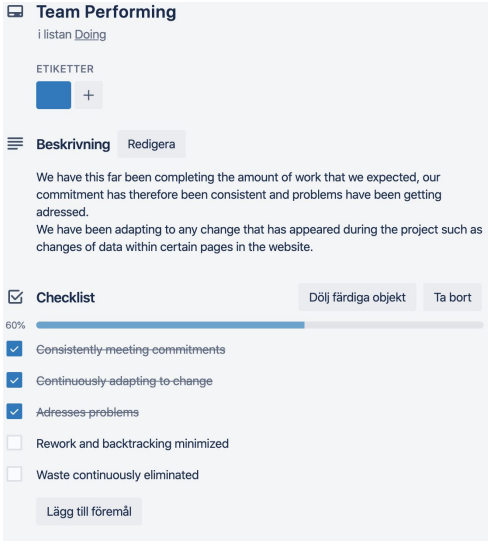



Software System Usable
i listan Doing
ETIKETTER
Beskrivning
Redigera
System can be operated with its current form, although the design is not completed.
System functions like it should function for the end result.
Release content is known since we were provided with the instructions for all the content that we need to implement.
Checklista
Dölj färdiga objekt
Ta bort
43%
System can be operated
System functionality tested
System performance acceptable
Defect levels acceptable
System fully documented
Release content known
Added value clear


Requirements Addressed
i listan Doing
ETIKETTER
Beskrivning
Redigera
The requirements and the system match.
Checklista
Dölj färdiga objekt
Ta bort
25%
Enough addressed to be acceptable
Requirements and system match
Value realized clear
System worth making operational
Lägg till föremål


Team Formed
i listan Doing
ETIKETTER
Beskrivning
Redigera
We have enough members recruited and the members have accepted the work and are introduced. The individual responsibilities are accepted and aligned to competencies. The communication mechanisms are defined and the members are committed to the team. External collaborations identified.
How to work understood, We knew what to do but the roles were not entirely defined.
Checklist
Dölj färdiga objekt
Ta bort
89%
Individual responsibilities accepted and aligned to competencies
Enough members recruited
Roles understood
How to work understood
Members introduced
Members accepting work
External collaborators identified
Communication mechanisms defined
Members commit to team


Software System Demonstrable
i listan Doing
ETIKETTER
Beskrivning
Redigera
Key architecture characteristics has been demonstrated in both the requirement R1 which is the fundamental structure of the website for its functionality.
System exercised and performance measured. We have applied effort to fulfill R1 and tested it as well as checking that the performance is within the desired threshold.
Checklista
Dölj färdiga objekt
Ta bort
33%
Key architectural characteristics demonstrated
System exercised & performance measured
Critical HW configurations demonstrated
Critical interfaces demonstrated
Integration with environment demonstrated
Architecture accepted as fit-for-purpose


Team Performing
i listan Doing
ETIKETTER
Beskrivning
Redigera
We have this far been completing the amount of work that we expected, our commitment has therefore been consistent and problems have been getting adressed.
We have been adapting to any change that has appeared during the project such as changes of data within certain pages in the website.
Checklist
Dölj färdiga objekt
Ta bort
60%
Consistently meeting commitments
Continuously adapting to change
Adresses problems
Rework and backtracking minimized
Waste continuously eliminated
Lägg till föremål

Assignment 5

Solving pain points

Solving Pain Points with Requirements Alpha: Scenario 2

Cecile Peraire, Mira Kajko-Mattsson, Barry Myburgh, Maria Augusta Vieira Nelson, Paul E. McMahon

A five-member team has been in charge of developing an online university course management system and has produced the first release. The team has just received the green light from university management to proceed with Release 2.

The functionality in Release 2 would deal with the management of: (1) administrative information, (2) courses, and (3) student performance. It would strongly benefit administrators, faculty members and students, by facilitating their work and communication. It would also benefit university management by decreasing the overall administrative and managerial cost. The management is expecting to see the new system adopted by all at the end of the following academic year.

To further understand the university operation, the team members made inquiries about shortcomings of Release 1. They held frequent meetings with users to identify needs for Release 2, and also observed the usage of the new system. This gave them a good understanding of what worked well and what did not. Results of their efforts were analyzed and the improved usage scenarios were derived and documented at a fairly high level. The team's repository was updated to reflect the changes. Users were kept in the loop to validate the scenarios and to identify their relative importance. UI mockups were then created and/or

improved for the most important scenarios. It was agreed that details would still have to be elaborated just before implementation.

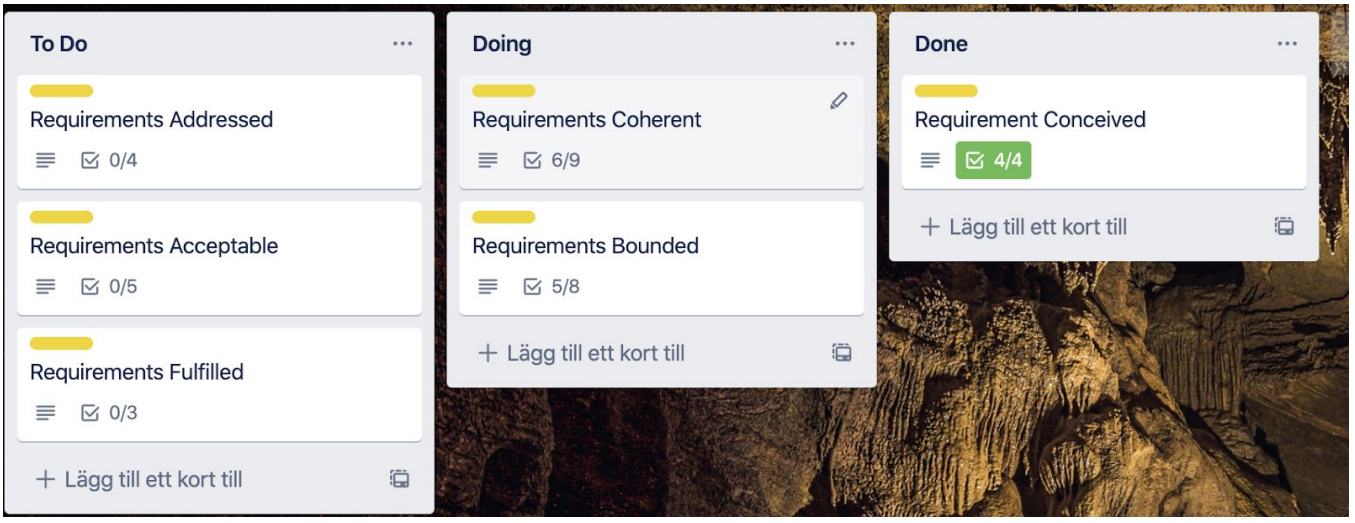
In addition to the system users, the team also contacted other stakeholders to take their needs into account. For instance, given the university's current growth projection, the team and university management agreed to assume that the system should accommodate up to 5.000 users. They also agreed that any decisions that had constrained the development of Release 1 would also apply to Release 2. Dealing with different stakeholder groups turned out to be challenging, as they often had different ideas on how things should be handled. For instance, the way the grades were communicated to the students caused disagreement. Faculty preferred the system to notify students about their grades by emails. Management, on the other hand, preferred the students to log in to access their grades. A short discussion helped solve the problem. Sending grades by emails was against the university's policy and the management solution would have to be implemented.

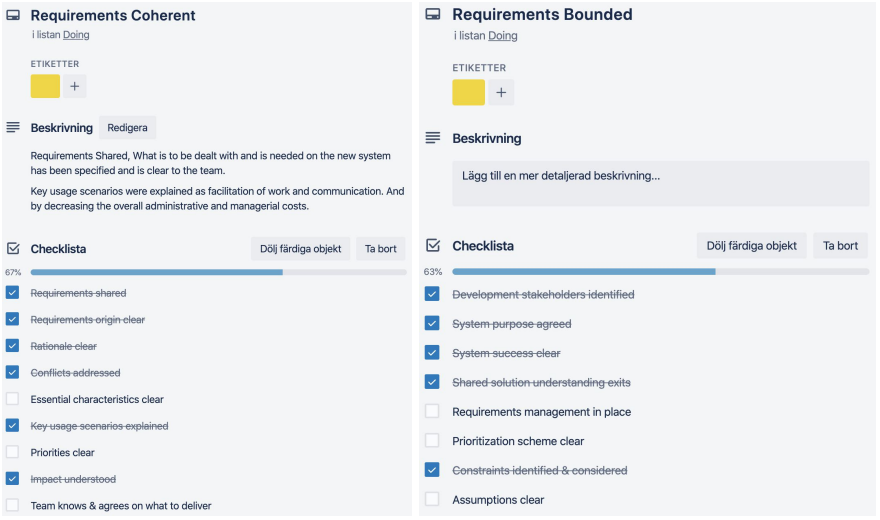
At some point during Release 2, one team member mentioned that a few faculty members were resisting the migration to the new system. They were still managing communication via emails and course assignments and grades via spreadsheets. They had no intention of migrating to the new system in the future. The team decided to interview a few of these faculty members to find out what the problem was. They also organized a short presentation of the functionality to be implemented in Release 2. The new functionality included (1) the management of student deliverables by the faculty members, (2) the ability to grade and provide feedback to the students, (3) the ability for students to view their grades in the

system, and (4) the management of course materials by the faculty members. The goal was also to articulate the value of the new system over the value of the wiki-based solution.

Through the interviews and demonstration, the team realized that the missing features requested by the faculty members were related to the way the new solution computes grades and manages feedback on deliverables. The new system is more restrictive. It does not allow faculty members to associate grading components to each student deliverable and it only supports grades based on points, not on alphabetic symbols.

Alpha Requirement cards for scenario 1:





Solving Pain Points with Team Alpha: Scenario 2

Maria Augusta Vieira Nelson, Mira Kajko-Mattsson, Barry Myburgh, Cecile Peraire, Paul E. McMahon

A five-member team has been in charge of developing an online university course management system since its first release. The team was formed by the IT director, who carefully chose its members with the purpose of maximizing team productivity. Its composition was based on an optimal mix of personalities with competencies identified as crucial. The team consists of a project manager and four developers, each having the expertise and responsibility in their specific areas such as design, user experience, requirements and database.

The team feels that its size and composition is satisfactory. The members are confident that they have the required competencies to fulfill their responsibilities. They know that as the system grows in the future, the team might have to be expanded.

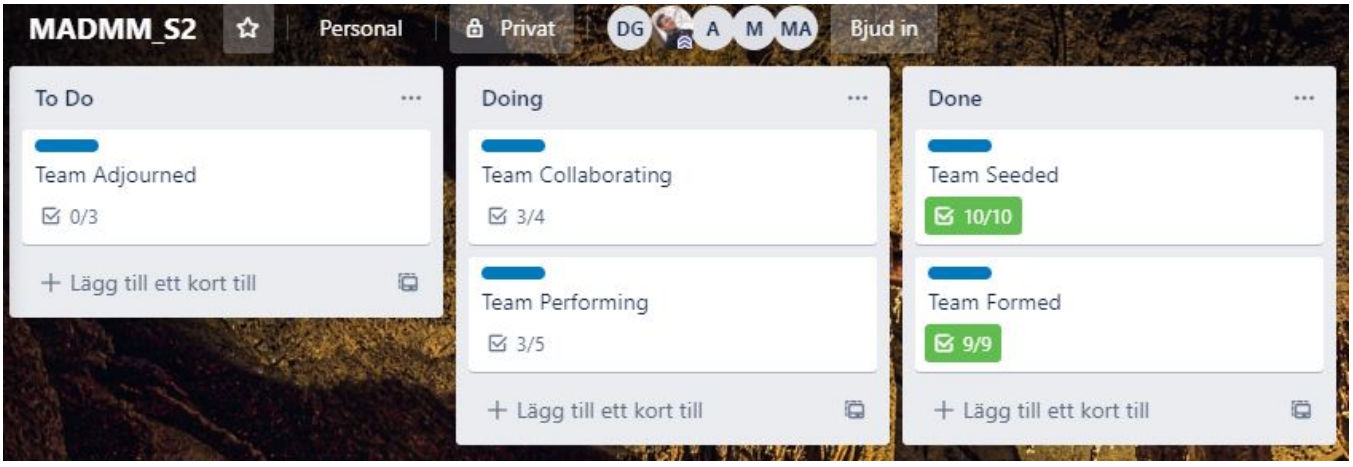
The team has started working on the second release. It is very well acquainted with the project's initial needs. It has collectively established its goals, mission and responsibilities. The team members agreed to mainly communicate orally and to document only the most important issues such as requirements, design, problems, test cases and important decisions and events. The team practices a democratic leadership style implying that discussions with more than one possible outcome are discussed to make sure that everyone on the team has a chance to impact the decisions.

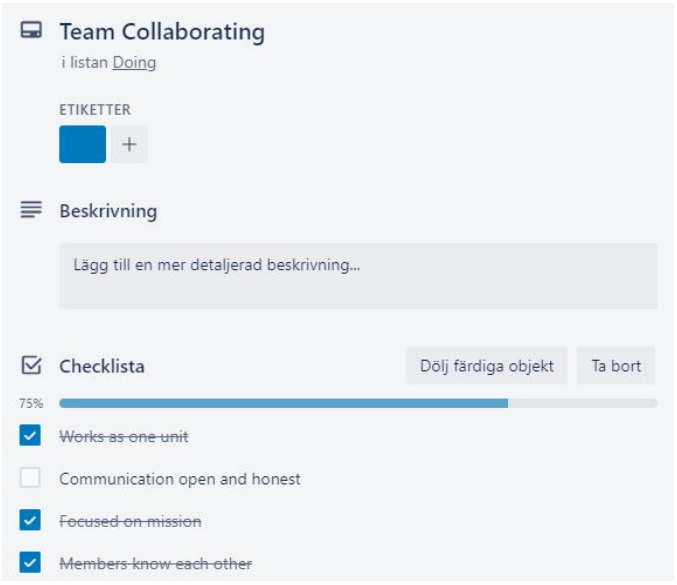
Team members have worked well and are committed to the project. Communication is sometimes challenging but each member knows how to conduct his/her own work and is dedicated to doing it. This is how the team succeeded in delivering Release 1.

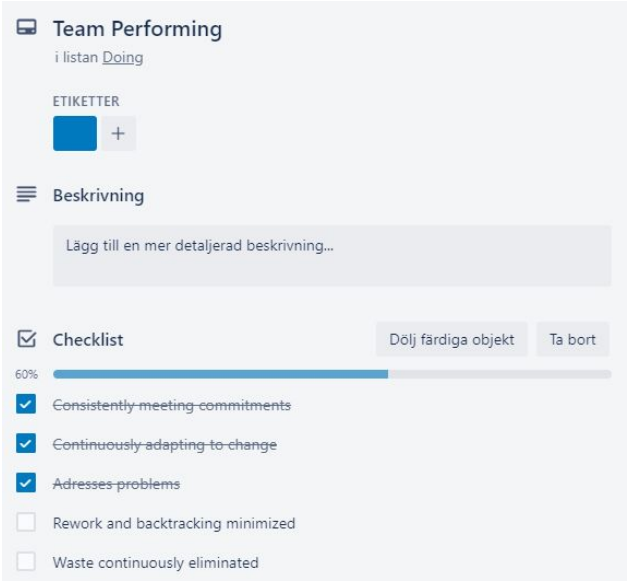
So far, the stakeholder groups that have been identified are Administrators, Faculty, and Students. Each group has a few representatives who are willing to collaborate with the project team. For Release 2, the team has decided to meet and interview faculty members by visiting them at the university. This would help the team to identify needs for Release 2 and observe the usage of the new system.

After the interviews, two developers were in disagreement about one significant requirement. They shared the conflicting viewpoints with the faculty involved. The faculty agreed with the first developer, and the second developer felt somewhat put out that his opinion did not seem to matter. Since this was not the first time that the second developer's ideas had not been accepted, little by little he stopped communicating with the team.

Alpha Team cards for scenario 2:







References:

- Kniberg, H. 2015. Scrum and XP from the Trenches. 2nd ed. C4Media.
- Verypossible. 2020. What is Pair Programming?. [online] Available at: <The Pros and Cons of Pair Programming> [2020-03-25]

Appendix:

Figure 4.1: index.html after completion of Assignment 4.

```
<!DOCTYP
E html>
```

```
<html>
   <head>
       <title>
            Italian Restaurant
       </title>
       <meta charset="utf-8">
       <link rel="stylesheet" href="styles.css">
       <meta name="viewport" content="width=device-width, initial-scale=1">
   </head>



   <body>
       <div class="header">
           <a href="index.html"><img src="" alt="Logo placeholder"></a>
               <ul>
                   <li><a href="about.html">About us</a></li>
                   <li><a href="menu.html">Menu</a></li>
                   <li><a href="contact.html">Contact us</a></li>
                   <li><a href="pages/faq.html">FAQ</a></li>
               </ul>
           </div>


       <div>
           <h3>Opening Hours:</h3>
           <ul>
               <li>
                   <h4>Monday-Friday</h4>
                   <p>10:00-23:00</p>
               </li>
```

```
                <li>
                    <h4>Saturday</h4>
                    <p>12:00-18:00</p>
                </li>
                <li>
                    <h4>Sunday</h4>
                    <p>12:00-16:00</p>
                </li>
                 <li>
                    <h4>Benvenuti!</h4>
                    <p>Welcome!</p>
                </li>
            </ul>


        </div>


    </body>
</html>
```

Figure 4.2: menu.html after completion of Assignment 4.

```
<!DOCTYP
E html>
<html>
    <head>
        <title>
             Italian Restaurant
        </title>
        <meta charset="utf-8">
        <link rel="stylesheet" href="styles.css">
        <meta name="viewport" content="width=device-width, initial-scale=1">
    </head>
```

```
<body>
    <div class="header">
        <a href="index.html"><img src="" alt="Logo placeholder"></a>
            <ul>
                <li><a href="about.html">About us</a></li>
                <li><a href="menu.html">Menu</a></li>
                <li><a href="contact.html">Contact us</a> </li>
                <li><a href="faq.html">FAQ</a> </li>
            </ul>
        </div>

    <div>
        <h4>Menu:</h4>
        <div>
            <h3>Starters</h3>
            <ul>
                <li>
                    <h3>Garlic bread, 45:-</h3>
                </li>
                <li>
                    <h3>Carpaccio, 100:-</h3>
                </li>
                <li>
                    <h3>Insalata mix 65:-</h3>
                </li>
            </ul>

            <h3>Main Courses:</h3>
            <ul>
                <li><h3>Linguine ai frutti di mare, 130:-</h3></li>
                <li><h3>Entrecote 140:-</h4></li>
```

```
                    <li><h3>Pasta Carbonara 120:-</h4></li>
                    <li><h3>Salmerino 180:-</h4></li>
                    <li>
                        <h3>Pizza</h3>
                        <ul>
                            <li><p>Margherita 90:-</p></li>
                            <li><p>Napolitana 120:-</p></li>
                            <li><p>Capricciosa 110:-</p></li>
                        </ul>

                    </li>
                </ul>

                <h3>Desserts:</h3>
                <ul>
                    <li><h3>Tiramisu, 60:-</h3></li>
                    <li><h3>Lemon sorbet, 40:-</h3></li>
                </ul>

                <h3>Drinks</h3>
                <ul>
                    <li><h3>Sodas 30:-</h3></li>
                    <li><h3>Red Wines 115:-/450:-</h3></li>
                </ul>

                <h3>Allergenes</h3>
                <ul>
                    <li>
                        <h3>We are able to adjust our ingredients according to your
allergies.</h3>
                        <h2> Glutenfree pizza +10:- <h2>
                    </li>
                </ul>
```

```
            </div>


        </div>


    </body>
</html>
```

Figure 4.3: contact.html after completion of Assignment 4.

```
<!DOCTYP
E html>
<html>
    <head>
        <title>
             Italian Restaurant
        </title>
        <meta charset="utf-8">
        <link rel="stylesheet" href="styles.css">
        <meta name="viewport" content="width=device-width, initial-scale=1">
    </head>


    <body>
        <div class="header">
            <a href="index.html"><img src="" alt="Logo placeholder"></a>
                <ul>
                    <li><a href="about.html">About us</a></li>
                    <li><a href="menu.html">Menu</a></li>
                    <li><a href="contact.html">Contact us</a> </li>
                    <li><a href="faq.html">FAQ</a> </li>
                </ul>
```

```
        </div>


    <div>
        <h3>Opening Hours:</h3>
        <ul>
            <li>
                <h4>Monday-Friday</h4>
                <p>10:00-23:00</p>
            </li>
            <li>
                <h4>Saturday</h4>
                <p>12:00-18:00</p>
            </li>
            <li>
                <h4>Sunday</h4>
                <p>12:00-16:00</p>
            </li>
            <li>
                <h4> Email: odengatan@italianrestaurant.se </h4>
                <h4> Number: 08-12 34 56 </h4>
                <h4> Address: Odengatan 52, 113 51 Stockholm </h4>
        </ul>


        <h3>
            <p>
                Hope to see you soon!
            </p>
        </h3>



    </div>
```

```
    </body>
</html>
```

Figure 4.4: about.html after completion of Assignment 4.

```
<!DOCTYP
E html>
<html>
    <head>
        <title>
             Italian Restaurant
        </title>
        <meta charset="utf-8">
        <link rel="stylesheet" href="styles.css">
        <meta name="viewport" content="width=device-width, initial-scale=1">
    </head>


    <body>
        <div class="header">
            <a href="index.html"><img src="" alt="Logo placeholder"></a>
                <ul>
                    <li><a href="about.html">About us</a></li>
                    <li><a href="menu.html">Menu</a></li>
                    <li><a href="contact.html">Contact us</a> </li>
                    <li><a href="faq.html">FAQ</a> </li>
                </ul>
            </div>


        <div>
            <h3>About:</h3>
            <p>
```

```
                We only use fresh and high quality Italian products. The bread we use
comes from on of the finest bakeries in Bensonhurst
                , Brooklyn, which has been in business for 30 years. It is delivered to
us every morning, right out of the oven,
                still warm, and with its fresh fragrance.



                We only use high quality Italian cold cuts and all the ingredients and
condiments are imported directly from Italy,
                like our bufala mozzarella delivered fresh every week.



                We do not make hot paninis and we do not use a press, because by using
only fresh bread and the best products
                we want to preserve the quality of the Italian cold cuts being served
so that we may offer our customers
                the very best tasting paninis.




                Benvenuti! Welcome!
            </p>
        </div>


    </body>
</html>
```

Figure 4.5: faq.html after completion of Assignment 4.

```
<!DOCTYP
E html>
<html>
    <head>
        <title>
             Italian Restaurant
```

```
        </title>
        <meta charset="utf-8">
        <link rel="stylesheet" href="styles.css">
        <meta name="viewport" content="width=device-width, initial-scale=1">
    </head>


    <body>
        <div class="header">
            <a href="index.html"><img src="" alt="Logo placeholder"></a>
                <ul>
                    <li><a href="about.html">About us</a></li>
                    <li><a href="menu.html">Menu</a></li>
                    <li><a href="contact.html">Contact us</a> </li>
                    <li><a href="faq.html">FAQ</a> </li>
                </ul>
            </div>

        <div>


            <h3>Frequently Asked Questions:</h3>
            <ul>
                <li>
                    <h4>What are your opening hours?</h4>
                    <p> index.html</p>
                </li>
                <li>
                    <h4>Are you looking for staff?</h4>
                    <p>Yes, please come by and leave your CV or email it to us at
xx@italianrestaurant.com </p>
                </li>
                <li>
                    <h4>Are you fairtrade?</h4>
```

```
                    <p>12:00-16:00</p>
                </li>
                <li>
                    <h4>Do you provide with catering?</h4>
                    <p>Yes!</p> <li><a href="contact.html"> Contact us.</a> </li>
                </li>
                 <li>
                    <h4>Do you have vegan alternatives?</h4>
                    <p>Yes of course, you can read more about it</p>
                        <li><a href="menu.html"> here!.</a> </li>
                </li>
                 <li>
                    <h4>Where do you provide with information about allergens?</h4>
                    <p>You can read more about allergens </p> <li><a href="menu.html">
here.</a> </li>
                </li>


            </ul>


        </div>


   </body>
</html>
```