URD SalesRock SRS Analysis Report

Accessibility

The requirements are organized into groups starting from a high-level including capability and constraints requirements and a further decomposed into user management and customer relationship management (within the capability requirements), as well as performance and environment requirements (within the constraints requirements). The user management requirements are further decomposed into different kind of users of the software including administrators, Sales Owners, and employee, so you can access the requirements based on a particular role that you are searching the requirements for. The customer relationship management is also further broken down into general, pipeline tab, customers, references tab, Visualization and Reporting tab, invoices tab requirements. These requirements have their own list and are numbered accordingly for e.g., the references tab requirements are number as RFR001, RFR002 and customers tab are numbered as CSR001, CSR002 etc, so if you want to look it up you can simply use the format as shown for e.g., if you want the customer requirements simply look up the customers' tab and you will be presented with that list of requirements.

Each high-level requirement is further broken down into separate groups which have their own requirements that correspond to the high-level requirement. For each requirement within the list, they are either a 'Must have', 'Should have' or 'Could have'. These metrics are not sorted accordingly and are muddled up for e.g., in the visualization and reporting tab, requirement VIS031 is marked as 'Should', then the next requirement VIS032 is marked as 'could' and the next requirement VIS033 is a 'must'. For better accessibility, they should have sorted the requirements so that the 'must' haves are in one section, the 'Should' haves are in one section and so on. This way you can differentiate between the priorities of the requirements, and it becomes easier to access.

In terms of the listing of the requirements, they are formatted in a list of list format, where there is a list of high-level generic requirements such as constraint requirements which is number as 3.2. There are then requirements which are a part of it for e.g., performance which will be numbered as 3.2.1. This will then have its sown list of requirements numbered e.g., PFR001 (as mentioned above).

In terms of looking up the requirements, you can look them up by key words based on a particular group of requirements that you are looking for e.g., if you are looking for user management requirements, this is in the contents list so you can navigate to them straight away based on the user type. However, the user management requirements are further broken down into Admin, Sales owner, and employee which is not listed on the contents list so you would have to scroll down to find them, making it not as accessible. To improve this, they should include these subsections within the contents list to make it easier to navigate to. This way you can access e.g. Sales Owner requirements without having to scroll all the way down for it. You can also access the requirements based on the use case as each use case has the set of requirements that it covers for e.g. There is pipeline Use case (A.2) which has a use case called entering a new lead (A.2.1). This covers the following requirements CRM014, CRM016 to CRM036, UMR012, UMR039 which you can then look up accordingly for the use case.

Overall, they have done a good job in making the requirements accessible. They have decomposed the requirements well and used a listing and number format, so we know the category that each requirement is referring to. Apart from some minor improvements which could have been made when it comes to the user types as well as the prioritization of the requirements (with the Must, Should, and could have metrics), I think that these requirements are accessible.

Comprehensiveness

In terms of comprehensiveness, the form in which the lead is added and updated is described as 'User friendly'. However, within the requirements this is not made entirely clear that the form must be user-friendly. It does not include what exactly should be in the form in terms of the look and the formatting of the user interface that will therefore make it user friendly. This is necessary because to just say that the form is user friendly is too generic and can be subjective depending on the user, so if you include specific requirements for the form that will allow the form to become user friendly, we will then be able to say that we have satisfied this requirement and the form is now 'user friendly' as described in the introduction.

Furthermore, in the product perspective within the General Description section it mentions that reports should be generated based on the information about the leads. However, in the requirements section it is not explicitly stated that they should be able to generate a report of the lead information given. There is only really an emphasis on the visualizations tab. I believe this is necessary to have as reports will always have more detail than a visualization, which are normally only used to make the information easier to read, so if someone requires more information on the lead, they will be able to read a full report on the leads as supposed to the visualization which is normally just an abstraction of the information you are looking for.

Within the user management section, we are told that the sales owner needs to be added manually by the administrators. However, when we navigate to the administrator requirements it doesn't state that they have the role of manually adding a sales owner. This is necessary as it means that there may be sales owners within the system who have not actually been added manually but are within the system and will have permissions that they have not been given. This can then cause breaches as they can for e.g., edit data of the lead when they haven't been given authority to do so as they weren't manually added.

For the pipeline section, it says that there are 2 views which can be switched by a button. In the requirements although the switching between the 2 views is mentioned (CRM060), the button to switch between the views are not mentioned. This is necessary as it will give us an understanding of what will be included within the user interface of the pipeline.

A big factor of sales is the follow-up, it is important to follow up with the potential customer and track progress in that regard for e.g. after the demo meeting you follow up with the customer to see if they are still interested and get their feedback. This is a common thing to do in sales but was not included in the requirements. for e.g., in the Pipedrive sales application you can track follow ups as well as leads. Therefore, for the Sales Rock System pipeline they should have included an extra stage for follow-up with the potential customer.

For the customers' tab requirements, it mentions that there should be a search option (CSR019). However, this is a very vague requirement in the sense that it doesn't tell us what we can search, what information should we hope to find based on what we input in the search option. This functionality is also not included within the general capabilities section of the customer's tab, so we also don't know who has the ability to search, whether it is admins or sales owners or employees etc. To improve this, they should have included what the search functionality does, who can search and what kind of output to expect when you search for information.

For the visualization section we are told that there are 5 KPI profiles which are all unique and have their own purpose. However, this is not stated within the requirements as we are only told that "There will be predefined KPI profiles." (requirement VIS008). This is necessary to quantify as the user knows what to expect when using the application, and if the KPI profiles have to be unique or not.

For the invoices tab section, it mentions that it is admins that can accept and decline invoices. However, this is not explicitly stated in the requirements that the administrators are the ones who can approve or decline invoices. The closest requirement we have to this is INV 015 "When hovering over the status "approved" or "declined", the responsible administrator shall be visible". This doesn't explicitly state that it is only the administrator that can decline or approve. This is necessary to include as we don't want unauthorized personnel to approve and decline invoices. I would have made it clear that only administrators are able to approve or decline invoices.

In the General Constraints section, it mentions that the new platform must run on a Linux server owned by BlueRock Logistics. However, in the requirements there is no mention of this. This is important as even if the product is perfectly in terms of functionality, if it is not designed to run in a particular environment such as IOS or Linux, it still won't work. This means it is important to state the environments that this application is meant to run on in the requirements.

In the user characteristics section (2.4), we are told that the employee can sort and filter the data including the pipeline, customers, visualizations etc. However, there is no mention of this in the requirements section we mainly told what they can view and select. This is necessary to include it as the employee needs to know all their roles.

We are told regarding the sales owner roles that they have all the roles of the employee and more, and for the administrator we are told that it has the roles of the sales owners and more. Although we are given their roles in the requirements, it should also be made clear they should also have the exact same roles as the people beneath them. This way if we notice that the employee has a capability that the sales owner doesn't we will be able to spot this straight away as per the requirement and make the necessary changes quicker.

In the environment Description we are told that the system will be a web app running on the browser which will include the front end and back end. This is not mentioned in the requirements, but it is necessary to do so because this determines many other things later such as how we are going to develop the system, what sort of personnel do we need to hire etc.

Overall they have managed to achieve a certain level of comprehensiveness with these requirements. There are sections which could have been improved in terms of being more specific with those requirements as mentioned above, however I believe that to a certain extent the wants and needs of the users are displayed through these requirements.

Understandability and Unambiguity

User Mgmt.	Understandability
UMR001	Yes[6]
UMR002	Yes[6]
UMR003	No[1]
UMR004	Yes[1]
UMR005	Yes[1]
UMR006	No[2]
UMR007	Yes[1]
UMR008	Yes[1]
UMR009	Yes[1]
UMR010	Yes[6]
UMR011	Yes[1]
UMR012	Yes[1]
UMR013	Yes[1]
UMR014	Yes[6]
UMR015	No[3]
UMR016	No[3]
UMR017	Yes[6]
UMR018	Yes[1]
UMR019	Yes[3]
UMR020	Yes[3]
UMR021	Yes[1]
UMR022	Yes[6]
UMR023	Yes[2]
UMR024	Yes[2]
UMR025	Yes[2]
UMR026	Yes[2]
UMR027	Yes[6]
UMR028	Yes[1]
UMR029	Yes
UMR030	Yes[4]
UMR031	Yes[1]
UMR032	Yes[1]
UMR033	Yes[5]
UMR034	Yes[6]

UMR035	Yes[6]
UMR036	Yes[6]
UMR037	Yes[6]
UMR038	Yes[1]
UMR039	Yes[1]

Yes:

1. Understandable since the specialist terms were previously defined
2. While this is vague, Invoices are outlined in 2.2.5 and that makes it much clearer
3. While this is vague, references are treated in 3.1.2.3, CSR010-CSR013
4. Custom KPI profiles are treated in VIS034VIS041
5. Visualization exporting is treated in VIS043-VIS048
6. Uses common words in a precise way.

No:

1. Create stage from anywhere or only from home page?
2. Can it be set to any arbitrary number, or only integers from 0 to 100%?
3. Are there any restrictions on the text fields, like length or special characters? Will it be selected from a set of allowed values?

UMR040	Yes[1]
UMR041	Yes[6]
UMR042	No[3]
UMR043	No[3]
UMR044	Yes[1]
UMR045	Yes[3]
UMR046	Yes[3]
UMR047	Yes[2]
UMR048	Yes[2]
UMR049	Yes[2]
UMR050	Yes[2]
UMR051	Yes[6]
UMR052	Yes[1]
UMR053	Yes[6]
UMR054	Yes[4]
UMR055	Yes[5]
UMR056	Yes[6]
UMR057	Yes[6]
UMR058	Yes[1]
UMR059	Yes[6]
UMR060	Yes[1]
UMR061	Yes[5]
UMR062	Yes[6]
UMR063	Yes[6]
UMR064	Yes[6]
UMR065	Yes[1]
General CRM	Understandability
GEN001	Yes[1]
GEN002	Yes[1]
GEN003	Yes[1]
GEN004	Yes[1]
GEN005	Yes[1]
GEN006	Yes[2]
GEN007	No[1]
GEN008	No[1]

Yes:

1. Uses commonly understood words in a precise way

2. The exact meaning of "default" is quantified in GEN007 and GEN008

No:

1. What time frame counts as "recently"? Do actions affect recent-ness? e.g.

Closing and reopening SalesRock, closing and reopening MyRock, logging out and logging back in, or restarting the computer.

Pipeline tab	Understandability

Yes:

CRM001	Yes[4]
CRM002	Yes[1]
CRM003	Yes[2]
CRM004	Yes[4]
CRM005	Yes[4]
CRM006	Yes[4]
CRM007	Yes[4]
CRM008	Yes[4]
CRM009	Yes[4]
CRM010	Yes[4]
CRM011	Yes[4]
CRM012	Yes[4]
CRM013	Yes[4]
CRM014	Yes[1]
CRM015	Yes[1]
CRM016	No[1]
CRM017	No[2]
CRM018	Yes[1]
CRM019	Yes[1]
CRM020	No[3]
CRM021	No[1]
CRM022	No[2]
CRM023	No[4]
CRM024	No[4]
CRM025	Yes[4]
CRM026	Yes[4]
CRM027	Yes[1]
CRM028	Yes[4]
CRM029	No[2]
CRM030	No[5]
CRM031	No[6]
CRM032	Yes[4]
CRM033	Yes[4]
CRM034	No[4,7]
CRM035	No[7]

CRM036	No[8]
CRM037	Yes[4]
CRM038	Yes[4]
CRM039	Yes[4]
CRM040	Yes[4]
CRM041	No[4,7]

No:

1. Understandable since the specialist terms were previously defined in section 1.3
2. Default stages are explained in CRM004CRM013
3. "...will send the request to the..." would have been more precise wording
4. Potentially confusing name because it could be interpreted as similar to table mode

1. What identifying attributes? Name – how many / what characters are allowed? Picture – what size/formats are supported?
2. How many / what characters are allowed?
3. Is there a set of opportunity types to choose from, or is this a custom field?
4. In what format? MM/DD/YYYY?
5. Are actions custom or chosen from a set of predefined actions?
6. Over what medium? SMS? Email?
7. How specific is the time? Does it just contain the hour of the action, or is it precise to the exact second when the edit was submitted?
8. How long should this list be? Should elements be removed based on list size or time elapsed?
9. Will the user be sent to the tab overview, or will SalesRock automatically select that customer in the customer tab for her?
10. Does not mention which mode. Columns in column mode are different than columns in table mode

CRM042	Yes[4]
CRM043	Yes[3]
CRM044	Yes[4]
CRM045	Yes[4]
CRM046	No[2]
CRM047	Yes[4]
CRM048	Yes[4]
CRM049	No[9]
CRM050	No[10]
CRM051	Yes[4]
CRM052	Yes[4]
CRM053	Yes[1]
CRM054	Yes[1]
CRM055	Yes[4]
CRM056	Yes[1]
CRM057	Yes[1]
CRM058	Yes[4]
CRM059	Yes[1]
CRM060	Yes[4]
CRM061	Yes[1]
CRM062	Yes[4]
Customers	Understandability
CSR001	Yes
CSR002	Yes[1]
CSR003	Yes[1]
CSR004	No[1]
CSR005	No[1]
CSR006	No[1]
CSR007	No[2]
CSR008	No[2]
CSR009	Yes[2]
CSR010	Yes[3]
CSR011	Yes
CSR012	Yes
CSR013	No[1]
CSR014	Yes[4]
CSR015	Yes[2]
CSR016	Yes
CSR017	Yes

CSR018	Yes
CSR019	Yes

Yes:

1. Customer attributes treated in CSR004-009
2. Understandable since the specialist terms were previously defined in section 1.3
3. No middle name?
4. Is it possible for no customers to be selected? What happens then?

No:

1. What are the allowable lengths and characters for this attribute?
2. What are the restrictions on number and size of notes/documents?
3. Is there a predefined set of types, or is this a custom field?

References	Understandability
RFR001	Yes
RFR002	Yes[1,2]
RFR003	Yes[2]
RFR004	No[1]
RFR005	No[1]
RFR006	No[1]
RFR007	Yes
RFR008	No[2]
RFR009	Yes[3]
RFR010	Yes
RFR011	Yes
RFR012	Yes

Yes:

1. Understandable since the specialist terms were previously defined in section 1.3
2. Reference attributes treated in RFR004RFR008
3. Is it possible for no references to be selected? What happens then?

No:

1. What are the allowable lengths and characters for this attribute?
2. Is there a predefined set of types, or is this a custom field?

Visualization	Understandability
VIS001	Yes[1]
VIS002	Yes[1]
VIS003	Yes[2]
VIS004	Yes[3]
VIS005	Yes[3]
VIS006	Yes[1]
VIS007	No[1]
VIS008	Yes[1,2]
VIS009	Yes[2]
VIS010	Yes[2]
VIS011	Yes[2]
VIS012	Yes[2]
VIS013	Yes[2]
VIS014	Yes[4]
VIS015	Yes[4]
VIS016	Yes[4]
VIS017	Yes[4]
VIS018	Yes[4]
VIS019	Yes[1]
VIS020	Yes[1]
VIS021	No[2]
VIS022	No[3]
VIS023	No[3]
VIS024	No[3]
VIS025	No[3]
VIS026	No[3,4]

Yes:

1. Understandable since specialist terms were previously defined in section 1.3
2. Clear since the predefined profiles are detailed in section 2.2.4 and VIS009VIS013
3. Uses common words in a precise way
4. Clearly outlines the components of a KPI visualization. Also covered in section 2.2.4
5. Clearly defines the supported graph types. It would be better if the customizability (color, font, etc) of the graphs was mentioned.

No:

1. Is it case sensitive? What are the restrictions on length of name / type of characters allowed? How will the module ensure uniqueness – error message, or automatically add suffixes like (1)?
2. “Rules” not mentioned elsewhere
3. Can these filters select multiple values, multiple intervals, or custom expressions?
4. Does “combination” mean the applying the two filters sequentially or some kind

VIS027	Yes[3]
VIS028	Yes[1]
VIS029	Yes[5]
VIS030	Yes[5]
VIS031	Yes[5]
VIS032	Yes[3]
VIS033	Yes[3]
VIS034	No[5]
VIS035	No[1]
VIS036	Yes[3]
VIS037	Yes[3]
VIS038	Yes[3]
VIS039	Yes[3]
VIS040	Yes[3]
VIS041	Yes[3]
VIS042	Yes[3]
VIS043	No[6]
VIS044	Yes[3]
VIS045	No[6]
VIS046	Yes
VIS047	No[6]
VIS048	Yes[3]
VIS049	Yes[3]
VIS050	Yes[3]
Invoices	Crit. 1
INV001	Yes[1]
INV002	Yes[1]
INV003	Yes[1]
INV004	Yes[2]
INV005	Yes[2]
INV006	Yes[2]
INV007	Yes[2]
INV008	Yes[2]
INV009	Yes[2]
INV010	Yes[3]

INV011	Yes[3]
INV012	Yes[3]
INV013	Yes[3]
INV014	Yes
INV015	Yes[4]
INV016	Yes[5]

of relation between service and project fee such as “service fee < 2x project fee”

5. Is this a popup, a new window, or same window? Will it automatically redirect back to the visualization tab when configuration is finished?
6. Will the download give the user an opportunity to choose its file name and location?

Yes:

1. Understandable since specialist terms were previously defined in section 1.3
2. Precisely outlines the names of the columns in the invoices table. Explains unclear terminology like “responsible user” where necessary. Status is explained in INV010-INV014
3. Precisely outlines the names of the possible states of an invoice, as well as the priority level.
4. Can guess the meaning of “responsible administrator” by analogy to INV007, but should have been specified
5. Unclear, but directs to a different section for further explanation
6. Export button functionality described in

INV018

INV017	Yes[6]
INV018	No[1]
INV019	Yes[1]
INV020	Yes[1]
INV021	No[2]
INV022	Yes[7]
INV023	No[3]

7. Uses common words in a precise way

No:

1. Will the download give the user an opportunity to choose its file name and location?
2. How powerful is this filter? Can a user filter for multiple statuses at once?
3. How powerful is this search option? Can a user toggle case sensitivity? Does it support regex?

Consistency

The requirements seem quite consistent, however, an argument could be made that some requirements could have been merged into one (e.g. VIS004 and VIS005), however, we will consider it a matter of choice and will not count it as a mistake. Another thing that could have been done was to reverse the user order, starting with the employee user type and then climbing up the hierarchy. This would avoid repetition if the writers stated for instance: "Sales owners contain all the requirements of the Employee user type" and then added any additional requirements.

There were also some inconsistencies found, mostly to do with repetition and contradiction. Please see the examples in the table below.

Requirements	**Criteria met**	**Notes**
Capability requirements		**Yes:** All criteria marked as "Yes" shows no signs of inconsistencies. Only recommendation would be to have requirements stating what type of access employees have stated under general requirements for all classes, so as to avoid having to repeat the same requirements with just altering the user type name stated in the requirement for different user types (for instance UMR064, UMR044, UMR018). Another possible solution to this would be starting to define the roles from employee and then for roles with higher access rights saying includes all the requirements from the previous tier user and then adding any extra requirements. This would avoid any needless repetition.
UMR001	Yes	
UMR002	Yes	
UMR003	Yes	
UMR004	Yes	
UMR005	Yes	
UMR006	Yes	
UMR007	Yes	
UMR008	Yes	
UMR009	Yes	
UMR010	Yes	
UMR011	Yes	
UMR012	Yes	
UMR013	Yes	
UMR014	Yes	
UMR015	No4	
UMR016	No4	
UMR017	No4	
UMR018	Yes	
UMR019	No6	
UMR020	No6	
UMR021	Yes	

UMR022	No9	
UMR023	Yes	
UMR024	Yes	
UMR025	Yes	
UMR026	Yes	
UMR027	Yes	
UMR028	No7	
UMR029	No8	
UMR030	Yes	
UMR031	Yes	
UMR032	Yes	
UMR033	Yes	
UMR034	Yes	
UMR035	Yes	
UMR036	Yes	
UMR037	Yes	
UMR038	Yes	
UMR039	Yes	
UMR040	Yes	
UMR041	Yes	
UMR042	No4	
UMR043	No4	
UMR044	Yes	
UMR045	No6	
UMR046	No6	
UMR047	Yes	
UMR048	No9	
UMR049	Yes	
UMR050	Yes	
UMR051	Yes	
UMR052	No7	
UMR053	No8	
UMR054	Yes	
UMR055	Yes	

UMR056	Yes	
UMR057	Yes	
UMR058	Yes	
UMR059	Yes	
UMR060	No7	
UMR061	Yes	
UMR062	Yes	
UMR063	Yes	
UMR064	Yes	
UMR065	Yes	
Customer relationship management		

GEN001	Yes	**No:** 1. GEN006, 007 and 008 are opposing each other due to them all being called the default. GEN006 could be removed and GEN008 turned into a must.
GEN002	Yes	2. CRM005 and CRM006 are in contradiction with each other as they are both stated to be the default stage at the same position.
GEN003	Yes	3. CRM010 and CRM011 same applies as the point above.
GEN004	Yes	
GEN005	Yes	
GEN006	No1	
GEN007	No1	
GEN008	No1	
CRM001	Yes	
CRM002	Yes	
CRM003	Yes	
CRM004	Yes	
CRM005	No2	
CRM006	No2	
CRM007	Yes	
CRM008	Yes	
CRM009	Yes	
CRM010	No3	
CRM011	No3	
CRM012	Yes	
CRM013	Yes	
CRM014	Yes	
CRM015	Yes	

CRM016	Yes	
CRM017	Yes	
CRM018	Yes	
CRM019	Yes	
CRM020	Yes	
CRM021	Yes	
CRM022	Yes	
CRM023	Yes	
CRM024	Yes	
CRM025	Yes	
CRM026	Yes	
CRM027	Yes	
CRM028	Yes	
CRM029	Yes	
CRM030	Yes	
CRM031	Yes	
CRM032	Yes	
CRM033	Yes	
CRM034	Yes	
CRM035	Yes	
CRM036	Yes	
CRM037	Yes	
CRM038	Yes	
CRM039	Yes	
CRM040	Yes	
CRM041	Yes	
CRM042	Yes	
CRM043	Yes	
CRM044	Yes	
CRM045	Yes	
CRM046	Yes	
CRM047	Yes	
CRM048	Yes	
CRM049	Yes	

CRM050	Yes	
CRM051	Yes	
CRM052	Yes	
CRM053	Yes	
CRM054	Yes	
CRM055	Yes	
CRM056	Yes	
CRM057	Yes	
CRM058	Yes	
CRM059	Yes	
CRM060	Yes	
CRM061	Yes	
CRM062	Yes	
CSR001	Yes	
CSR002	Yes	
CSR003	Yes	
CSR004	Yes	
CSR005	Yes	
CSR006	Yes	
CSR007	Yes	
CSR008	Yes	
CSR009	Yes	
CSR010	No5	
CSR011	No5	
CSR012	No5	
CSR013	No5	4. CSR016, 017 and 018 are already mentioned under UMR015, 016 and 017 (in that order) for administrator, and CSR016 and 017 are mentioned under UMR042 and 043 (in that
CSR014	Yes	
CSR015	Yes	
CSR016	No4	
CSR017	No4	
CSR018	No4	
CSR019	Yes	
RFR001	Yes	
RFR002	Yes	

RFR003	Yes	order) for the sales-owners, albeit with a slightly different wording.
RFR004	No5	
RFR005	No5	5. REF004, 005, 006, 007 and 008 are already stated under CSR010, 011, 012, 013, with REF005 and 005 corresponding to CSR010, REF006 to CSR011, REF007 to CSR012 and REF008 to CSR013.
RFR006	No5	
RFR007	No5	
RFR008	No5	
RFR009	Yes	
RFR010	No6	
RFR011	No6	6. RFR010 and 011 already stated very similarly under UMR019 and 020 for administrator and UMR045 and 046 for sales-owners.
RFR012	Yes	
VIS001	Yes	
VIS002	Yes	
VIS003	No7	7. VIS003 is already stated under every employee type (UMR028 for administrator, UMR052 for sales-owner and UMR060 for employee), thus covering all types of users. In other words, there was no need to repeat the same requirement under a generic term "users”.
VIS004	No8	
VIS005	No8	
VIS006	Yes	
VIS007	Yes	
VIS008	Yes	
VIS009	Yes	
VIS010	Yes	8. VIS004 is already stated under UMR053 and VIS005 was already stated under UMR029
VIS011	Yes	
VIS012	Yes	
VIS013	Yes	
VIS014	Yes	
VIS015	Yes	
VIS016	Yes	
VIS017	Yes	
VIS018	Yes	
VIS019	Yes	
VIS020	Yes	
VIS021	Yes	
VIS022	Yes	
VIS023	Yes	
VIS024	Yes	

VIS025	Yes
VIS026	Yes
VIS027	Yes
VIS028	Yes
VIS029	Yes
VIS030	Yes
VIS031	Yes
VIS032	Yes
VIS033	Yes
VIS034	Yes
VIS035	Yes
VIS036	Yes
VIS037	Yes
VIS038	Yes
VIS039	Yes
VIS040	Yes
VIS041	Yes
VIS042	Yes
VIS043	Yes
VIS044	Yes
VIS045	Yes
VIS046	Yes
VIS047	Yes
VIS048	Yes
VIS049	Yes
VIS050	Yes
INV001	Yes
INV002	No[9]
INV003	Yes
INV004	Yes
INV005	Yes
INV006	Yes
INV007	Yes
INV008	Yes
INV009	Yes

9. INV002 is already stated under UMR022 for administrators and UMR048 for salesowners, with the only difference being the addition of the word “only”, however, that “only” can be applied by the already made exclusion of a similar argument from employees.

INV010	Yes	
INV011	Yes	
INV012	Yes	
INV013	Yes	
INV014	Yes	
INV015	Yes	
INV016	Yes	
INV017	Yes	
INV018	Yes	
INV019	Yes	
INV020	Yes	
INV021	Yes	
INV022	Yes	
INV023	Yes	

Testability and Traceability

Summary:

To summarize the Testability and Traceability section, it should be noted that roughly half of the requirements are mapped to a use case. The use cases, in conjunction with the list of requirements, identify a few edge cases to test a component. The requirements that are mapped are mapped correctly, with the exception of the final use case. The final use case listed, use case A.6.3 neither describes nor usefully tests the requirements mapped to it. Some requirements are not mapped to use cases when they could be mapped to an existing use case. Finally, many requirements are not mapped to a use case and there does not exist a use case to adequately describe or test them.

User Mgmt.	Testability and Traceability
UMR001	No[2]
UMR002	No[3]
UMR003	Yes[12]
UMR004	No[4]
UMR005	Yes[13]
UMR006	No[1]
UMR007	No[5]
UMR008	No[5]
UMR009	No[5]
UMR010	No[6]
UMR011	Yes[2]
UMR012	Yes[1]
UMR013	Yes[2]
UMR014	No[6]
UMR015	Yes[9]
UMR016	Yes[11]
UMR017	Yes[10]
UMR018	No[7]
UMR019	No[7]
UMR020	No[7]
UMR021	Yes[3]
UMR022	No[8]
UMR023	No[8]
UMR024	No[8]
UMR025	No[8]
UMR026	Yes[5]
UMR027	No[6]
UMR028	Yes[6]
UMR029	Yes[7]

Yes:

1. Use case A.2.1: UMR012, UMR039. UMR012 and UMR039 specify who can create a new lead in the pipeline tab and the use case confirms this.
2. Use case A.2.2, A.2.3: UMR011, UMR038. UMR012 and UMR039 specify who can edit a lead in the pipeline tab and the use case confirms this.
3. Use case A.3.1: UMR021, URM047. Note: I believe there to be a type and that URM047 refers to UMR021. UMR021 and UMR047 specify who can generate and send an invoice and the use case confirms this.
4. Use case A.3.2: UMR025. This requirement specifies who can change the status of an invoice and the use case confirms this.
5. Use case A.3.3: UMR026, UMR050. UMR026 and UMR050 specify who can download a PDF of an invoice and the use case confirms this.
6. Use case A.4.2: UMR028, UMR052, UMR060. These requirements specify the three types of users who can select a predefined KPI file to visualize and the use case confirms this.
7. Use case A.4.3, A.4.4: UMR029, UMR053, URM054. These requirements specify who can select and visualize a custom profile and the use case confirms this.

UMR030	No[8]
UMR031	No[8]
UMR032	No[8]
UMR033	Yes[8]
UMR034	No[9]
UMR035	No[8]
UMR036	No[3]
UMR037	No[6]
UMR038	Yes[2]
UMR039	Yes[1]
UMR040	Yes[2]
UMR041	No[6]
UMR042	Yes[9]
UMR043	Yes[11]
UMR044	No[7]
UMR045	No[7]
UMR046	No[7]
UMR047	Yes[3]
UMR048	No[8]
UMR049	No[8]
UMR050	Yes[5]
UMR051	No[8]
UMR052	Yes[6]
UMR053	Yes[7]
UMR054	Yes[7]
UMR055	Yes[8]
UMR056	No[3]
UMR057	No[9]
UMR058	No[9]
UMR059	No[9]
UMR060	Yes[6]
UMR061	Yes[8]
UMR062	No[9]
UMR063	No[9]
UMR064	No[9]
UMR065	No[9]

8. Use case A.4.5: UMR033, UMR055, UMR061. These requirements specify the three types of users who can export a visualization and the use case confirms this.
9. Use case A.5.1: UMR015, UMR042. These requirements specify who can create a new customer in the system and the use case tests and confirms this.
10. Use case A.5.2: UMR017. This requirement specifies who can remove a customer in the system and the use case tests and confirms this.
11. Use case A.5.3: UMR016, UMR043. These requirements specify who can edit a customer's data in the system and the use case tests and confirms this.
12. Use case A.6.1: UMR003. This requirement specifies who can create a new stage to the pipeline and the use case tests and confirms this.
13. Use case A.6.2: UMR005. This requirement specifies who can remove a stage from the pipeline and the use case tests and confirms this.

No:

1. While UMR006 is mapped to use case A.6.3, this requirement is not tested here. If it is meant to be tested here, the language in the requirement is incongruent with the language describing what is supposed to be happenig in the use case. This is the only case in which a requirement is traceable but is not testable.
2. UMR001 is not covered by a use case. Most use cases require a user to be logged in, but this requirement is not listed among the mappings. While it makes sense that this requirement isn't listed in every use case by name, it is a precondition of each use case.

3. UMR002, URM036, URM056 are not covered by a use case. It is implied that there are administrator, sales owner, and employee roles in many use cases (A.2.1, A.2.2, A.2.3, etc.) but this requirement is not included in the mappings to these use cases.
4. UMR004 not covered by a use case. It is implied that an administrator can edit a stage in use case A.6.3. A use case regarding how an administrator would edit a stage would be helpful, similar to how there are use cases for adding (A.5.1), removing (A.5.2), and editing (A.5.3) a customer.
5. UMR007 to UMR009 are not covered by use cases. The target objective is part of a KPI that only the administrator can add, edit, and remove. There should be a use case describing how an administrator would add, edit, and delete this part of the KPI visualization.
6. URM010, URM014, URM027, URM36, URM41 both the user's ability to view a feature. Additional requirements describe how the administrator edit, add, and delete these features and these requirements are mapped to use cases. For example, URM012 is mapped to use case A.2.1 and URM010 should also be mapped to that use case because both deal with leads in the pipeline. These requirements are tested but they are not mapped to a use case.
7. URM019, URM020, URM021, URM044, URM045, URM046 detail how administrators and sales owners should interact with a reference. None of these are mapped to a use case and there are no use cases that explain how to test the reference tab. A section of requirements (RFR001 to RFR012) describes additional requirements from the tab perspective, but there exists no use case.

8. URM022, URM023, URM024, URM030, URM031, URM048, URM049, URM051 describe that administrators and sales owners interact with invoices and KPI profiles. None of these requirements are directly mapped to a use case. Uses cases should be implemented to describe how invoices and KPI profiles are added and removed (in the case of administrators but not sales owners) and edited.
9. URM034, URM035 describe that an administrator can add and remove products. There is no use case describing how a user interacts with products. A use case should be written to describe and test these interactions.
10. URM057 to URM059, URM062 to URM065 describe what an employee can view. None of these requirements are mapped to a use case. Occasionally, a use case refers to what actions may be completed by a "user," but the employee requirements are not mapped to these requirements. Use cases should be written to describe and test these interactions.

General CRM	Testability and Traceability
GEN001	No[1]
GEN002	No[1]
GEN003	No[1]
GEN004	No[1]
GEN005	No[1]
GEN006	No[1]
GEN007	No[1]
GEN008	No[1]

No:

1. Each of these requirements describes how the tabs and CRM modules are related. None of these requirements are mapped to a use case. A use case should be written that describes and tests these interactions.

Pipeline tab	Testability and Traceability
CRM001	No[1]
CRM002	Yes[7]
CRM003	Yes[7]
CRM004	No[2]
CRM005	No[2]
CRM006	No[2]
CRM007	No[2]
CRM008	No[2]
CRM009	No[2]
CRM010	No[2]
CRM011	No[2]
CRM012	No[2]
CRM013	No[2]
CRM014	Yes[1]
CRM015	No[2]
CRM016	Yes[1]
CRM017	Yes[1]
CRM018	Yes[1]
CRM019	Yes[1]
CRM020	Yes[1]
CRM021	Yes[1]
CRM022	Yes[1]
CRM023	Yes[1]
CRM024	Yes[1]
CRM025	Yes[1]
CRM026	Yes[1]
CRM027	Yes[1]
CRM028	Yes[1]
CRM029	Yes[1]
CRM030	Yes[1]
CRM031	Yes[1]
CRM032	Yes[2]
CRM033	Yes[1]
CRM034	Yes[1]

CRM035	Yes[1]
CRM036	Yes[1]
CRM037	Yes[3]
CRM038	Yes[3]
CRM039	Yes[3]
CRM040	Yes[3]
CRM041	Yes[3]

Yes:

1. Use case A.2.1: CRM014, CRM016 to CRM036. All of these requirement can be met by the use case of when the sales owner/administrator adds a lead to the pipeline. Requirement CRM014 specifies where new leads should be created and requirements CRM016-CRM036 specify what a lead should contain.
2. Use case A.2.2, A.2.3: CRM032, CRM059. Requirement CRM032 states that the lead should be able to be edited and the use case's goal is to update the information of a lead. Requirement CRM059 states that a lead should be able to be moved between columns, which is one component of updating the lead information.
3. Use case A.2.4: CRM033 to CRM041. Each of these requirements deal with the editing history of a lead and this use case allows for each to be tested.
4. Use case A.2.5: CRM052 to CRM056. Each of these requirements deal with the table of rows and columns that the leads can be organized into. This use case tests this table.
5. Use case A.2.6: CRM051. This requirement is that there should be a search option for leads and this use case tests this search option.
6. Use case A.3.1: CRM042. This requirement specifies where the create invoice button is and how it is connected to the pipeline. This use case tests creating an invoice.
7. Use case A.6.1 and A.6.2: CRM002, CRM003. These requirements describe how the pipeline and stages should interact with each other, including when there are no custom stages. The use cases describe how interactions occur

CRM042	Yes[6]
CRM043	No[3]
CRM044	No[3]
CRM045	No[3]
CRM046	No[3]
CRM047	No[3]
CRM048	No[3]
CRM049	No[4]
CRM050	No[5]
CRM051	Yes[5]
CRM052	Yes[2]
CRM053	Yes[4]
CRM054	Yes[4]
CRM055	Yes[4]
CRM056	Yes[4]
CRM057	No[6]
CRM058	No[6]
CRM059	No[6]
CRM060	No[6]
CRM061	No[6]
CRM062	No[7]

and when performed, must include the edge case brought up in CRM003.

No:

1. CRM001 is not covered by a use case. It is implied that there is a pipeline tab in many use cases (A.2.1, A.2.2, A.2.3, etc.) but this requirement is not included in the mappings to these use cases.
2. CRM004 to CRM013, CRM015 each describe the stages of the pipeline. None of these requirements are mapped to the use cases and the use cases do not test the various stages of the pipeline. A use case should be written to test these requirements.
3. CRM043 to CRM048 describe how the invoice tab relates to the pipeline and the properties of an invoice request. These requirements are not mapped to a use case. Use case A.3.1 references filling out an invoice request, but these requirements are not mapped here even though they should be. A use case should also be written to describe the relationship between the pipeline and the invoice tab.
4. CRM049 is not described by or mapped to any use case. A use case should be written that describes the relationship between the customer in a lead and the customer tab.
5. CRM050 specifies that the pipeline tab has a column filter option. This is not described by or mapped to a use case. A use case should be written that further describes the specifications for the pipeline.
6. CRM057 to CRM061 further describe how leads can be presented the pipeline. The document currently maps CRM052 to CRM056 to use case A.2.5, but CRM057 to CRM061 should also be mapped to this use case and tested here.
7. CRM062 should not be listed here. It feels like an idea slapped on at the end and

Customers	Testability and Traceability
CSR001	No[1]
CSR002	No[2]
CSR003	No[2]
CSR004	No[2]
CSR005	No[2]
CSR006	No[2]
CSR007	No[2]
CSR008	No[2]
CSR009	No[2]
CSR010	No[3]
CSR011	No[3]
CSR012	No[3]
CSR013	No[3]
CSR014	No[2]
CSR015	No[2]
CSR016	Yes[1]
CSR017	Yes[3]
CSR018	Yes[2]
CSR019	Yes[4]

saved for later. It is not mapped to a use case, but more importantly, is an openended thought that is unable to be tested.

Yes:

1. Use case A.5.1: CSR016. This requirement describes who can add a customer in the customer tab and the use case confirms this with a test of adding a customer.
2. Use case A.5.2: CSR018. This requirement describes who can remove a customer. The use case confirms this with a test of removing a customer.
3. Use case A.5.3: CSR017. This requirement describes who can edit a customer’s data and the use case confirms this with a test of adding a customer.
4. Use case A.5.4: CSR019. This requirement specifies that there should be a way to search through the customers. The use case confirms this and tests how a query should work.

No:

1. CSR001 is not covered by a use case. It is implied that there is a customer tab in the CRM module in GEN003 but this requirement is not included in the mappings to these use cases.
2. CSR002 to CSR009, CSR014, CSR015 describe the attributes of the customer tab and properties of the customer. These requirements are loosely referred to in use case A.5.1 and A.5.1 as “textfields’ but are not mapped to these use cases.

3. CSR010 to CSR013 describe the properties of a reference. None of these requirements are mapped to a use case, but the RFR requirements confirm these properties. Use cases should be written to describe how a user should interact with references.

References	Testability and Traceability
RFR001	No[1]
RFR002	No[1]
RFR003	No[1]
RFR004	No[1]
RFR005	No[1]
RFR006	No[1]
RFR007	No[1]
RFR008	No[1]
RFR009	No[1]
RFR010	No[1]
RFR011	No[1]
RFR012	No[1]

No:

1. None of the reference requirements are mapped to a use case. Other requirements (such as URM019) specify which type of user should be able to edit, add, and remove references, but this information is not organized in such a way that it is easy to test. Use cases should be written to describe how a user should interact with the reference tab.

Visualization	Testability and Traceability
VIS001	No[1]
VIS002	No[1]
VIS003	Yes[2]
VIS004	Yes[2]
VIS005	Yes[2]
VIS006	Yes[2]
VIS007	Yes[2]
VIS008	Yes[2]
VIS009	Yes[2]
VIS010	Yes[2]
VIS011	Yes[2]
VIS012	Yes[2]
VIS013	Yes[2]
VIS014	No[2]
VIS015	No[2]
VIS016	No[2]
VIS017	No[2]
VIS018	No[2]
VIS019	No[2]
VIS020	No[2]
VIS021	No[2]
VIS022	No[2]
VIS023	No[2]
VIS024	No[2]
VIS025	No[2]
VIS026	No[2]
VIS027	No[2]
VIS028	No[2]
VIS029	No[2]
VIS030	No[2]
VIS031	No[2]
VIS032	No[2]
VIS033	Yes[3]
VIS034	Yes[3]

VIS035	Yes[3]
VIS036	Yes[3]
VIS037	Yes[3]
VIS038	Yes[3]
VIS039	Yes[3]
VIS040	Yes[3]
VIS041	Yes[4]

Yes:

1. Use case A.4.1: VIS049, VIS050. The two requirements specify how filters can be edited and what effect these filters have on the graph. The use case describes these changes and interactions.
2. Use case A.4.2: VIS003 to VIS013. Each of these requirements describes the process of viewing a predefined KPI profile. The use case tests this interaction. It should be noted additionally that the user refers to both sales owner, administrator, and employee to fully test the KPI profile.
3. Use case A.4.3: VIS033 to VIS042. VIS034 to VIS040 specify the steps of creating a custom visualization profile. The use case describes creating the custom visualization profile. Note, VIS033 specifies what happens when a predefined KPI profile is selected. Additionally, the use case includes VIS041 and VIS042, but these requirements are better tested in use case A.4.4.
4. Use case A.4.4: VIS041, VIS042. These requirements specify how one should be able to visualize custom visualization. The use case describes how to select and visualize the custom profiles.
5. Use case A.4.5: VIS043 to VIS048. These requirements specify what an export of the visualization contains and the format, including file type. The use case describes the process of exporting a visualization, what the export should contain, and how it should be formatted.

No:

1. VIS001 and VIS002 are not mapped to use cases. It is implied that there is a visualization tab containing KPI profiles throughout the use cases regarding visualization (A.4.1, A.4.2, A.4.4, A.4.5)
2. VIS014 to VIS020 and VIS021 to VIS032 are not mapped to use cases and

VIS042	Yes[4]
VIS043	Yes[5]
VIS044	Yes[5]
VIS045	Yes[5]
VIS046	Yes[5]
VIS047	Yes[5]
VIS048	Yes[5]
VIS049	Yes[1]
VIS050	Yes[1]

describe what a KPI visualization can contain. The properties VIS014 to VIS020 are referenced in use case A.4.3 but are not mapped to the use case. It is unclear what the filters (VIS022 to VIS027) will be used for and how the graphs (VIS028 to VIS032) will be incorporated. Thus, use cases describing how these should be tested must be written.

Invoices	Testability and Traceability
INV001	No[1]
INV002	No[2]
INV003	No[2]
INV004	No[2]
INV005	No[2]
INV006	No[2]
INV007	No[2]
INV008	No[2]
INV009	No[2]
INV010	No[2]
INV011	No[2]
INV012	No[2]
INV013	No[2]
INV014	Yes[1]
INV015	No[2]
INV016	No[2]
INV017	No[3]
INV018	Yes[2]
INV019	No[2]
INV020	No[2]
INV021	No[2]
INV022	No[2]
INV023	No[2]

Yes:

1. Use case A.3.2: INV014. This requirement specifies that an invoice's status can be changed and the use case tests not only that it can change, but who can change it.
2. Use case A.3.3: INV018. This requirement specifies that an invoice can be downloaded in a PDF format and the use case tests who can download it.

No:

1. CSR001 is not covered by a use case. It is implied that there is an invoices tab in the CRM module in GEN005 but this requirement is not included in the mappings to these use cases.
2. Each of these requirements describes the characteristics of the customers tab, customers table, and the customer. None of these requirements are mapped to a use case. Use case A.3.1 includes filling in the invoice request, but no requirements are mapped to it. These requirements should be mapped to A.3.1 but an additional use case should also be written to describe how to interact and test the table.
3. INV017 states that an export button should be present. This button is present in use case A.3.3 but the requirement is not mapped to A.3.3. The use case should be amended to include this requirement.

Non-Functional Requirements

Overall, the nonfunctional requirements on the SalesRock URD are not comprehensive enough. They mainly only address response time and platform, and the other requirements are either not covered at all or briefly addressed by assumptions elsewhere.

Platform + Portability:

EVR007 to EVR012 specify which browsers (including mobile) the system will support. By specifying which version of the browser, these requirements are measurable and tangible.

Efficiency:

Does not mention anything about resource usage, either on the client end or the server end. The server end efficiency is not in the scope of this project, since it was provided by the third-party TU/e.

Maintainability, Reusability, and Extensibility:

EVR001 to EVR003 specify how the CRM module will interact with the core module (EVR001) and core system (EVR002, EVR003). However, it is unclear what the core module and core system are as neither are mentioned anywhere else in the document.

ENV007 specifies that the CRM module will be compatible with PostgreSQL. Note that no other technology to be used is listed in the environment requirement section.

Availability:

They assume that the server and database system are always fully functional and accessible. Although this seems hard to achieve, the server is provided by the third-party TU/e, so this is outside the scope of our assessment. They do not mention anything about the downtime of the SalesRock module. It could be that SalesRock goes down for maintenance at the same time as MyRock, but as a standalone module that doesn't have to be the case.

Process:

No estimate of cost or delivery date given. No mention of development methodology to be used.

Response Time / Speed:

The speed requirements are tangible because specific speed benchmarks of 1s, 3s, and 5s are given (or 0.1, 0.5, and 1 second for visual updates), along with their corresponding priorities. They cover almost all aspects of the application: load, create, edit, and remove, as well as the updating of visualizations after each action. However, they do not cover other processes such as exporting /downloading (VIS043-048), real-time updates (VIS019-VIS020), button clicks and popups (RFR009/CSR014), filter / searching (RFR012/INV023), or login / initial web app loading. Furthermore, they also did not cover server-side requirements such as the number of actions that can be processed per second.

The requirements are not exactly measurable. Although they do assume that the user is using one of four browsers with specified version numbers (EVR008 to EVR011), they do not indicate anything about the operating system, internet connection, or minimum hardware requirements. Because of this, their results might not be reproducible on a different system. Furthermore, they do not indicate how they plan to cover "any and all" actions. It would be better if they provided a suite of representative and edge-case actions to test the system with.

Ease of Use / Usability:

Assumes in section 2.6.1 that a user operates as intended, and that the user has a working proficiency in English. Does not mention the expected training time it will take for the user to reach proficiency in using the application. Although section 1.2 states that new leads should be added with a user-friendly form, and the module does seem intuitive, there is no measurable definition of “user friendliness” for testing.

ENV004 specifies that the CRM module should be available in English. This is consistent with the specifications in section 2.6.1. ENV005 and ENV006 add that the module could be available in Dutch and Italian, respectively. These non-functional requirements are measurable and tangible.

Reliability:

Does not mention anything like mean time to failure or expected crash rate. Probability of unavailability and availability are discussed in the section on availability above.

Robustness / Recovery:

Does not mention anything about restart times, expected crash statistics, or possibility of data corruption.

** Completed as a team of 4: Parts completed by Me include the Accessibility and Comprehensiveness.