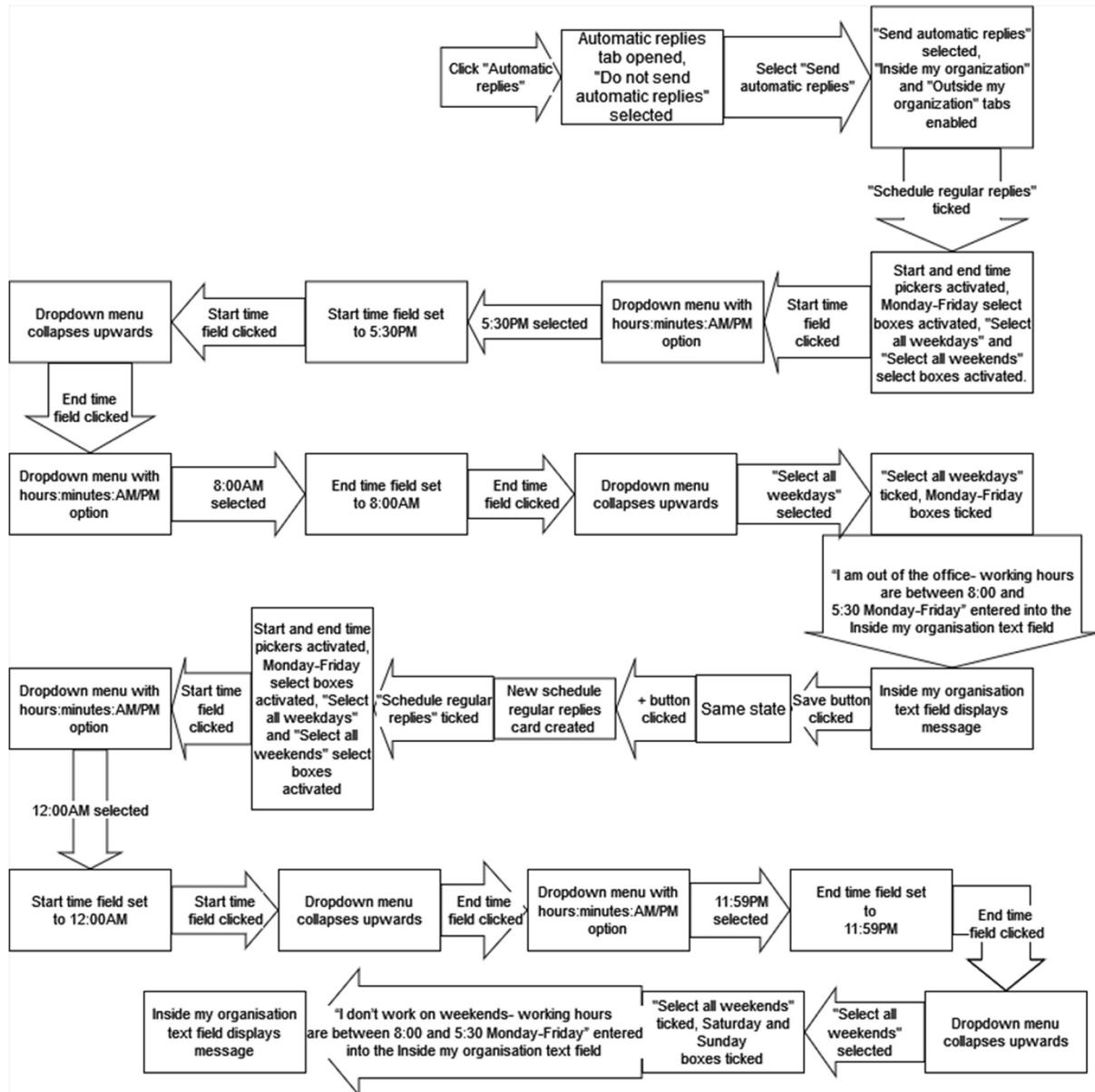
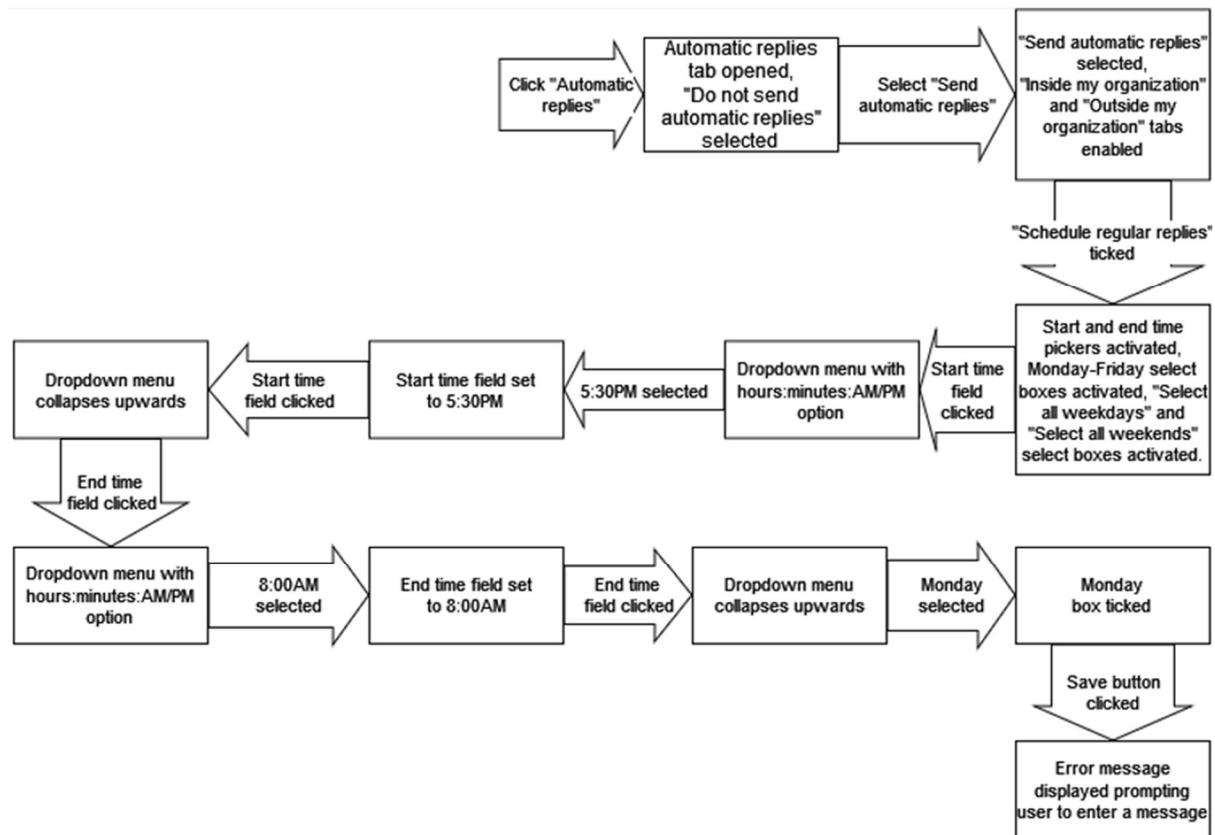


Part 1: Task Analysis

Basic Scenario



Alternative Scenario



Part 2: Interface Prototype

a) Basic scenario

Do not send automatic replies
 Send automatic replies

Only send during this time range:

Start time:

End time:

Schedule regular replies:

Start time:

End time:

Select all weekdays
 Select all weekends

Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday

Automatically reply once for each sender with the following messages:

Inside my organisation	Outside my organisation
<input type="button" value="▼"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="button" value="▼"/>
<input type="text"/>	

1) Automatic replies tab opened, "Do not send automatic replies" selected

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time: 9 : 30 AM

End time: 6 : 30 PM

Schedule regular replies:

Start time: 9 : 00 AM

End time: 5 : 00 PM

Select all weekdays

Select all weekends

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

+

Automatically reply once for each sender with the following messages:

Inside my organisation	Outside my organisation
<input type="text"/> <input type="text"/>	
<input type="text"/>	
<input type="button" value="Rules..."/>	<input type="button" value="OK"/> <input type="button" value="Cancel"/>

2) "Send automatic replies" selected, "Inside my organization" and "Outside my organization" tabs enabled

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time:



9 : 30 AM

End time:



6 : 30 PM

Schedule regular replies:

Start time:

9 : 00 AM

End time:

5 : 00 PM

Select all weekdays

Select all weekends

- Monday
- Tuesday
- Wednesday
- Thursday
- Friday
- Saturday
- Sunday

Save

+

Automatically reply once for each sender with the following messages:

Inside my organisation

Outside my organisation

Segoe UI

▾

7

▾



Rules...

OK

Cancel

③ Start and end time pickers activated, Monday-Friday select boxes activated, "Select all weekdays" and "Select all weekends" select boxes activated.

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time:



9 : 00 AM

End time:



5 : 00 AM

Schedule regular replies:

Start time:

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

End time:



Select all

Select all

Automatically reply once for each sender with the following messages:

Inside my organisation

Outside my organisation

Segoe UI



4) Dropdown menu with hours:minutes:AM/PM option

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time:



9 : 00 AM

End time:



5 : 00 AM

Schedule regular replies:

Start time: 5 : 30 PM

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

End time:

5 : 30 PM

Save

+

Automatically reply once for each sender with the following messages:

Inside my organisation

Outside my organisation

Segoe UI

7



Rules...

OK

Cancel

5) Start time field set to 5:30PM

Do not send automatic replies

Send automatic replies

Only send during this time range: X

Start time: 9 : 00 AM

End time: 5 : 00 AM

Schedule regular replies:

Start time: 5 : 30 PM

End time: 5 : 00 AM

Select all weekdays
 Select all weekends

Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday

+

Automatically reply once for each sender with the following messages:

Inside my organisation	Outside my organisation
<p>Segoe UI ▼ 7 ▼</p> <p> </p> <div style="border: 1px solid #ccc; width: 100%; height: 100%;"></div>	
<input type="button" value="Rules..."/>	<input type="button" value="OK"/> <input type="button" value="Cancel"/>

6) Dropdown menu collapses upwards

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time:

End time:

Schedule regular replies:

Start time:

End time:

Select all Select all

5 : 00 AM

Save

Automatically reply once for each sender with the following messages:

Inside my organisation	Outside my organisation
Segoe UI	7
<input type="checkbox"/>	
[Large empty message area]	

Rules... OK Cancel

7) Dropdown menu with hours:minutes:AM/PM option

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time:

9 : 00 AM

End time:

5 : 00 AM

Schedule regular replies:

Start time: 5 : 30 PM

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

End time: 8 : 00 AM

Select all

Select all

8 : 00 AM
▲ ▲ ▲
▼ ▼ ▼

Save

+

Automatically reply once for each sender with the following messages:

Inside my organisation

Outside my organisation

Segoe UI

v

7 v



Rules...

OK

Cancel

8) End time field set to 8:00AM

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time:



9 : 00 AM

End time:



5 : 00 AM

Schedule regular replies:

Start time: 5 : 30 PM

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

End time: 8 : 00 AM

Select all weekdays

Select all weekends

Save

+

Automatically reply once for each sender with the following messages:

Inside my organisation

Outside my organisation

Segoe UI

v 7 v



Rules...

OK

Cancel

9) Dropdown menu collapses upwards

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time:



9 : 00 AM

End time:



5 : 00 AM

Schedule regular replies:

Start time:

5 : 30 PM

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

Select all weekdays

Select all weekends

Save

+

Automatically reply once for each sender with the following messages:

Inside my organisation

Outside my organisation

Segoe UI

v

7

v



Rules...

OK

Cancel

10) "Select all weekdays" ticked, Monday-Friday boxes ticked

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time: 9 : 30 AM

End time: 6 : 30 PM

Schedule regular replies:

Start time: 5 : 30 PM

End time: 8 : 00 AM

Select all weekdays

Select all weekends

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

+

Automatically reply once for each sender with the following messages:

Inside my organisation	Outside my organisation
<input type="text"/> <input type="button" value="v"/> <input type="text"/> <input type="button" value="v"/>	
<input type="checkbox"/>	
I am out of the office- working hours are between 8:00 and 5:30 Monday-Friday	

11) Inside my organisation text field displays message

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time: 9 : 30 AM
End time: 6 : 30 PM

Schedule regular replies:

Start time: 5 : 30 PM Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday

End time: 8 : 00 AM

Select all weekdays
 Select all weekends

Only send during this time range:

Start time: 9 : 00 AM
End time: 5 : 00 AM

Schedule regular replies:

Start time: 9 : 00 AM Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday

End time: 5 : 00 AM

Select all weekdays
 Select all weekends

+

Automatically reply once for each sender with the following messages:

Inside my organisation	Outside my organisation	
<input type="text"/> <input type="text"/>		
<input type="button" value="Rules..."/>	<input type="button" value="OK"/>	<input type="button" value="Cancel"/>

12) New schedule regular replies card created

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time: 9 : 00 AM

End time: 5 : 00 AM

Schedule regular replies:

Start time: 5 : 30 PM

End time: 8 : 00 AM

Select all weekdays
 Select all weekends

Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday

Save

Only send during this time range:

Start time: 9 : 00 AM

End time: 5 : 00 AM

Schedule regular replies:

Start time: 9 : 00 AM

End time: 5 : 00 AM

Select all weekdays
 Select all weekends

Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday

Save

+

Automatically reply once for each sender with the following messages:

Inside my organisation	Outside my organisation	
Segoe UI	7	
<input type="checkbox"/>		
<input type="text"/>		
<input type="button"/> Rules...	<input type="button"/> OK	<input type="button"/> Cancel

13) Start and end time pickers activated, Monday-Friday select boxes activated, "Select all weekdays" and "Select all weekends" select boxes activated

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time: 9 : 00 AM

End time: 5 : 00 AM

Schedule regular replies:

Start time: 5 : 30 PM

End time: 8 : 00 AM

Select all weekdays
 Select all weekends

Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday

Only send during this time range:

Start time: 9 : 00 AM

End time: 5 : 00 AM

Schedule regular replies:

Start time: 9 : 00 AM

End time: 9 : 00 AM

Select all
 Select all

Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday

Automatically reply once for each sender with the following messages:

Inside my organisation	Outside my organisation
<input type="text"/> Segoe UI	<input type="text"/> 7
<input type="checkbox"/>	
<input type="text"/>	

14) Dropdown menu with hours:minutes:AM/PM option

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time: 9 : 00 AM
End time: 5 : 00 AM

Schedule regular replies:

Start time: 5 : 30 PM
End time: 8 : 00 AM

Select all weekdays
 Select all weekends

Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday

Only send during this time range:

Start time: 9 : 00 AM
End time: 5 : 00 AM

Schedule regular replies:

Start time: 12 : 00 AI
End time: 
 Select all
 Select all

Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday

Automatically reply once for each sender with the following messages:

Inside my organisation	Outside my organisation
<input type="text" value="Segoe UI"/> 7	
<input type="checkbox"/>	
	
<input type="button" value="Rules..."/>	<input type="button" value="OK"/> <input type="button" value="Cancel"/>

15) Start time field set to 12:00AM

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time:

9 : 00 AM

End time:

5 : 00 AM

Schedule regular replies:

Start time: 5 : 30 PM

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

Select all weekdays

Select all weekends

Only send during this time range:

Start time:

9 : 00 AM

End time:

5 : 00 AM

Schedule regular replies:

Start time: 12 : 00 AI

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

Select all weekdays

Select all weekends

Automatically reply once for each sender with the following messages:

Inside my organisation

Outside my organisation

Segoe UI

7



A large empty rectangular area for entering the message content.

16) Dropdown menu collapses upwards

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time:

9 : 00 AM

End time:

5 : 00 AM

Schedule regular replies:

Start time:

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

End time:

8 : 00 AM

Select all weekdays

Select all weekends

Only send during this time range:

Start time:

9 : 00 AM

End time:

5 : 00 AM

Schedule regular replies:

Start time:

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

End time:

12 : 00 AI

Select all

Select all

5 : 00 PM

Automatically reply once for each sender with the following messages:

Inside my organisation

Outside my organisation

Segoe UI

7



A large, empty rectangular text area for entering the message content.

17) Dropdown menu with hours:minutes:AM/PM option

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time: 9 : 00 AM

End time: 5 : 00 AM

Schedule regular replies:

Start time: 5 : 30 PM

End time: 8 : 00 AM

Select all weekdays

Select all weekends

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

Only send during this time range:

Start time: 9 : 00 AM

End time: 5 : 00 AM

Schedule regular replies:

Start time: 12 : 00 AI

End time: 11 : 59 PM

Select all

Select all

11 : 59 PM

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

Automatically reply once for each sender with the following messages:

Inside my organisation	Outside my organisation	
Segoe UI	7	
<input type="button" value="Rules..."/>	<input type="button" value="OK"/>	<input type="button" value="Cancel"/>

18) End time field set to 11:59PM

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time:

9 : 00 AM

End time:

5 : 00 AM

Schedule regular replies:

Start time: 5 : 30 PM

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

Select all weekdays

Select all weekends

Only send during this time range:

Start time:

9 : 00 AM

End time:

5 : 00 AM

Schedule regular replies:

Start time: 12 : 00 AI

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

Select all weekdays

Select all weekends

Automatically reply once for each sender with the following messages:

Inside my organisation

Outside my organisation

Segoe UI

7



19) Dropdown menu collapses upwards

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time: 9 : 00 AM

End time: 5 : 00 AM

Schedule regular replies:

Start time: 5 : 30 PM

End time: 8 : 00 AM

Select all weekdays
 Select all weekends

Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday

Only send during this time range:

Start time: 9 : 00 AM

End time: 5 : 00 AM

Schedule regular replies:

Start time: 12 : 00 AI

End time: 11 : 59 PM

Select all weekdays
 Select all weekends

Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday

+

Automatically reply once for each sender with the following messages:

Inside my organisation	Outside my organisation
<input type="text"/> Segoe UI	<input type="button" value="v"/> 7 <input type="button" value="v"/>
<input type="checkbox"/>	
<input type="text"/>	

20) "Select all weekends" ticked, Saturday and Sunda boxes ticked

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time: 9 : 30 AM
End time: 6 : 30 PM

Schedule regular replies:

Start time: 5 : 30 PM
End time: 8 : 00 AM

Select all weekdays
 Select all weekends

Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday

Only send during this time range:

Start time: 9 : 00 AM
End time: 5 : 00 AM

Schedule regular replies:

Start time: 12 : 00 AM
End time: 11 : 59 PM

Select all weekdays
 Select all weekends

Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday

Automatically reply once for each sender with the following messages:

Inside my organisation	Outside my organisation
<input type="text"/> 	<input type="text"/>
<input type="checkbox"/>	
I don't work on weekends- working hours are between 8:00 and 5:30 Monday-Friday	

21) Inside my organisation text field displays message

a) Alternative scenario

Do not send automatic replies
 Send automatic replies

Only send during this time range:

Start time: 9 : 30 AM
End time: 6 : 30 PM

Schedule regular replies:

Start time: 9 : 00 AM Monday
End time: 5 : 00 PM Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday

Select all weekdays
 Select all weekends

Automatically reply once for each sender with the following messages:

Inside my organisation	Outside my organisation
<input type="button" value="▼"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="button" value="▼"/>
<input type="text"/>	

22) Automatic replies tab opened, "Do not send automatic replies" selected

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time: 9 : 30 AM

End time: 6 : 30 PM

Schedule regular replies:

Start time: 9 : 00 AM

End time: 5 : 00 PM

Select all weekdays

Select all weekends

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

Automatically reply once for each sender with the following messages:

Inside my organisation	Outside my organisation
<input type="text"/> <input type="text"/>	
<input type="text"/>	
<input type="button" value="Rules..."/>	<input type="button" value="OK"/> <input type="button" value="Cancel"/>

23) "Send automatic replies" selected, "Inside my organization" and "Outside my organization" tabs enabled

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time:



9 : 30 AM

End time:



6 : 30 PM

Schedule regular replies:

Start time:

9 : 00 AM

End time:

5 : 00 PM

Select all weekdays

Select all weekends

- Monday
- Tuesday
- Wednesday
- Thursday
- Friday
- Saturday
- Sunday

Save

+

Automatically reply once for each sender with the following messages:

Inside my organisation

Outside my organisation

Segoe UI

▾

7

▾



Rules...

OK

Cancel

24) Start and end time pickers activated, Monday-Friday select boxes activated, "Select all weekdays" and "Select all weekends" select boxes activated.

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time:

9 : 00 AM

End time:

5 : 00 AM

Schedule regular replies:

Start time:

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

End time:

9 : 00

AM

Select all

Select all

Save

+

Automatically reply once for each sender with the following messages:

Inside my organisation

Outside my organisation

Segoe UI

▼ 7 ▼



Rules...

OK

Cancel

25) Dropdown menu with hours:minutes:AM/PM option

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time:

9 : 00 AM

End time:

5 : 00 AM

Schedule regular replies:

Start time:

- Monday
- Tuesday
- Wednesday
- Thursday
- Friday
- Saturday
- Sunday

End time:

Select all
 Select all

Automatically reply once for each sender with the following messages:

Inside my organisation

Outside my organisation

Segoe UI

7



26) Start time field set to 5:30PM

Do not send automatic replies

Send automatic replies

Only send during this time range: X

Start time: 9 : 00 AM

End time: 5 : 00 AM

Schedule regular replies:

Start time: 5 : 30 PM

End time: 5 : 00 AM

Select all weekdays
 Select all weekends

Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday

+

Automatically reply once for each sender with the following messages:

Inside my organisation	Outside my organisation
<p>Segoe UI ▼ 7 ▼</p> <p></p> <div style="border: 1px solid #ccc; width: 100%; height: 150px; margin-top: 10px;"></div>	
<input type="button" value="Rules..."/>	<input type="button" value="OK"/> <input type="button" value="Cancel"/>

27) Dropdown menu collapses upwards

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time:

End time:

Schedule regular replies:

Start time:

End time:

Select all Select all

5 : 00 AM
▼ ▲ ▲ ▼

Monday Tuesday Wednesday Thursday Friday Saturday Sunday

Automatically reply once for each sender with the following messages:

Inside my organisation	Outside my organisation
Segoe UI	7
<input type="checkbox"/>	
[Large empty message area]	

Rules...

28) Dropdown menu with hours:minutes:AM/PM option

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time: 9 : 00 AM

End time: 5 : 00 AM

Schedule regular replies:

Start time: 5 : 30 PM

End time: 8 : 00 AM

Select all
 Select all

Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday

Automatically reply once for each sender with the following messages:

Inside my organisation	Outside my organisation
<input type="text" value="Segoe UI"/> 7	

29) End time field set to 8:00AM

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time:



9 : 00 AM

End time:



5 : 00 AM

Schedule regular replies:

Start time: 5 : 30 PM

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

End time: 8 : 00 AM

Select all weekdays

Select all weekends

Save

+

Automatically reply once for each sender with the following messages:

Inside my organisation

Outside my organisation

Segoe UI

v 7 v



Rules...

OK

Cancel

30) Dropdown menu collapses upwards

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time: 9 : 00 AM

End time: 5 : 00 AM

Schedule regular replies:

Start time: 5 : 30 PM

End time: 8 : 00 AM

Select all weekdays
 Select all weekends

Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Saturday
 Sunday

Automatically reply once for each sender with the following messages:

Inside my organisation	Outside my organisation
<input type="text" value="Segoe UI"/> 7	
<input type="button" value="Rules..."/>	<input type="button" value="OK"/> <input type="button" value="Cancel"/>

31) Monday box ticked

Do not send automatic replies

Send automatic replies

Only send during this time range:

Start time: 9 : 30 AM

End time: 6 : 30 PM

Schedule regular replies:

Start time: 5 : 30 PM

End time: 8 : 00 AM

Select all weekdays

Select all weekends

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Sunday

Automatically reply once for each sender with the following messages:

*No message entered, please ensure that you enter a message

Inside my organisation	Outside my organisation	
Segoe UI	7	
<input type="button" value="Rules..."/>	<input type="button" value="OK"/>	<input type="button" value="Cancel"/>

32) Error message displayed prompting user to enter a message

Basic Scenario and Alternative Scenario

Interface elements

This design inherits all the interface elements from the default office Automatic Replies tab. For this scenario, multiple other elements are added. A section called “Schedule regular replies” is added containing a checkbox that enables the selection of the *Monday-Friday* checkboxes, the selection of the *Select all weekdays* and *Select all weekends* checkboxes, and the start and end time picker. The *Only send during this time range* and *Schedule regular replies* are isolated into a card, this card contains an button x to delete the card, a Save button to save changes made in the card, and a + button used to add a new card. There are also date and time pickers used to select the start and end time window for automatic replies, and the start and end date and time for the *Only send during this range*.

The *Monday-Friday* and *Select all weekdays* and *Select all weekends* checkboxes are used because when checkboxes are listed vertically they have a low space consumption. This is needed as they need to fit inside the card. They are also the fastest way of selecting multiple options, which would be a common case as users may have schedules where they may need to send automated multiple times per week. Checkboxes are not suitable when there are too many options to pick as all the options are not clearly and immediately visible, however as there are 7 days in a week, checkboxes seem a suitable choice. Checkboxes are also suitable for these options as the text labels are small, this allows a user to quickly process what category the checkboxes represent and which ones to select. The *Select all weekdays* and *Select all weekends* checkboxes simply select the *Monday-Friday* checkboxes. I imagine these to be relatively common cases that a user wants to use as they are common schedule structures, therefore these boxes may save some time. These are displayed on the left of the *Monday-Friday* boxes as it creates a separation in space. This helps the user differentiate from the *Monday-Friday* section and the *Select all weekdays* and *Select all weekends* section as they serve slightly different purposes.

I have decided to use generic square buttons for the + and x buttons used to add or delete a card. The reason for the wide, square shape is that they only contain one character inside, this makes the buttons look more balanced and proportional as the box looks like it is the same aspect ratio as the contents, just scaled up slightly. The x is positioned at the top right of each box as this is conventional. As it is in the corner it isn't associated with the content inside each card, instead with the card itself, which is appropriate as the deletion of a card is an action that alters the state of a card and not the contents. For the same reason, the + is in the bottom right corner underneath the cards.

Time pickers for the start time and end time are used to give the option to users to pick time in a more intuitive way, and it also avoids errors. The picker uses a dropdown menu to compact it as the dropdown contents are not needed to be displayed in the card and take up a large amount of space. Space inside the card is limited so any space saved is valuable. The dropdown selector also has some animation which mimics a circular dial, this can make changes to each time value seem less jarring and confusing. The start date and end date and start time and end time picker boxes are aligned inside the card to make the separation between labels and time picker boxes more apparent and also as it looks more visually pleasing.

Design Pattern

The prototype does not follow a pre-defined design pattern. However, I followed some simple conventions when creating the prototype. The prototype also tries to inherit the design pattern from the original Microsoft Office template.

I adapted the progressive disclosure design pattern. In my prototype users are only shown the most important options, then offering more specialised options as the user progresses through the program. The specialised options in my program are concealed by being greyed out and disabled until a user progresses far enough. For example, my cards are concealed until the user clicks the *Send automatic replies* checkbox, and the options inside *Only send during this time range* and *Schedule regular replies* are concealed until these options are selected. In addition, the time pickers reveal a more detailed dropdown picker when clicked.

I have decided to create a modular design to represent each automated message, like a class. Inside each automated message, the details about the time and schedule of sending, and the message itself should be represented. To do this in an intuitive and space-efficient manner I displayed it under a card system. If you click the card, then the saved time details are displayed inside the card and the saved message is displayed in the message text box underneath. This is a good way of displaying content that can increment itself as the design should never take up unnecessary space as it should scale to fit the content.

Visual Design

As my prototype inherits from the Microsoft Office design of the automatic replies function. Therefore the colour scheme and shape of each element are similar to ensure some visual consistency. The design is completely grayscale with different elements being in different shades, usually relating to whether they are enabled or disabled. If an element is disabled, it is displayed at an opacity of 50% to a lighter grey colour. The exception to this is that when a button is clicked it will gain a blue border to indicate to the user that an action has happened.

The shape of the buttons follow a pattern of being angular and rectangular, this is mainly because this was the theme used originally by Microsoft, continuing to use this theme ensures that there is visual consistency, meaning that attention is not accidentally drawn to elements with different shapes unless necessary.

Under the *Only send during this time range* and *Schedule regular replies* all of the *Start time* and *End time* pickers are aligned as the information that they represent is in the same hierarchy of importance, both of these being time information in these functions. The cards are not aligned with the radio buttons *Do not send automatic replies* and *Send automatic replies* as they will always be one step behind these radio buttons in the order in which they are selected, and the radio buttons also deactivate and activate the entire card when interacted with.

Elements that represent the same category of information are grouped in a proximity to each other, often separated by gaps. Examples of this are the *Monday-Friday* checkboxes and *Select all weekdays* and *Select all weekends* checkboxes. All categories inside the card are separated by a visual gap. In general, I have tried to follow the Gestalt principle for Continuity.

Feedback and error design

Certain feedback is given when users run into an error scenario, as well as visual feedback given when interacting with the interface. In the second use case (error scenario) the user is alerted through a red line of text that they must enter at least one input in either the *Inside my organisation* or *Outside my organisation* text fields. Other error cases will follow the same format where the user is told the specific problem and how to rectify it. The error is displayed in the default font and in red in order to help differentiate it from the rest of the prototype, which is almost all grayscale. General feedback is given to the user whenever they interact with buttons like the +, x, and Save button. The button will follow Microsoft Office's original design pattern where the button displays a blue outline

when selected to keep the design consistent and not draw any unnecessary attention where it is not due.

Usability guidelines

As a guide I have tried to follow some of *Ben Shneiderman's 8 Golden Rules*, therefore I tried to keep a consistent colour scheme and consistent shapes, making sure to try and use Microsoft's theme. Feedback is another area where I have followed the rules, as buttons offer feedback to the user on click.

Part 3: Heuristic Evaluation

a) One usability issue is that the overall design can be seen as too plain providing too little information with colour, the reason for this was that I was trying to adapt the Microsoft office theme. However without enough colour it can be hard for users to distinguish between elements, users may also have trouble perceiving the visual hierarchy of the design. This can mean that attention is not brought to important parts of the design. However this was only ranked with a severity of 2 as it is a cosmetic fix and is not necessary, but might be a good idea to look into. To fix, important elements can be given a different shade, colour, or boldness to help create some more hierarchy.

The text field is not aligned with card which saves space; however, it may not be obvious enough that it matches to a card. When a card is clicked the text field automatically populates with the saved message, however this is not intuitive as they come under completely different sections and are not linked visually. This was also ranked as a severity of 2 as it is also a cosmetic fix and is not completely necessary as it doesn't affect the functionality. To fix I can put the text box in the same vertical alignment with the cards, possibly inside the cards as well.

Time pickers do not look well inherited from Microsoft, they have animations which do not match the lack of animation normally used, as well as the arrows looking too bold. This can be distracting and draw attention in the wrong places which can impact the usability as often important elements are visually different from the rest of the theme in certain ways, however if multiple elements look different for no good reason then this can be confusing and slow down use. To improve this the arrows need to be made thinner and the animation should be removed or significantly slowed down, the whole dropdown should also be significantly smaller. I gave this a severity rating of 3 as it needed fixing, however it didn't affect the usability enough to make it high priority as the whole design is still usable without fixing.

Time pickers are slow when selecting time closer to 30 mins as the user has to click through 30 different times, the user should have the option of typing the time in the start or end time field as currently they are only able to use the time picker. This slows usability significantly and feels clumsy when using. This can be especially frustrating as picking a time with the 30th minute is pretty common. The simple fix is to allow the option to use the picker or to type. I have rated this a severity of 4 as it slows the functionality significantly enough to be the highest priority problem.

The text field does not clearly indicate that it is required to have some input when saving the card as the text field is below the card and the save button is inside the card. While it may seem intuitive that you need to enter a message to send in your email, it isn't clear in the design currently. To save a whole message and their times, the save button below the card must be clicked and at least one message needs to be entered. However the message text field is below the save button so the user may be confused as you would assume that you interact with the save button before the text field, but this isn't the case. This is rated with a combined severity of 1 however, on its own I would class this issue as slightly below a 2 as it is cosmetic and isn't necessary to function, however is worth looking into solutions.

When the text inside the text field is saved there isn't a clear indication that it has been saved such as a success message. This may leave the user confused as to whether they have saved their message. This was given a severity rating of 1 as I consider it to be common not to have a success message when saving. There is also some visual feedback as the save button changes colour when clicked. To change there should be some sort of unique visual feedback when a message is saved.

Currently there is no undo button, this could be used to revert changes to the last saved state for each card. There is also no way to reset a card to be blank. I gave this a severity of 1 as I don't really think this as a problem, there aren't that many options that I think an undo button or reset button should be needed. I also don't consider it common practice in this situation, and I don't really believe it causes much usability issues.

There are no dynamic error messages, error messages only appear once you click save, instead error messages can be displayed if the user leaves a field without typing anything, or when a user enters an incorrect time (i.e. start time is before end time). This is a usability issue as the user is not notified early enough if they are inputting something wrong, wasting time. This was given a severity rating of 2. I consider this a nice-to-have feature as error messages are already implemented when a user clicks save. Whilst this may save a bit of time the user will find out their error in a few clicks either way.

b) A design feature that should be maintained is the card system to represent time details. This can mean that many different messages can be made in an be displayed in a compact form that is also easy to select from. It is scalable and does not take up a lot of space unless there are a lot of messages. The time picker is a good addition, but some changes need to be made. As previously mentioned, the animation needs to be removed the overall theme of the picked needs to be changed to better fit the aesthetic of the rest of the design. The *Select all weekends* and *Select all weekdays* shortcut checkbox are features that should be kept in the next version as they make the process of selecting multiple days much quicker. In addition to that red error messages are also a good feature for drawing attention to input errors from the user quickly. Finally, when a card is selected it is visually highlighted and the other cards are disabled. This is a good feature to include as it works as error prevention methods and also help draw focus in a useful manner.