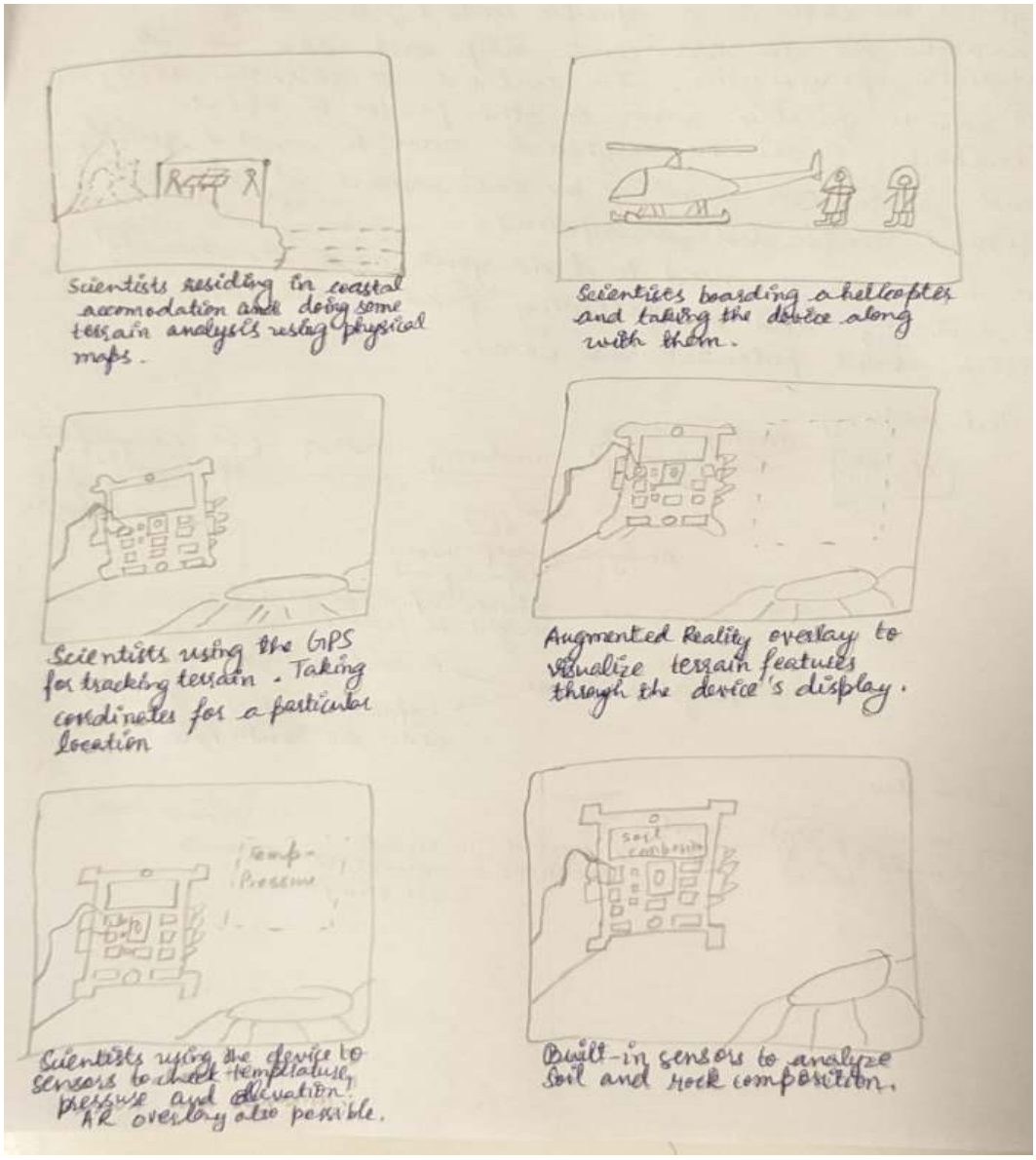
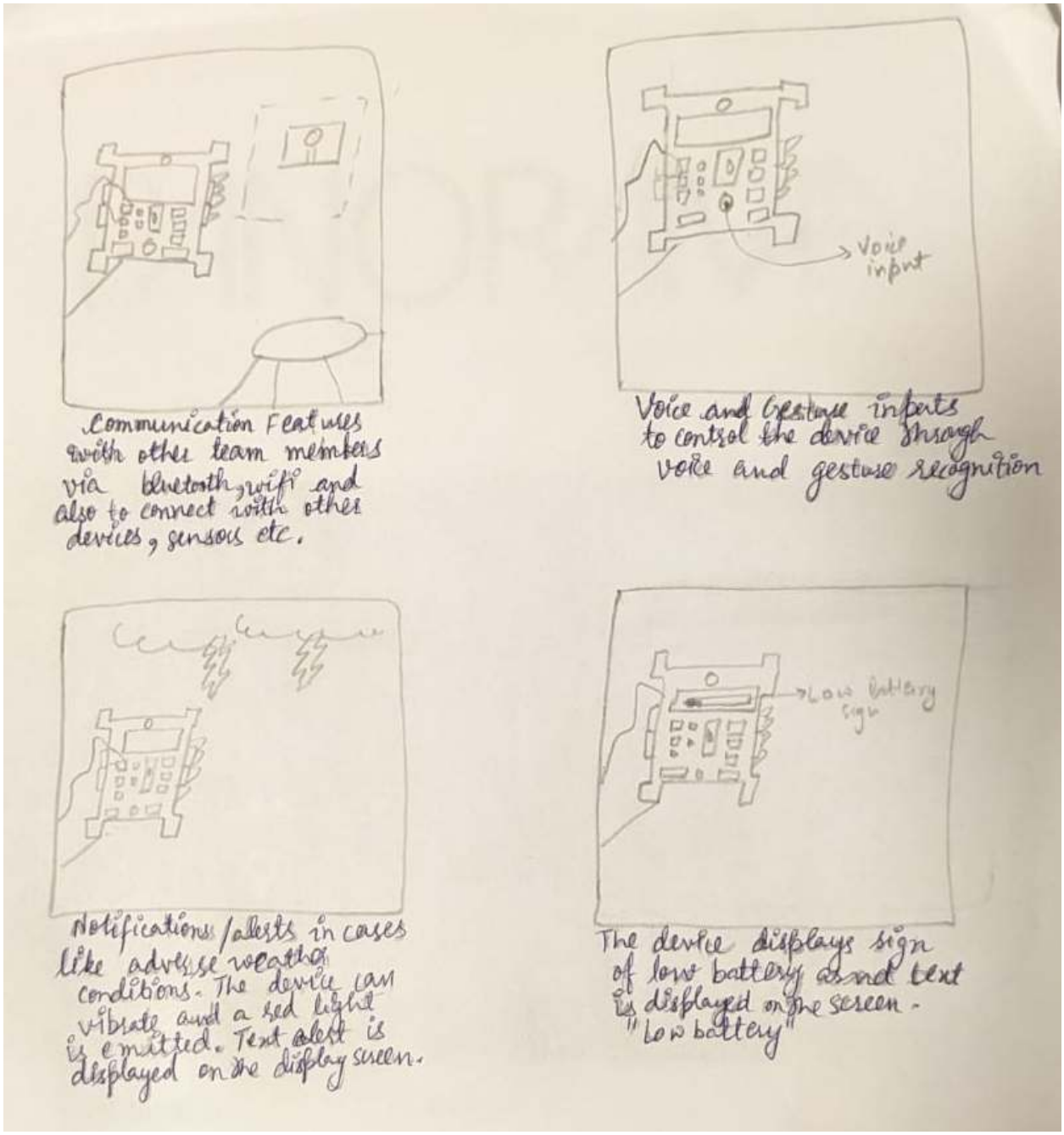
TASK 1

$ 6WRU\ERDUGIRUZRUNVZLWKRXWHUURUV



,Q FHUWDLQ VLWXDWLRQV GNH DGYHUVH Z HDWKHU FRQGLWLRQV GRZ EDWWHU



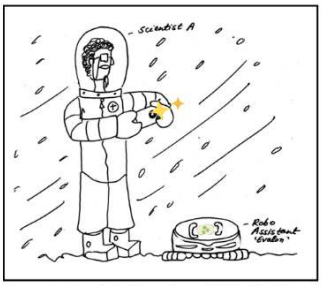
% 7KH IROORZLQJ DUH VZR VWRU\ ERDUGV WKDWKLJKOJKWWKH P LVDGYHQWXUHV RI ‡6 FLHQWLVW$ · D
FKDUDFWHUIURP RXULP DJLQDWRQ WKDWLV D SULP DU\ XVHURI RXUDSSOFDWRQ LQ WKLV WDVN

7KH SDLQ SRLQW IDFHG E\ 6 FLHQWLVW$ LQ WKH IROORZLQJ VFHQDULRV DUH Z LWKLQ WKH UHDOP RI SRVVLELOW
LL WKH SURSRVHG VROXWRQ RI WKH P RELOH DSSOFDWRQ GRHV QRW
L + DYH WKH GXUDELOW WR Z LWKVWDQG DQG IXQFWRQ GXULQJ H[WUHP H GURSV LQ WHP SHUDWXUH LQ WKH
$ QWDUFWF
LL (QVXUH QHWZ RUN UHODELOW DQG FRQQHFWYLW LQ UHP RWH DQG DGYHUVH Z HDWKHUFRQGLWRQV
LLL 3 URYLGH DFFXUDWH DQG HUURUSURRI GDWD HQWU P HWKRGV
LY %H RSHUDEOH Z KLOH WKH XVHULV Z HDULQJ KHDY\ LQVXODWHG J HDU
Y + DYH UREXVWUXJJ HG]HG SURWHFWRQ DJ DLQVWHQYLURQP HQWDOKD] DUGV
YL) DFLOWDWH LP P HGLDWH FRP P XQLFDWRQ DQG IHHGEDFN EHWZ HHQ ILHOG WDP V DQG KHDGTXDUWHUV

1 R W7HK HF R P L F V V W RZUL\EHUDHUDG WDUEROPH I W WRRUUURLOHK IW W R U L J K WGWHS HGQRGZQQKWHR O H I W
S R LRQYWL HFZD S W X7UKHUGH D GILOORZK R XEOHGD WWXRQ G H U VEWD DHQGW K L V



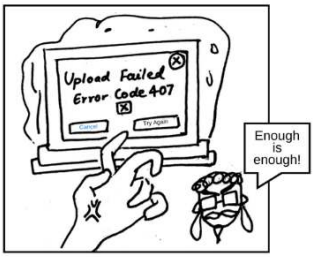
Communication In Antarctica



It snowing heavily in Antarctica and Scientist A is collecting samples using “Evalon” (his robot) for further processing by the headquarters.



Scientist A is using his device to submit the sample while covering the screen with a plastic bag otherwise his device will be damaged by the snow.



Uploading has failed because of network interruptions, Scientist A is slowly losing his patience 😅

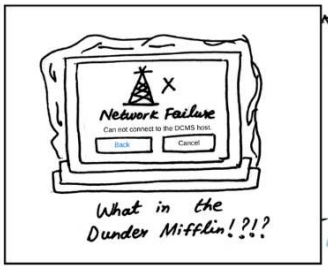


Scientist A keeps trying to upload his sample file for what seems like an eternity in the bad weather.

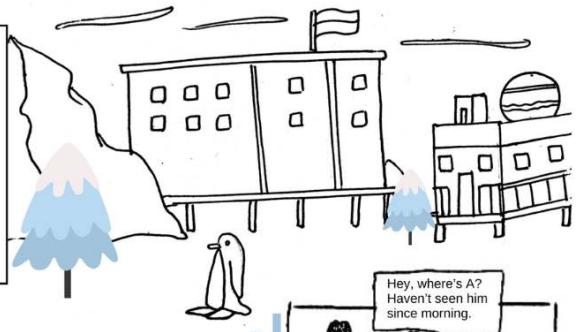


After multiple tries when he finally uploaded the file, Scientist A realized he accidentally uploaded and sent wrongly labelled sample to the headquarters.

At his office building, his colleagues are starting to notice Scientist A’s prolonged absence...



When he tries to rectify the situation, he faces network failure to his further stupefaction.



Scientist A seeing the worsening weather decides to call the helicopter operator to pick him up so that he can return to his office. But faces another problem 😢

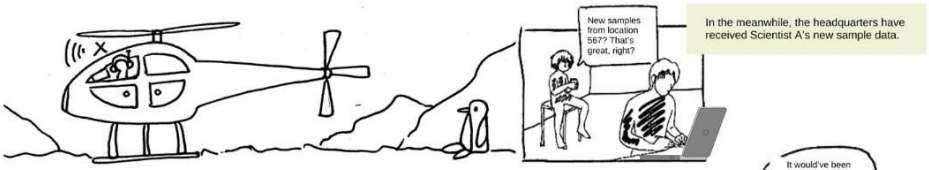
Note: Poor Scientist A has to remove his protection suit to use his touch-screen phone.



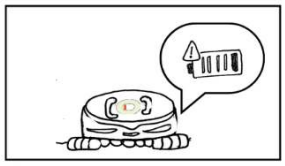
You have got to be kidding me! I can’t contact Tom as my phone can’t pick signals in this hellish weather...



He went out to collect samples, he never misses lunch though and the weather in that area is unpredictable.



Tom, the helicopter operator is still waiting to hear back from Scientist A.





Back with Scientist A, he faces another crisis.

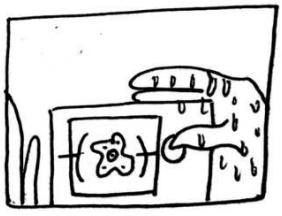
It will take the headquarters another 17 hours to get back in contact with Scientist A and his team after the snowstorm has subsided.

End of Storyboard :Communication in Antarctica.

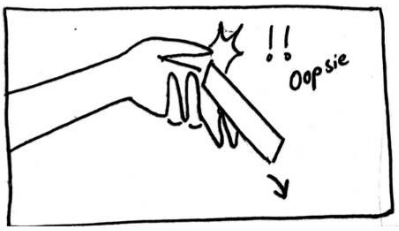
Dropped In Antarctica



It's a new day, Scientist A is taking new samples at a different location. He's having a good day as he has collected 300 samples in today's survey trip.



Scientist A's hands are particularly sweaty today though.



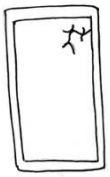
Inevitably, his device slips his fingers and starts falling



The device falls right into a crack on the frozen ground.



Scientist A somehow manages to fish out the device from the crack.



Unfortunately, the device appears cracked



He tries to turn on the device again to no avail.



Thankfully, the device turns on.



Alas, his hard work is not to be found.



Scientist A, having a pity party.

End of Storyboard :Dropped in Antarctica.

Character Bio

Age : 34
Relationship status : Single
Likes : National Geographic, Bird Watching
Dislikes : Cats, Dogs, People, Closed Spaces
Interesting thing about him : His name

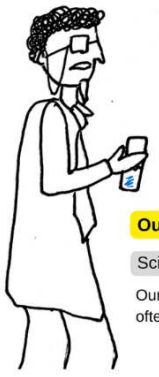


This is Scientist A, affectionately known as 'A', he has been working as a research scientist at Antartica for the last 7 years.

Early character sketches



Scientist A thinking nothing



Our Protagonist, Scientist A

Scientist A drinking water

Our character is a primary user and he often finds himself in strange scenarios.

TASK 2

$: H Z HUH DVNHG VR GHYHORS D WDYHODSS LQ VKLV VDVN DV D FRQWLQXDWRQ RI RQH RI VKH VDVNV Z H KDG SHUIRUP HG LQ $ VVLJQP HQW Z KHUH Z H FRQGXFWHG D UHVHDUFK VXUYH\ VR YDOGDWH RXU K\ SRWKHVHV RQ VKH SDLQ SRLQW DQG UHTXLUHP HQW IRUD VRXUVP DSSOFDWRQ LQ RXUFLW RI : HLP DU

7KHUHIRUH VKH DSSOFDWRQ Z H GHYHORSHG LQ VKLV DVVLJQP HQWZ DV LQKHUHQW EDVHG RQ RXU ILQGLQJV DQG LQVLJKW Z H GRFXP HQWHG LQ RXUSUHYLRXV UHVHDUFK 2 XUILLWVSRLQWRI DFWRQ Z DV VR Z UWH GRZ Q VKH EDVLF DQG IXQGDP HQWDOQHHGV RI D SUP DU\ XVHURI VKH VP DUWSKRQH DSSOFDWRQ Z H Z HUH GHYHORSLQJ Z H QRWHG GRZ Q
L VKH XVHUVKRXOG EH DEOH VR ILQG LQIRUP DWRQ DERXWDQGP DUNV LQ : HLP DU
LL VKH XVHUVKRXOG EH DEOH VR SODQ VKHLUKROGD\
LLL VKH DSSOFDWRQ VKRXOG EH UHOHYDQWIRUD Z LGH UDQJH RI VRXUVW Z LWK YDU\ LQJ QHHGV DQG Z LVKHV H J VKRVH WDYHOQJ RQ VKHLURZ Q IDP LOHV Z LWK \ RXQJ FKLOGUHQ RUVKRVH LQWHUHVWHG LQ FXOWKUH DV Z H KDG IRXQG RXWLQ RXUVXUYH\ DQG LQ VKH VDVN GHVFULSWRQ
LY VKH DSSOFDWRQ VKRXOG Z RUN Z LWK GLLIHUHQWH[LWLQJ GHYLFHV DQG VKHLURSHUDWLQJ V\ VWHP V H J $ QGURLG L2 6

3 HUIRUP DEOH 7DVNV E\ 6 P DUWSKRQH $ SSOFDWRQ

+ DYLQJ GHFLGHG VKH UHTXLUHP HQW Z H VDWGRZ Q VR ILQDQ H VKH GLLIHUHQWWDVNV RXUP RELOH DSS Z RXOG EH DEOH VR GR : H GHFLGHG VKDWZ KLOH RXUSURSRVHG P RELOH DSSOFDWRQ Z LOOKDYH P XOWSOH IXQFWRQDOWLHV Z H Z LOOEH VHVWLQJ VZR YHU\ VSHFLLLF XVHUIORZ V VKDWFKDUDFWHUL H VKH P DLQ XVDJH RI VKH DSS GXULQJ SK\ VLFDO XVHU VHVWLQJ 7KH XVHUV LQ VKH VHVWLQJ Z HUH DVNHG VR SHUIRUP VKH IROORZ LQJ VDVNV RVKHUVKDQ VKH EDVLF ORJ LQ DQG VLJ Q RXW

6 HOHFW6 HDUFK ' XFKHVV $ QQD $ P DOD / LEUDU\ DV D WDYHOGHVWLQDWRQ DQG QDYLJ DWH VKHLU Z D\ VR LW
%URZ VH UHFHQWFLW HYHQW DQG DWHQG / DQJ XDJH & DIH HYHQW

: H Z DQWHG VR DYRLG FUHDWLQJ VHYHUDOXVHUVFUHHQV VKDWZ RXOG LQKHUHQW EH VLP LODU LQ LQWHUDFH GHVLJ Q OD\ RXWDQG Z H DOVR Z DQWHG VR OHVVHQ FRQIXVLRQ GXULQJ SK\ VLFDOWHVWLQJ
%DVHG RQ VKH VDVNV Z H Z DQWHG RXUDSSOFDWRQ VR SHUIRUP Z H Z LOOEH DLP LQJ VR IXOLOVKH IROORZ LQJ UHTXLUHP HQW

) XQFWRQDO5 HTXLUHP HQW

,QIRUP DWRQ5 HWLHYDO

8 VHUV VKRXOG EH DEOH WR VHDUFK IRUDQG ILQG GHVDLOHG LQIRUP DWRQ DERXWODQGP DUNV LQ : HLP DU VXFK DV WKH ' XFKHVV $ QQD $ P DOD / LEUDU\

7 KH DSS P XVWSURYLGH XS WR GDWH LQIRUP DWRQ DERXWFLW HYHQW DOORZ LQJ XVHUV WR EURZ VH DQG VHOHFWHYHQW ONH WKH / DQJ XDJ H & DIH

1 DYLJ DWRQ DQG 5 RXWH 3 ODQQLQJ

8 VHUV VKRXOG EH DEOH WR J HWGLUHFWRQV WR VHOHFWHG ODQGP DUNV DQG HYHQW 7 KLV LQFOXGHV P DS LQWHJ UDWRQ DQG VWHS E\ VWHS QDYLJ DWRQ IHDWXUHV

(YHQW%JURZ VLQJ DQG $ WWHQGDQFH

7 KH DSSOFDWRQ VKRXOG DOORZ XVHUV WR EURZ VH UHFHQWHYHQW DQG HDVLO DWWHQG RUP DUN WKHP SURYLGLQJ UHOHYDQWGHVDLOV VXFK DV WP LQJ ORFDWRQ DQG DQ\ HQW UHTXLUHP HQW

1 RQ) XQFWRQDO5 HTXLUHP HQW

8 VDELOW

7 KH DSS P XVWEH HDV\ WR XVH IRUD GLYHUVH UDQJ H RI WRXULWW LQFOXGLQJ WKRVH XQIDP LODUZ LWK VP DUWSKRQH WHFKQRORJ \ 7 KLV LQYROYHV KDYLQJ DQ LQWXLWYH LQWHUIDFH DQG FOHDULQWWKFWRQV

3 HUIRUP DQFH

7 KH DSS VKRXOG KDYH IDWWORDGLQJ WP HV DQG UHVSRQG TXLFNO WR XVHU LQSXW SURYLGLQJ D VP RRWK XVHU H[SHULHQFH HYHQ Z KHQ DFFHVVLQJ GDWD KHDY\ UHVRXUFHV ONH P DSV DQG HYHQW GHVDLOV

& RP SDWELOW

7 KH DSSOFDWRQ VKRXOG EH FRP SDWEOH Z LWK YDULRXV GHYLFHV DQG RSHUDWQJ V\ VWHP V H J $ QGURLG L2 6 Z LWK GLLIHUHQWWFUHHQ VL] HV DQG UHVRXWRQV WR HQVXUH D Z LGH UHDFK DQG XVDELOW

$ FFHVVLELOW

7 KH DSSOFDWRQ VKRXOG EH DFFHVVLEOH WR XVHUV Z LWK GLVDELOWHV LQFOXGLQJ IHDWXUHV ONH YRLFH FRP P DQGV WH[WWR VSHHFK DQG DGNXVWDEOH IRQWVL] HV

8 VHU5 HTXLUHP HQW

' LYHUVH 8 VHU1 HHGV

7 KH DSS VKRXOG FDWHU WR GLLIHUHQWWSHV RI WRXULWW LQFOXGLQJ VROR WUDYHOHUV IDP LOHV DQG FXOWXUH HQWKXVLDVW SURYLGLQJ WDLORUHG FRQWHQWDQG UHFRP P HQGDWRQV EDVHG RQ WKHLU LQWHUHVW 7 KH XVHUJ URXSV Z H IRXQG LQ RXUSUHYLRXV UHVHDUFK Z HUH FDWHJ RUL] HG LQWR VROR WUDYHOHUV WXGHQW IDP LOHV DQG UHWUHG DQG IXOOWP H Z RUNHUV Z KR Z HUH YDFDWRQLQJ 8 VHUV LQ WKH VXUYH\ DGP LWWHG WR IDFLQJ FKDOOHQJ HV Z LWK QDYLJ DWRQ WHFKQLFDQJ OWFKHV DQG

D VWHS OHDUQLQJ FXUYH FRP SRXQGHG E\ FRQFHUQV DERXWSULYDF\ DQG FXVWRP L] DWRQ $ GGLWRQDOO FODVKHV LQ WDYHOSUHIHUHQFHV DQG GLLILFXOWHV Z LWK VHFXULW ODQJ XDJ H EDUULHUV DQG WP H P DQDJ HP HQW XUWKHU FRQWEXWHG VR WKH RYHUDOOSDLQ SRLQW DP RQJ WKH WDUJ HW DXGLHQFH RI WKH DSSOFDWRQ

* RDOV RI 7HVWLQJ

9 DOGDWH 8 VDELOW

* RDO (QVXUH WKDWWKH DSSOFDWRQ LV XVHUIULHQGO DQG LQWXLWLYH IRU D GLYHUVH XVHU EDVH LQFOXGLQJ WKRVH Z LWK YDU\ LQJ OHYHOV RI WHFKQLFDOSURILFLHQF\

7HVWLQJ 2 XWRP H 2 EVHUYH KRZ HDVLO XVHUV FDQ QDYLJ DWH WKH DSS VHDUFK IRUODQGP DUNV DQG EURZ VH HYHQW Z LWKRXWDVVLVWDQFH

9 HUL\ ) XQFWRQDO3 HUIRUP DQFH

* RDO & RQILUP WKDWDOOIXQFWRQDOUHTXLUHP HQW DUH P HWSDUWFXODUO WKH DELOW VR VHDUFK IRU ODQGP DUNV DQG QDYLJ DWH VR WKHP DV Z HOODV EURZ VH DQG DWWQG HYHQW

7HVWLQJ 2 XWRP H 0 HDVXUH WKH VXFFHVV UDWH RI XVHUV FRP SOHWLQJ VSHFLLLF WDVNV VXFK DV ILQGLQJ WKH ' XFKHVV $ QQD $ P DOD / LEUDU\ DQG DWWQGLQJ WKH / DQJ XDJ H & DIH HYHQW

& RQFHSWRI ‡: HLP DU7UDYHOV·

: H KRQHG RQ WKH QDP H ‡: HLP DU7UDYHOV· IRURXUSURVRWVSH Z KLFK Z DV EDVLF DQG SUDFWFDO7KH SDSHUSURVRWVSH WKDWZ H FUHDWHG KDG D VRWDORI QLQH VFUHHQV DORQJ Z LWK GHWDFKDEOH HOHP HQW RU ‡ (· DQG VRP H QRWLFDWRQ VFUHHQV : H HQFRGHG WKH VFUHHQV Z LWK QXP EHUV DQG VR RQ LQ WKH RUGHUWKH\ DSSHDUZ KLOH WHVWLQJ 7KH GHWDFKDEOH HOHP HQW ONH WSLQJ SDG VP RNHVFUHHQ EDFNJURXQG HWV Z HUH DOVR HQFRGHG LQ UHODWRQ VR WKH VFUHHQ WKH\ ILUWDSSHDUZ LWK HJ WKH WSLQJ SDG ' (LV DVVRFLDWHG Z LWK WKH VFUHHQ LWILUWDSSHDUV Z LWK LQ WKLV FDVH 6 FUHHQ IRU WKH + RP H SDJ H

2 XUVRQXWRQ : HLP DU7UDYHOV¶DLP LV VR P RGHUQL] H WKH Z D\ XVHUV H[SORUH DQG HQJ DJ H Z LWK WKHLU VXUURXQGLQJ V WKLV DSS Z LOORIIHU D VHDP OHVV DQG LP P HUVLYH H[SHULHQFH Z LWK RWKHU DSSV ONH * RRJ OH 0 DSV ' % 8 EHU ,QWDJ UDP DQG 7Z LWWHU VR LQFUHDVH WKH SURGXFWLYLW RI WKH XVHUV DQG P DUNHWUHDFK RI RXU DSSOFDWRQ 7KH DSS LV SUP DULO GHVJ QHG VR IDFLOWDWH HIIRUWOHVV QDYLJ DWRQ WKURXJ K WKH FLW RI : HLP DU * HUP DQ\ SURYLGLQJ XVHUV Z LWK DFFHVV VR EDVLF LQIRUP DWRQ DQG VHUYLFHV

: H KDYH WLHG VR SULRULWLH XVHUFRQYHQLHQFH DQG HIILFLHQF\ LQ: HLP DU7UDYHOV 7KH ORJ LQ SURFHVV 6 FUHHQ HQVXUHV VHFXUH DFFHVV IRU ERWK UHJ XODU XVHUV DQG QHZ FRP HUV Z LWK WKH RSWRQ IRU SDVVZ RUG UHWLHYDO 6 FUHHQ UHDGLO DYDLODEOH 8 SRQ VLJ QLQJ LQ XVHUV DUH J XLGHG WKURXJ K WKH QHFHVVDU\ SHUP LVVLRQV 6 FUHHQV 1 1 1 VR RSWP L] H WKHLUH[SHULHQFH

2 XU+ RP H SDJ H 6 FUHHQ LV RYHUODLG Z LWK HOHP HQWV WR VWHDP OQH DFFHVVLQJ HVVHQWDOVHUYLFHV) URP KHUH XVHUV FDQ HP EDUN RQ YDULRXV WDVNV VXFK DV H[SORULQJ ODQGP DUNV RUDWWQGLQJ ORFDO HYHQWV 7KH ODQGP DUN H[SORUDWRQ IHDWXUH 7DVN HP SRZ HUV XVHUV WR GLVFRYHU LFRQLF VLWHV ONH WKH ' XFKHVV $ QQD $ P DOD / LEUDU Z LWK D VP DOOFRJ QLWYH P HQWDOORDG RQ XVHUV &OFN ! 7\ SLQJ WKH OHWWHUV ! &OFNLQJ VHDUFK LFRQ 8 WQ] LQJ HLWKHUWKH VHDUFK EDURUWKH FXUDWHG P HQX XVHUV FDQ QDYLJ DWH WR WKHLUGHVLUHG GHVWLQDWRQ Z LWK HDVH HYHQ LQWHJ UDWLQJ Z LWK * RRJ OH 0 DSV IRUVHDP OHVV QDYLJ DWRQ 6 FUHHQ

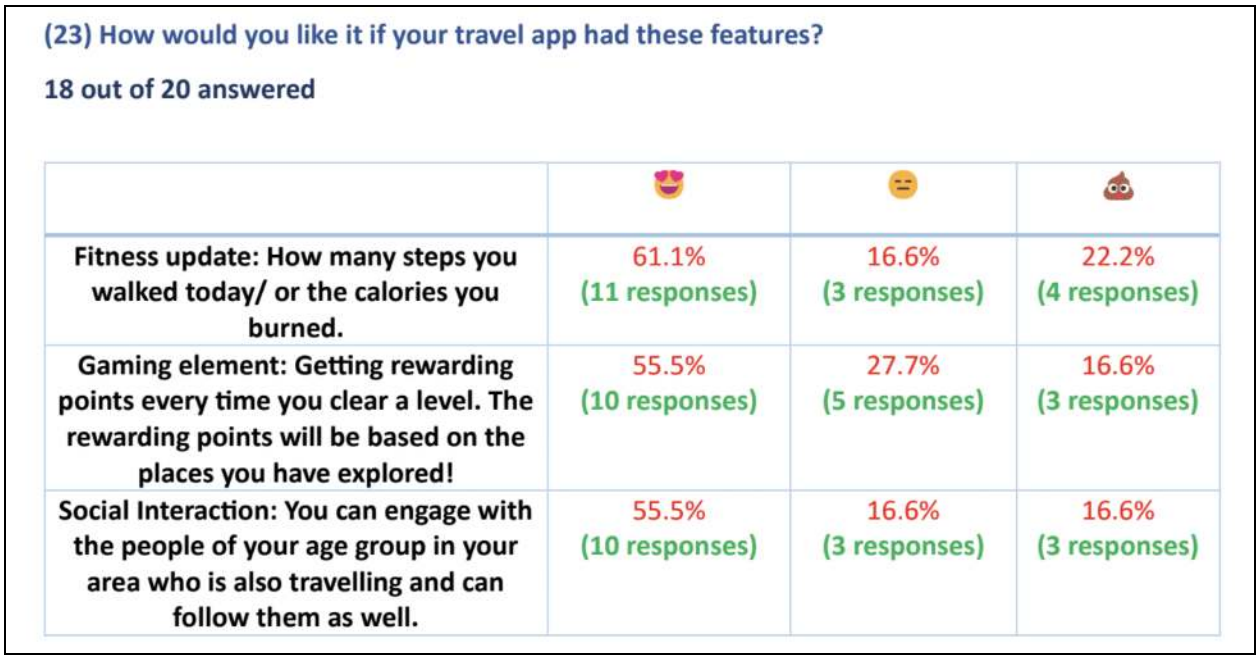
7DVN RQ WKH RWKHUKDQG LQYLWHV XVHUV WR LP P HUVH WKHP VHOYHV LQ WKH YLEUDQWFLW OLH E\ DWWQGLQJ HYHQWV ONH WKH / DQJ XDJ H &DIH : H GHVLJ QHG P XOWSOH SDWKZ D\ V WR DFFHVV FLW HYHQWV WKURXJ K Z KLFK XVHUV FRXOG HIIRUWOHVV GLVFRYHU DQG HQJ DJ H Z LWK WKHLU FRP P XQLW HQKDQFLQJ WKHLU FXOWXUDOH[SHULHQFH %HIULHQGLQJ RWKHU IRONV DWWQGLQJ WKH VDP H HYHQWLV DOYR SRVVLEOH Z LWK WKH ‡& RQQHFWRSWRQ DQG XVHUV FDQ DOYR ILOWHU WKHLU VHDUFK EDVHG RQ WKHLULQWHUHVWDQG GXUDWRQ RI WKHLU VWD\ LQ : HLP DU DQG SODQ DFFRUGLQJ O : LWK RXU SDSHU SURWRWSH Z H FUHDWHG GHWDFKDEOH HOHP HQWV VXFK DV WKH WSLQJ SDG DQG QRWLFDWRQ SURP SW WR HQKDQFH XVHU LQWHUDFWRQ DQG FXVWRP L] DWRQ DV SDSHU SURWRWSLQJ LV VXSSRVHG WR GR : H WLHG WR DULDQJ H WKHVH HOHP HQWV WWDWHJ LFDOO WKURXJ KRXWWKH DSS IRU DQ DGDSWDEOH XVHU H[SHULHQFH : H H[HUWHG RXU HIIRUWV WR FUHDWH : HLP DU 7UDYHOY WR KDYH P XOWSOH IXQFWRQDOWLHV WKH DSS VKRXOG HP SRZ HU XVHUV WR QDYLJ DWH H[SORUH DQG FRQQHFWZ LWK WKHLU VXUURXQGLQJ V LQ Z D\ V D QRUP DO J RRG DQG XVDEOH P RELOH DSSOFDWRQ VKRXOG 2 XUODVWDVVLJ QP HQWLQVSLUHG XV IRUWKH LGHDWRQ RI WKH RWKHUIHDWXUHV Z H LQFOXGHG LQ WKH DSSOFDWRQ IRU HJ WKH ‡) LWRP HWHU RU ILWQHVV WDFNHUWKDWWDFNV WKH XVHU¶V RYHUDOOKHDOWK DQG WKH WRWDOWHSV WKH\ KDYH WDNHQ WRGD\ : H DOYR DGGHG D ‡& KDOOHQJ HV· VHFWRQ Z KHUH XVHUV FDQ SDUWFLSDWH LQ FKDOOHQJ HV WKDWFDQ EH SDUWRI WKHLUWDYHOWRXUQH\ V RUSDUWRI WKH HYHQWV WKH\ DWWQG & RP SOHWLQJ WKH FKDOOHQJ HV Z RXOG J LYH WKH XVHUV FHUWDLQ UHZ DUGV DQG P RWLYDWH WKHP WR WDYHOP RUH DURXQG WKH FLW DQG HQJ DJ H Z LWK WKH ORFDOY ,Q RXU VXUYH\ Z H DGGHG SROOY DVNLQJ RXUSDUWFLSDQWV WKHLURSLQLRQV RQ FHUWDLQ IHDWXUH LGHDV

4) **What would your ideal traveling experience be like?**

27 out of 28 answered

(a)	Slow travel, taking time to immerse in local culture **(16)**	59.2%
(b)	Eco-friendly or sustainable travel **(8)**	29.6%
(c)	Group travel or organized tours **(9)**	33.3%
(d)	Backpacking or budget travel**(14)**	51.8%
(e)	Luxury travel, staying in upscale accommodations and dining **(3)**	11.1%

) LJ 6 FUHHQVKRW RI RXU: HLP DU7RXULVP 6 XUYH\ 5 HVXOW GRFXP HQW6 RXUFH $ XWKRU¶V 2 Z Q: RUN



(23) How would you like it if your travel app had these features?

18 out of 20 answered

	😍	😑	💩
Fitness update: How many steps you walked today/ or the calories you burned.	61.1% (11 responses)	16.6% (3 responses)	22.2% (4 responses)
Gaming element: Getting rewarding points every time you clear a level. The rewarding points will be based on the places you have explored!	55.5% (10 responses)	27.7% (5 responses)	16.6% (3 responses)
Social Interaction: You can engage with the people of your age group in your area who is also travelling and can follow them as well.	55.5% (10 responses)	16.6% (3 responses)	16.6% (3 responses)

) LJ 6 FUHHQVKRW RI RXUVXUYH\ UHVXOW Z KHUH WKH XVHUV DQVZ HUHG SROOV 6 RXUFH $ XWKRU¶V 2 Z Q : RUN

7 KHUH Z LOOEH LQ DSS QRWLFDWLRQV WKDWZ LOOSURP SWXVHUV WR FROHFWWKHLUWLFNHW WR FHUWDLQ HYHQW WKH RUJ DQ]HUV RI WKHVH HYHQW Z LOO EH RXU FROODERUDWRUV WKDWP D\ IXQG RXU DSSOIFDWLRQ¶V GHYHORSP HQWZ KLFK Z LOODOORZ XV WR QRWDQQR\ RXU XVHUV Z LWK LQ DSS DGYHUWLVHP HQW WKDWWKH\ GHVSLVH EDVHG RQ RXUVXUYH\

$ SDUWURP WKDWLQ WKH FXUDWHG P HQX RQ WKH KRP H VFUHHQ WKDWRIIHUV RSWLRQV OINH + RWHOV : * V¶ & DIHV 5 HVWDXUDQW¶ 6 XSHUP DUNHW 0 DOO¶ HWF WKHUH LV DOVR DQ RSWLRQ WR VHOHFW 7RXULVW 2 IILFH¶ 7 KLV LV Z KHUH WKH XVHUFDQ GHFLGH WR WDYHOWR D OIFDOWRXULVWRIILFH DQG WDNH WKHLUKROGD\ SDFNDJH WDNH J XLGHG WRXUV DURXQG WKH FLW SDUWFLSDWH LQ SK\ VLFDOH[FXUVLRQV RU D VSHFLDO LQWHUHVWWRXUEDVHG RQ WKHLUOINLQJ

7 KLV Z DV RXUZ D\ WR DOORZ XVHUV WR FKRRVH WKH NLQG RI WDYHOH[SHULHQFH WKH\ Z RXOG OINH WR KDYH Z KHWKHUWKH\ KDYH D IDP LO\ RUZ KHWKHUWKH\ DUH WDYHOQJ DORQH WKH DSS FDQ EH XVHG E\ DQ\ NLQG RI XVHU

7RXULVP $SS

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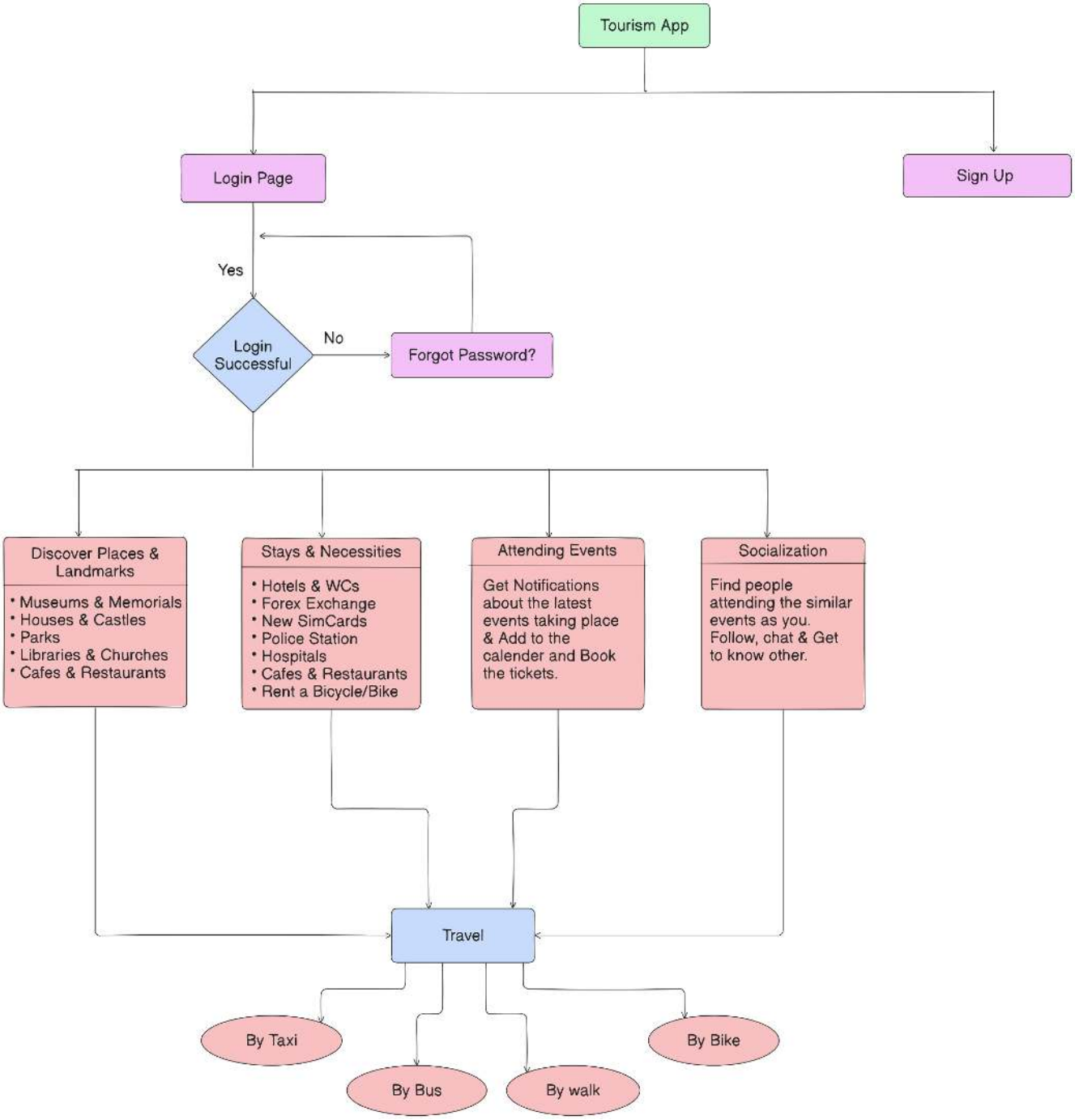





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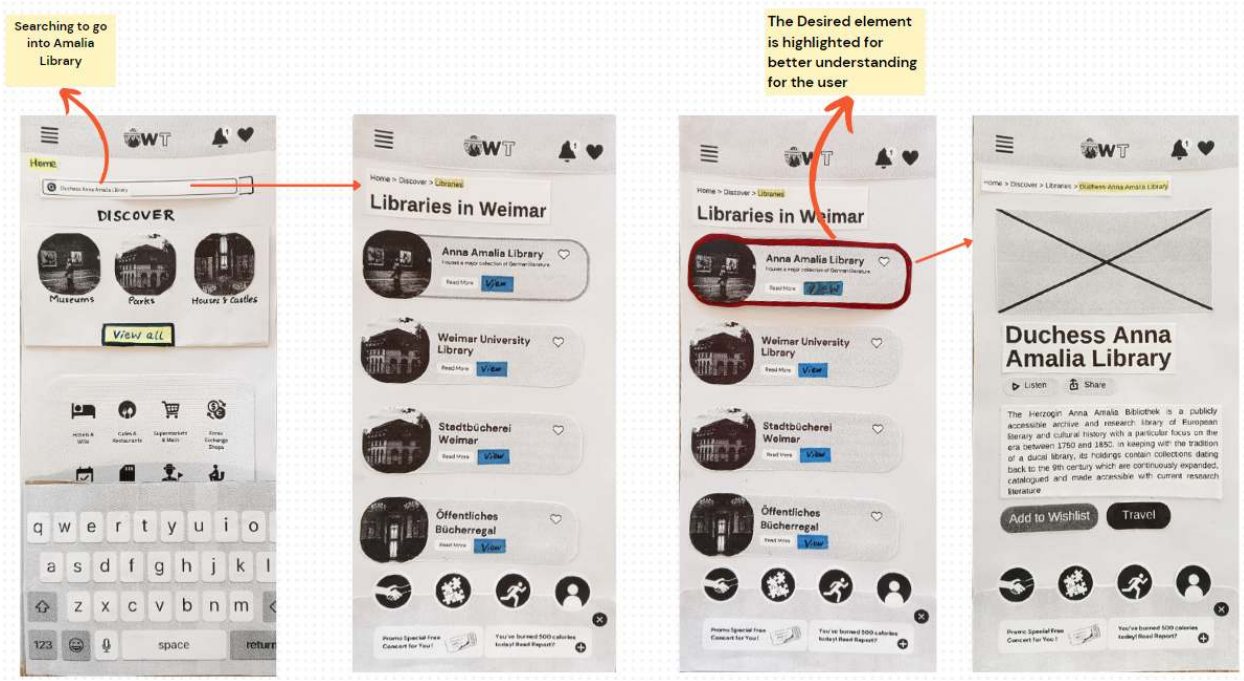

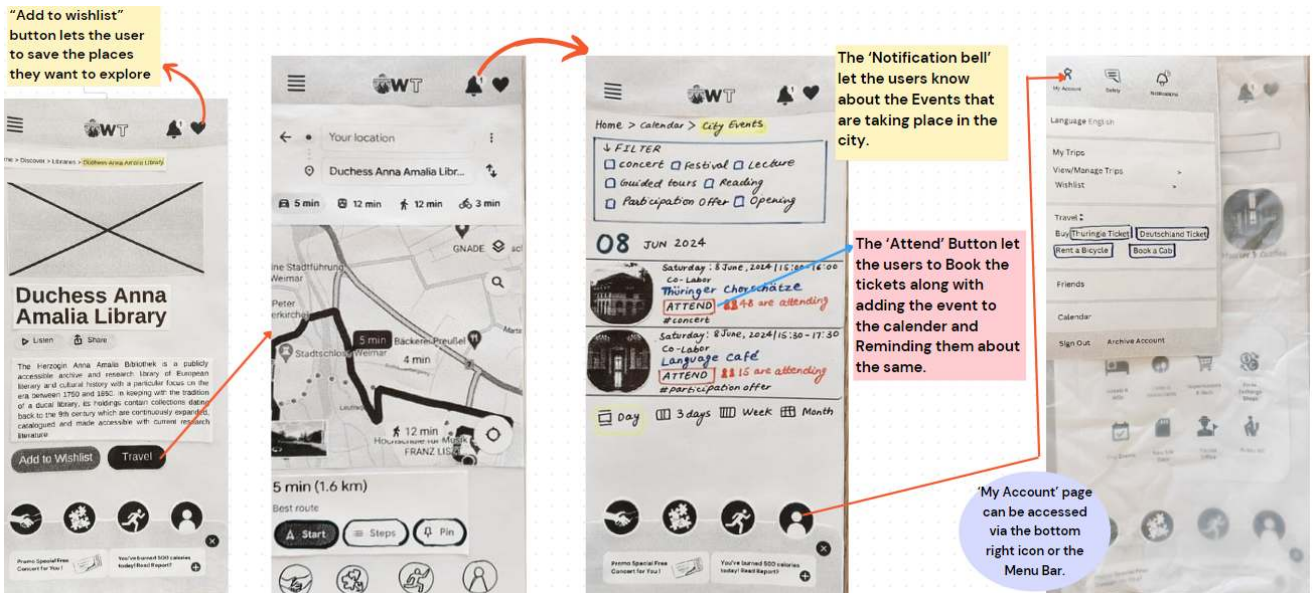

/ LQN VW 6 LWP DS

KWSV ZZZ FDQYD FRP GHMJQ' $* +SI/ 8 H3< MK4 Y* N +4 --Y) H+,OS YLHZ" XW BFRQWQW'

$* +SI/ 8 H3< XW BFDP SDLJQ GHMJQMKDUH XW BP HGLXP OQN XW BVRXUFH HGLWU

([SODQDWRQ RI WKH $ SSOFDWRQ) HDWXUHV

) ($785 (6 (/ (0 (176	(; 3/ $1 $7,21
+ HDGHU	
0 HQX EDU	7KH P HQX EDUFRQWDLQV D VDIHW DQG SUHFDXWRQ HOHP HQWZ KLFK WDNHV FDUH RI WKH VDIHW DQG Z HOOEHLQJ RI WKH XVHU WDYHOOQJ WFNHWERRNLQJ IDFLOLWHV FDOHQGDUYLHZ LQJ QRWLFDWRQ EHOOLFRQ Z LVKOLVW VLJ Q RXWDQG DUFKLYH DFFRXQWRSWRQ
L 6 DIHW 3 UHFDXWRQ	7KH VDIHW DQG 3 UHFDXWRQ RSWRQ Z LOODOORZ WKH XVHU WR KDYH DFFHVV WR WKHLU HP HUJ HQF\ FRQWDFW Z KLFK WKH\ KDYH WR VHWXS Z KHQ WKH\ ILUWWFUHDWH WKHLU SURILOH DQG TXLFNO FRQWDFWORFDO SDWROOQJ JXDUGV QHDUE\ KRVSLWDO DQG ILUH EUJ DGH LQ FDVH RI HP HUJ HQFLHV 7KLV VHFWRQ Z LOODOR KDYH D WXWRUDOI RUQHZ XVHUV RQ Z KDW SRVVLEOH DFWRQV WKH\ FDQ WDNH LQ DQ HP HUJ HQF\ VLWXDWRQ LQVLGH WKH FLW
LL 7UDYHOOQJ) DFLOLWHV	7KLV RSWRQ OHW WKH XVHU EX\ 7KXULQJ LD ' HXWFKODQG WFNHW WR UHQWD ELF\ FOH RUHYHQ ERRN D FDE
LLL & DOHQGDU	,QVLGH WKH FDOHQGDU VHFWRQ XVHUV FDQ P DQDJ H WKHLU WP H DQG VFKHGXOH HYHQW LQ WKHLU FLW WRXU ,WDOORZ V XVHUV WR DGG DQG P DQDJ H HYHQW LQFOXGLQJ UHFXUULQJ HYHQW Z LWK FXVWRP QRWLFDWRQV DQG UHP LQGHUV ,WFDQ VHDP OHVVO LQWHJ UDWH Z LWK * RRJ OH VHUYLFHV OLNH * P DLO * RRJ OH 0 HHW7DVNV DQG . HHS LV HQKDQFHV SURGXFWLYLW DQG FROODERUDWRQ
1 RWLFDWRQ %HOO	7KLV VHFWRQ QRWLHV \ RX UHJ DUGLQJ WKH XSFRP LQJ HYHQW WKDW DUH J RLQJ WR WDNH SODFH LQ WKH FLW DORQJ Z LWK WKH FDOHQGDU UHP LQGHUGDWH WP H RI WKH HYHQWEDVHG RQ \ RXUERRNLQJ
: LVKOLVW	8 QGHU WKLV VHFWRQ WKH XVHU FDQ VDYH WKH SODFHV WKDWWKH\ Z DQW WR H[SORUH DQG FDQ YLHZ WKH VDYHG SODFHV IURP WKH Z LVKOLW VHFWRQ Z KHQHYHU WKH\ Z DQW %\ VHOHFWQJ WKH VSHFLLF SODFH WKH\ FDQ IXUWKHU FKRRVH WR YLHZ WKH LQIRUP DWRQ DQG SLFN XS WKH WDYHOOQJ RSWRQ EDVHG RQ WKHLU SUHI HUHQFHV

0 DNRUWDVNV WKDWWKH V\ VWMP LV DEOH WR P DQDJH	
' LVFRYHU/ DQGP DUNV 3 OFHV	2 Q WKH KRP H SDJH XQGHU WKH VHDUFK EDU 7KH ' LVFRYHU¶ VHFWRQ DOORZ V XVHUV WR SLFN DQ RSWRQ IURP DQ DUUD\ RI FDWMJ RULHV RI SOFHV DQG OQGP DUNV WKDWDUH DYDLODEOH LQ WKH FLW) XUWKHU YLHZ LQJ GHWDLOV DERXWWKH SOFH HLWKHU UHDGLQJ WKH LQSXWWM[WRU FOFNLQJ RQ WKH DXGLR LFRQ WKDWDOORZ V WKH XVHUWR OWMQ WR WKH RYHUYLHZ RI WKH SOFH DQG UHDFK WKH GHWWQDWRQ
$ WMQGLQJ (YHQW LQ WKH FLW	7KHUH DUH WZR Z D\ V WR ILQG WKH FLW HYHQW LQ WKH DSS HLWKHUE\ FOFNLQJ RQ WKH RSWRQ IURP WKH KRP H SDJH LQ WKH ' LVFRYHU¶ VHFWRQ IURP WKH P HQX EDU DQG YLD QRWLFDWRQ EHOO Z KHUH SHRSOH Z LOOEH XSGDWMG DERXWWKH UHFHQWDQG XSFRP LQJ HYHQW 7KH\ FDQ ILOWMU RXWWKH RSWRQV UHJ DUGLQJ WKH WSH RI HYHQW DQG WKH GXUDWRQ RI WKH HYHQWEDVHG RQ D GD\ WR GD\ Z HHNO RU P RQWKO EDVLV <RX DUH DEOH WR YLHZ KRZ P DQ\ SHRSOH DUH DWWMQGLQJ WKH HYHQW Z LWK \ RX DQG EDVHG RQ WKDW\ RX FDQ IROORZ HDFK RWKHU LQWMUDFV DQG J HWWR NQRZ HDFK RWKHU DQG EHFRP H IULHQGV
6 RFLDO1 DWRQ	7KLV IHDWXUH HQDEOHV XVHUV WR J HWWR NQRZ RWKHU SHRSOH E\ VHQGLQJ IROORZ XS UHTXHWW %\ DFFHSWLQJ HDFK RWKHU¶V UHTXHWW 7KH\ FDQ EHFRP H IULHQGV DQG LQWMUDFWZ LWK HDFK RWKHU 7KLV DSS J LYHV IULHQG VXJJ HWWRQV¶ EDVHG RQ VLP LODU HYHQW WKDWWKH\ DUH DWWMQGLQJ DQG DOYR WKH SHRSOH Z KR DUH LQ WKH QHDUE\ OFDWRQ EHLQJ DFWLYH XVHUV RI WKH DSSOFDWRQ
* DP LILFDWRQ) HDWXUH	7R P DNH WKH DSS P RUH LQWMUHWLQJ XVHUV Z LOOEH J LYHQ VP DO FKDOOHQJ HV WR FRP SOHWM DQG EDVHG RQ WKH IXOLOP HQWWKH\ ¶OOEH UHFHLYLQJ UHZ DUG SRLQW Z KLFK XOWP DWMO OHW WKHP WR J HW DFFHVV WR GLVFRXQW RIIHUV IUHH WLFNHW WR FRQFHUW RWKHU HYHQW E\ Z KLFK WKH XVHUV Z KR DUH XVLQJ WKH DSS Z LOOJ HWWKH RIIHUEHQHILW DORQJ Z LWK WKH SHRSOH Z KR DUH KDQGOQJ WKH HYHQW DV WKH\ Z LOOEH UHFHLYLQJ D Z LGH UDQJ H RI FXWRP HUV HYHQWXDOO LQFUHDVLQJ WKHLUSURILWP DUJLQ

	) RUHJ 7KH XVHULV JLYHQ WKH FKDOOHQJH WR YLVLWWKH $QQD $P DOOD OEUDU DIWHU UHDFKLQJ WKHUH WKH\ KDYH WR FOFN RQ WKH 5HDFKHG EXWWRQ¶ 2QH 0&4 TXHVWLRQ SRSV XS RQ WKH VFUHHQ EDVHG RQ WKH SODFH WKH\ H[SORUHG ONH + RZ P DQ\ IORRUV DUH WKHUH LQ WKH OEUDU" $QG DIWHU FKRRVLQJ WKH FRUUHFWRSWLRQ WKH\ UHFHLYH D UHZ DUG ONH D IUHH WLFNHWWR WRGD\¶V FRQFHUW¶RU D GLVFRXQWRU VLP LODU RIIHUV 7KLV ZLOODOVR KHOS XVHUV JDLQ XVHIXOLQIRUP DWLRQ DERXWWKH SODFHV WKH\¶YH H[SORUHG DQG ZLOOFUHDWH H[FLWHP HQWWR FRP SOHWH WKH FKDOOHQJH WR UHFHLYH WKH UHZ DUG
) LWQHVV FKDUW	) LWQHVV FKDUW HQDEOH XVHUV WR YLHZ WKHLUILWQHVV FKDUWEDVHG RQ YLVXDO UHSUHVHQWDWLRQ ONH WKH VWHSV WKH\ KDYH FRYHUHG WKH SODFHV WKH\ KDYH H[SORUHG WKH WRWDOFDORULHV EXUQHG DQG WKH FRP SDULVRQ RQ D GDLO ZHHNO DQG P RQWKO EDVLV 8VHUV ZLOO DOVR UHFHLYH ILWQHVV SRLQW

%

2 EMHFWLYH

7R HYDOXDWH WKH XVDELOW DQG IXQFWLRQDOW RI WKH ‡ HLP DU7UDYHOV· DSS SURWRWSH E\ REVHUYLQJ UHDOXVHUV SHUIRUP LQJ NH\ WDVNV DQG H[SUHVVLQJ WKHLUWKRXJKW DORXG

3 DUWFLSDQW

8VHU 6RORWDYHOHULQWHUHVWHG LQ FXOWXUDOODQGP DUNV

8VHU 6RORWDYHOHULQWHUHVWHG LQ FRP P XQLW HYHQW

&RQVHQW%RWK SDUWFLSDQW SURYLGHG YHUEDOFRQVHQWIRU UHFRUGLQJ DQG SKRWRJUDSK\ 7KH OQN WR WKH VLJQHG FRQVHQW IRUP V E\ WKH VZ7R SDUWFLSDQW FDQ EH IRXQG KHUH KWSV GULYH JRRJOH FRP GULYH IROHUV IWR8, YJ9$X0%Y/,67 WFT7B)4MJXVS GULYH BOQN

7HVWLQJ (QYLURQP HQW

/RFDWLRQ 4XLHW UXSSHQUDXP LQ8QLYHUVLW%LEORWKHN

(TXLSP HQW6P DUWSKRQH IRUDXGLR DQG YLGHR UHFRUGLQJ DQG IRUFOFNLQJ SKRWRV

3 URFHGXUH

3 UHOXGH

2 XUVHVVLRQ LQYROYHG SDSHUSURWRWSLQJ DQG XVDELOLW\ WHVWLQJ RI DWRXUVP DSS 2 XUDLP ZDV WR XQGHUWDNH DQG KRZ XVHUV LQWHUDFWHG ZLWK WKH DSS DQG LGHQWLI\ DQ\ SRWHQWLDO LVVXHV WKDWP LJKWKLQGHUWKHLUH[SHULHQFH
7KH VSHFLILF WHFKQLTXH ZH XVHG LV FDOOHG WKLQN DORXG ' XULQJ D WKLQN DORXG VHVVLRQ XVHUV DUH DVNHG WR YHUEDOL]H WKHLUWKRXJKWV DQG IHHOLQJV DV WKH\ FRP SOHWH WDVNV ZLWKLQ WKH DSS 7KLV SURYLGHV YDOXDEOH LQVLJKW LQWR WKH XVHUV WKRXJKWSURFHVV ,Q DGGLWLRQ WR WKDWSDSHUSURWRWSLQJ DOVR HQFRXUDJHV HDUO\ IHHGEDFN DQG LVIDVWDQG LH[SHQVLYH

0 HWKRGRORJ\

7KH SDSHUSURWRWSH RI WKH DSSODFDWLRQ LQWHUIDFH XQGHUZHQW HYDOXDWLRQ WKURXJK WKH 7KLQN DORXG P HWKRG ,Q WKLV WHFKQLTXH SDUWLFLSDQWV ZHUH HQFRXUDJHG WR YRFDOL]H WKHLUWKRXJKWV DQG DFWLRQV ZKLOH LQWHUDFWLQJ ZLWK WKH SDSHUSURWRWSH 7KLV P HWKRG HQDEOHG WKH FROOHFWLRQ RI LP P HGLDWH XVHU IHHGEDFN DQG SURYLGHG SURIRXQG LQVLJKWV

%HIRUH VWDUWLQJ SDUWLFLSDQWV ZHUH EULHIHG RQ WKH WHVWV SXUSRVH DQG LQIRUP HG DERXWDXGLR UHFRUGLQJ V DQG SRVVLEOH SKRWR FDSWXUHV P DLQWDLQLQJ WKHLUDQRQ\ P LW\ WKH SDUWLFLSDQWFRQVHQWHG WR LW

&RQGXFWHG LQ D FRQWUROOHG HQYLURQP HQWHDFK VHVVLRQ KDG SDUWLFLSDQW LQGLYLGXDOO VHDWHG LQ IURQW RI WKH SDSHUSURWRWSH ZLWK D IDFLOLWDWRUSUHVHQW7KH\ ZHUH DVNHG WR H[SORUH WKH LQWHUIDFH DQG FDUU RXWDVNV UHODWHG WR VP DUWKRP H GHYLFH FRQWURO

3 DUWLFLSDQWV ZHUH SURP SWHG WR WKLQN DORXG H[SUHVVLQJ WKHLUWKRXJKW RSLQLRQV DQG UHDFWLRQV 2 EVHUYDWLRQV LQFOXGHG QRWQJ IDFLDO H[SUHVVLRQV DXGLR UHFRUGLQJ DQG SKRWR FDSWXULQJ $IWHU WDVN FRP SOHWLRQ SDUWLFLSDQWV ZHUH DVNHG SURYLGH DQ RYHUDOODVVHVVP HQWWKDUH DGGLWLRQDO IHHGEDFN DQG GLVFXVV DQ\ LVVXHV RUGLIILFXOWLHV IDFHG

7KH JDWKHUHG GDWD FRP SULVHG WDQVFULSWLRQV RI YHUEDOL]HG WKRXJKW WKH IDFLOLWDWRU¶V REVHUYDWLRQV DQG DOOHHGEDFN DQG FRP P HQWV 7KLV TXDOLWDWLYH GDWD XQGHUZHQWDQDO VLV XVLQJ WKH FRGLQJ P HWKRG VRLGHQWLI\ FRP P RQ WKHP HV XVDELOLW SUREOHP V DQG DUHDV IRULP SURYHP HQWWLQ WKH DSSODFDWLRQ LQWHUIDFH 7KH UHVXOW IRUP HG WKH IRXQGDWLRQ IRUV\QWKHVL]LQJ LQVLJKW DQG P DNLQJ UHFRP P HQGDWLRQV IRUIXWKHULQWHUIDFH GHYHORSP HQW

7DVNV $WDJODQFH

	7$6.6	 86(5	 86(5
	6LJQXS DQG/RJLQ WKH DSS	,WZ DV HDV\ WR 6LJQ 8S OBJLQ WR WKH VFUHHQ) DFHG QR GLLILFXOW	,WZ DV HDV\ WR 6LJQ 8S OBJLQ WKH VFUHHQ +RZ HYHU ,¶G SUHIHU D KLGH VKRZ SDVVZ RUG LFRQ¶ FR] VRP HWP HV , IRUJHWP \ SDVVZ RUG VR LW Z LOOP DNH LWHDVLHU IRU P H WR YLHZ P \ VDYHG SDVVZ RUG WKH QH[WWP H , OBJLQ
	6HDUFK IRU WKH ' XFKHVV $QQD $P DOD / LEUDU\ DQG QDYLJDWH WR LW	6HDUFK EDU Z DV HDVLO DFFHVVLEOH DQG , Z DV DEOH WR ILQG WKH OEUDU\ 7KH VHOHFWHG SODFH JHW KLJKOJKWHG Z KLFK P DNHV LW EHWHU , SUHVVHG WKH VWDUW EXWRQ WR QDYLJDWH 7KH RYHUDOOSURFHVV Z DV HDV\	, Z DV HDVLO DEOH WR QDYLJDWH WKURXJK WKH DSS DQG ILQG WKH $QQD $P DOD / LEUDU\ 7KH RYHUDOOSURFHVV Z DV HDV\
	%URZ VH FLW HYHQW DQG DWWHQG RQH RI WKH UHFHQWHYHQW WDNLQJ SODFH	‡, Z DV HDVLO DEOH WR ILQG WKH FLW HYHQW FDWDOBJ RQ WKH KRP HSDJH 8QGHU WKDW SDJH KRZ HYHU , WKLQN P RUH LQIRUP DWRQ Z RXOG EH XVHIXO ONH P HQWRQLQJ WKH GLWDQFH ONH KRZ P XFK NP DZ D\ WKH SODFH Z KHUH WKH HYHQWLV WDNLQJ SODFH ,V P LJKWKHOS P H WR GHFLGH Z KLFK HYHQWWR DWWHQG EDVHG RQ WKH GLWDQFH $OVR WKH DWWHQG EXWRQ Z DV QRWXQGHUWDQGDEOH $ FROBUHG ER[P LJKWKDYH P DGH LWHDVLHUWR XQGHUWDQG	‡, HDVLO IRXQG WKH FLW HYHQWRSWRQ RQ WKH KRP H VFUHHQ 8QGHU WKDWSDJH) LOWHULQJ WKH HYHQW EDVHG RQ RXU ONLQJV P DGH LWHDV\ WR ILOWHU RXWWKH FKRLFHV +RZ HYHU , JRWFRQIXVHG Z LWK WKH $WWHQG¶ EXWRQ ,WZ DV D ELWRI D FKDOOHQJH WR XQGHUWDQG WKDWLWZ DV FOFNDEOH ,WWKRXOGYH EHHQ FROBUHG RU LQ DQRWKHUGLP HQVLRQ

2 EVHUYDWRQ

3 DUWLFLSDQWV IRXQG LWHDVLHUR QDYLJDWH DQG ILQG WKH RSWRQV LQ WKH DSS
%RWK XVHUV DSSUHFLDWHG WKH HYHQWDWLQJ EXWWXJJHVWHG HQKDQFHPHQWV IRUEHWWHUXVDELOLW\

' RFXPHQWDWLRQ

2 XUGRFXPHQWDWLRQ LV EDVHG RQ WKH YLGHRV ZH UHFRUGHG WR VDN H UHIHUHQFHV DQG P DNH LWHDVLHU IRUXV WR UHFDOO RUP DWRQ 5 HFRUGHG WKH HQWH VHVVLRQ WR FDSWXUH YHUEDOHHGEDFN DQG LQWUDFWLRQV 5 HFRUGLQJV FDQ EH IRXQG KHUH
KWWSV GULYH JRRJOH FRP GULYH IROGHUV UY/ H+ NTUQ4WBP %<' 0 H$D IM FK[F" XVS VKDULQJ

3 KRWRV

7RRN SKRWRV RI SDUWLFLSDQWV LQWUDFWLQJ ZLWK WKH SURWRWSH ZLWK FRQVHQW




1 RWHV

8 VHU ,WZ RXQG KDYH EHHQ QLFH LL ZH FRXQG VHH KRZ FGRVH WKH GRFDWRQV IRUWKH HYHQWV DUH WR P\ FXUHQWWBFDWRQ
8 VHU , GRQWWKLQN HYHU GHYLFH KDV D EDFN EXWWRQ

$ QDO VLV

6 X P P D U L] HHGG E D F N

- F 6LJQXS / RJLQ %RWK XVHUV IRXQG LWHDV\ 8 VHU VXJJHVWV DGGLQJ D VKRZ KLGH SDWZRUG IHDWXUH
- F 6HDUFK 1 DYLJDWRQ %RWK XVHUV IRXQG LWHDV\ WR ILQG WKH GEUDU DQG QDYLJDWH

F & LW (YHQW

F %RW XVHUV IRXQG LWHDV \ WR ILQG WKH FLW HYHQW VHFWRQ

F %RW XVHUV IRXQG WKH $ WWQG EXWRQ FRQIXVLQJ DQG Z RXOG SUHIHUD FOHDUHUGHMJQ FRORU GLIIHUHQWGLP HQVLRQV

F 8 VHU VXJJHVW DGGLQJ GLWDQFH LQIRUP DWRQ WR HYHQWOWQJV

F 8 VHU ONHG WKH ILOWULQJ RSWRQ

F 8 VDELOW 7KHUH Z HUH QR LVVXHV Z LW WKH RYHUDOO8 VDELOW + RZ HYHU WKH RQO FRQIXVLQJ IDFWRUZ DV WKH DSSHDUDQFH RI WKH $ WWQG %XWRQ¶

F) XQFWRQDO * DSV / DFN RI ILOWUV IRU HYHQW DEVHQFH RI D FDOHQGDU YLHZ RQ WKH KRP HSDJH ODEHOQJ RI WKH LFRQV RQ WKH ERWRP 0 \ DFFRXQW) LWHVV FKDUWHW

F 3 RVLWYH & RP P HQW ‡6 HDUFK IXQFWRQ LV HDV \ WR XVH· ‡(YHQWOWQJV DUH FOHDU· ‡+ LJKOJKWQJ WKH VHOHFWHG HOHP HQWP DNHV LWWLP SOH HIILFLHQW

, G H Q 3WDLW\W H U Q V

%RW XVHUV IRXQG LWFKDOOHQJLQJ WR GLVFRYHUWKH $ WWQG¶EXWRQ

) HDWXUH 5 HTXHVW

8 VHU ’ LWDQFH LQIRUP DWRQ IRUHYHQW

8 VHU 7KH ILOWULQJ RSWRQ LV J RRG EXWWKH EXWRQ GHMJQ VKRXOG EH LP SURYHG

5 H F R P P H Q G D W L R Q V

,P SOHP HQWD VKRZ KLGH SDVVZ RUG IHDWXUH RQ WKH OJLQ VFUHHQ

5 HGHMJQ WKH $ WWQG EXWRQ IRUFLW HYHQW WR LP SURYH FODULW 7KLV FRXOG LQYROYH XVLQJ D GLIIHUHQWFRORU DGGLQJ D ERUGHU RUP DNLQJ LWD ’ EXWRQ

& RQVLGHU DGGLQJ DQ RSWRQ WR GLVSOD\ WKH GLWDQFH WR HYHQWORFDWRQV Z LWKLQ WKH FLW HYHQW VHFWRQ

,I DQ\ LFRQ LV QRWLQWXLWYH FRQVLGHUDGGLQJ WH[WODEHOV EHORZ WKHP HVSHFLDOO GXULQJ LQLWDO XVH , H ODEHOQJ RI WKH ERWRP LFRQV 0 \ DFFRXQW) LWHVV FKDUW HW

&

5 HIOHFWRQ RQ 8 VHU7HVWQJ RI : HLP DU7UDYHO7RXULVP $ SS 3 DSHU3 URWRWSH

,QWURGXFWRQ

: H FRQGXFWHG XVHU WHVW RQ RXU SDSHU SURWRWSH RI D WRXULVP DSS IRU WKH FLW RI : HLP DU WR HYDOXDWH LW XVDELOW DQG J DWKHU IHHGEDFN IRU LP SURYHP HQW 7Z R SDUWFLSDQW Z HUH LQYROYHG LQ WKH WHVWQJ SURFHVV LQWHUDFWQJ Z LW WKH SURWRWSH WR FRP SOHWH VSHFLLLF WDVNV

&RQFOXVLRQV IURP 8VHU7HVWV

%DVHG RQ WKH XVHUWHVWV ZH DUULYHG DWWHYHUDON\ FRQFOXVLRQV

2YHUDOO8VDELOLW\ 8VHUV IRXQG WKH DSS HDV\ WR QDYLJDWH DQG DSSUHFLDWHG WKH FRPSUHKHQVLYH IHDWXUH RI WKH LQWHUIDFH

9LVXDO’HVLJQ 7KH YLVXDO GHVLJQ ZDV JHQHUDOO ZHOOUHFHLYHG WKRXJK VRPH HOHPHQWV QHHGHG PRUH GLVWLQFWLRQ

)XQFWLRQDOLW\ 8QGHUVWDQGLQJ 8VHUV XQGHUVWRRG PRVW RI WKH IXQFWLRQDOLWLHV EXW WKHUH ZHUH VRPH DUHDV RI FRQIXVLRQ SDUWLFXODUO\ ZLWK QRWLFDWLRQV DQG %RRNLQJ HYHQWV

: KDW HQW HGD

,QWXLWLYH 1DYLJDWLRQ 3DUWLFLSDQWV IRXQG WKH PDLQ QDYLJDWLRQ LQWXLWLYH DQG ZHUH DEOH WR DFFHVV GLIHUHQWWHFWLRQV HJ DWWDFKPHQWV ERRNLQJV PDSV ZLWK HDVH

)HHGEDFN 0HFKDQLVP 7KH IHHGEDFN DQG FRQILUPDWLRQ GLDORJV ZHUH DSSUHFLDWHG DV WKH\ SURYLGHG UHDVVXUDQFH WKDWWKRZ DFWLRQV ZHUH FRPSOHWHG VXFFHVVIXOO\

6HDUFKLQJ WKH ’HVWLQDWLRQ &KRRVLQJ DQG WDFNLQJ WKH LQWHUQDWLRQDO$LUSRUW FRGH $PDGHXV /LEUDU ZDV VP RRWKO SHURUP HGE\ WKH XVHU

$XWKHQWLFDWLRQ 8LI WWKRYT WVXYT ERH VWKRR NR TVSGI WWVW[IV EPPWQ SSXLP LERHPPH F] YWVW[NXL GSR HI RGI EWXLI] [IV EPW EH] JEQ NMEV[NXL XLI IRXW TVSGI HYV

8QH[SHFWHG 2XWFRPHV

9LVXDOV 7SQI VQ EPPZNWY EPHI XENRW RKO XLI EVS[HS[R FYXSRVWX[RMK WKH DUUDQJHP HQW RI HOHP HQW ERH PEGO SJ PEFI RW JSV MGSRW XYVRI H SYX XS FI QSV TI VTP\ NMK ERH UYI VWXSREFP JSVYW VWXLER[I LEHI\ TI GXH

2YHUORDGHG +RPH 6FUHHQ 7KH KRPH VFUHHQ ZKLOH UFK LQ LQIRUP DWRQ WRRN D FRQVLGHUDEOH DP RXQW RI WP H WR EH DQDO]HG E\ WKH XVHU WR ILQG WKH VWDUWQJ SRLQW RI WKH WDVN RI QDYLJDWQ WR WKH SDJH RI RXULQWHUHGHG GEUDU

%RRNLQJ 3URFHVV 7KH ERRNLQJ SURFHVV ZDV P RUH FRQIXVLQJ WKDQ DQWLFLSDWHG 9VV VW VWI QI H YRVYV EFSYX LS[XS GSQ TPP X E FSSONMK ERH XLI WX TWNMRZSPZI H HI WTMX YW NMNXEPP] XLMKNMK XLI TVSGI WW[EVWXQ TPP ERH UYMGO

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1 RWLFDWRQV LQ WKH QRWLFDWRQ RI SHUP LVVLRQ IRUDFFHVV WR WKH ORFDWRQ WKH LQIRUP DWRQ Z DV QRW FOHDU DQG WKH XVHU J RW FRQIXVHG DERXW WKH DIWHUHIIHFW RI LJQRULQJ WKH SHUP LVVLRQ

,VVXHV 3 URSRVHG ,P SURYHP HQW / HDUQLQJ V DQG ,QVLJ KW

%DVHG RQ WKH LQVLJ KW J DWKHUHG Z H SURSRVH WKH IROORZ LQJ LP SURYHP HQW

9 LVXDOY



) L J + R P 6 F U H) XQ F W L R 6 HVD U % R [6 R X U $ FXHW K R Z QVR U N

& XUUHQW,VVXH 8 VHUV KDG GLLILFXOW WR XQGHUWDQG WKH SXUSRVH DQG IXQFWRQDOW RI EXWRQV DQG WKHLU LFRQV VKRZ Q LQ) LJ $ OVR DEVHQFH RI D EXWRQ WR FRP SOHWH WKH WDVN RI VHDUFK DIWHUWSLQJ WKH WH[W



) L J $ G G LFQOJHODDUE HIQDQ Q WEHXUW RWQWQ+HR P N F U H H Q 6$RXXWJ$7RIZQ K R W R

3 URSRVHG 2 SWP L] DWRQ 7KH XVH RI FOHDU ODEHOV KHOSV XVHUV XQGHUWDQG WKH SXUSRVH RI HDFK EXWRQ DQG OQN DV Z HODDV DGGLQJ WKH (QWUEXWRQ LQ WKH VHDUFK ER[ ) LJ

,QVLJ KWDQG / HDUQLQJ V

7MQ TPQMX[ERH ' PEVMX[-XMWRI GI WWEV] XS) Q TLEVWI WQ TPQMX[ERH GPEVMX[MR YWV VMRX VJEGI HI WMKR %ZSMH YRRI GI WWEV] GSQ TP\ MXMW I RWYV GPEVI PQ I RXW ERH Q EMRXEMR E GSRWMX RX ZMWYEPWX[P XLVSYKLSYXXLI ETT

%XX RXSR XS (I XEMP 4 E] EXX RXSR XS I ZI R XLI WQ EPP WX ZMWYEPHI XEMPWEWXLI] GER MR YI RGI YWV V TI VGI TXSR ERH MRX VEGXSR [MXL XLI ETT ' SRWMX RG] MR HI WMKR I PQ I RXW MWQI] XS TVSZMHMRK E WI EQ PP WWYWV VI \ TI VMRGI

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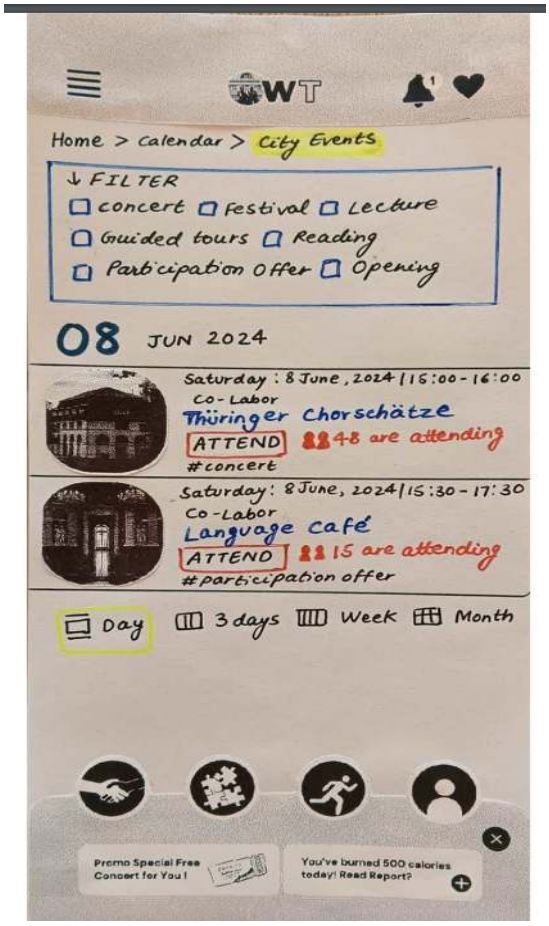

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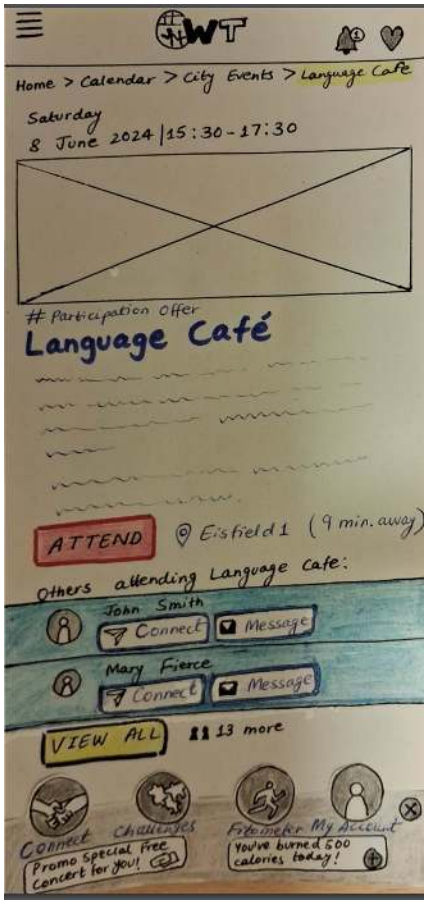

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Z R U N

3 URSRVHG 2 SWLP L] DWLRQ 6 WUHDP OQH WKH ERRNLQJ SURFHVV E\ EUHDNLQJ LWGRZ Q LQWR FOHDU DQG VHSDUDWH VWHSV DGGLQJ D QHZ SDJH VKRZ Q LQ) LJ Z LWK DQ DGHTXDWH DP RXQWRI LQIRUP DWLRQ ONH WKH RWKHU DWHQGDQW WP H GRFDWLRQ DQG GHVFULSWLRQ RI HYHQW

,QVLJ KWDQG OHDUQLQJ

9 W V * I I HFEGO -Q TSVXERGI 8 EOWRK YW V JI I HFEGO W VWSYWP ERH V GSKRMWRK XLI MQ TSVXERGI SJ MX VEXZI HI WWKR TVSGI WW W 9 W V JI I HFEGO GER LMKLPKLX TEWR TSWRXWERH EV EWJSVMQ TVSZI Q I RX XLEXQ E] RSXFI MQ Q I HMEX P] ETTEV RXHYWRK MRWXWEPHI ZI PSTQ I RX

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8 VHU) HHGEDFN LV 9DOXDEOH ' LUHFWVHU IHHGEDFN SURYLGHG DFWLRQDEOH LQVLJKWV WKDWZH KDGQWFRQVLGHUHG GXULQJ WKH GHVLJQ SKDVH