[redacted]

[redacted]

COLLEGE CODE :9605

COLLEGENAME : CAPE INSTITUTE OF TECHNOLOGY
LEVINCHIPURAM

DEPARTMENT : B.Tech/IT 3 Rd year

STUDENT : A21F222758195C698044A120858446E5

ROLLNO :960523205016

DATE :15-10-2025

COMPLETED A PROJECT NAME AS Phase-5

TECHNOLOGY PROJECT NAME : IBM-FE-
Live Weather Dashborad

SUBMITTEDBY,

NAME : MUTHUVENI.A

MOBILE NO : 8754735082

IBM-FE- LIVE WEATHER DASHBOARD

Phase 5 — Project Demonstration & Documentation

5.1 FFinal Demo Walkthrough

ilen

[illegible]

stfaAwbP.gi

5.1.1 Obje ocatilveoftheaDemo

[illegible] etoatshheorwdcaatsaeto [illegible]

Ofnepc fcetniovWeyattthheesrMystaepmAiPnIt,ewghrailteesmtaei

I

K es ai ly bwoi l bi nt

- Djyde.Cctoivnestin l e:

w i pwl ai n sy i gn gcr ai t tcyi nu- bgdart eaor ra rec hwe f nt c te haa alt i ast yt

- [illegible] h tnui oem
- i sdity, pressure

- Pau iniantgdthCeSSe.sponc
- E oilstvw esignthatadaptstovariousscreensizesusing

rexrnpdlaeinriinngg.thinetwegorraktfiloonwoffroVmitefrfoonrtfeasntderrebquu

5.1.2 TdeDemoFlowStrucwtsuare

cohhe 1. [illegible] sinutsreod

duction n

2.Hpxroamomvidpeler“etWatlthieemLunivpedaWseesauthseinrgDtahehObopaerndW-

ThehePsaege liaewywtbut

o Aom ascOcahervbaeltrou:rocwasrdusidelyrusi

nsatmRagiecnateillejrndatSSiprtSlaytedsawtmhee.C

oBAsemnatkilirsn.w

aa

○

WRe -T(ei .cge.,gDrsouonutnnyd, tailor,ocrloidundys)weathercondition

3. OphaelennWtmheeatuhsaeerraMsFeeaparchnAch:yPeIsusfoinrgaacnitays,ytnhc

```
dfoenstuf(tedcrhettspWateraeme(vts)=>{
  c${hAstPI_tKpsoY:/a/ni}d&saepiwr=aemtaspeterat
};seotnWedaathtEaer=Daupisaem.ajpson(g/data/2.5/weather?q=${city}&appi
```

2.uTDsyeEffoedetUhtratesAkpintsegrationinReactusingtheuseStateand

FoitrhrmtfeicxhetcclahiInUogthdea

wAftnea

plteetthweeatadeapr,tReiernafiacallyumreen,aderwtsihoeUcomtphoenentscondition,a

hrrroeeraeHmaimnde.,s & sal at :

la-tm

3.Ein

sinvoikwirzinegtbDeidrewVitieoDhsensph d

4.RBeTyeserordrpos dseemroogeposantredfanktsliinubgiyntahespraoptwpoedrnoafmT

.agm. leesbsrgn

5. cTalasheuelassledSsu(smeeoma,rmyd:lo,yidl,g:,el:o).nstp

j ee:xm

o Remeal-tciomneclSlwudeasthbeyrsuupmdmataersizingfeature

s,suchas:

- ○ OSmleazeandAtlbsitwinteVpgnsietdaeisgionin ptoimotih
- ○
- ○

5.1.3 Tools Used in the Demo

Tool/Technology	Purpose
React.js	corompnpteonndenfrtasmeworkforbuildingreusableU F
TailwindCSS	sttyilliintyg-firstCSSframeworkforresponsive U
Vite	FastbuildtoolforReactapplications
APpIenWeatherMap Netlify/Vercel	Providesreal-timeweatherdata
VSCode	desmedofordeploymentandhostingofthelive U
GitHub	Developmentenvironment
	Versioncontrolandsourcecodehosting

5.1.4 ExpectedDeemoaOlkutcome

Af.□teclo

TomwentbeitinvetotasnwohAtghlseFsinigtrachaioluinmeglestchaoulgaurTnadeilsttwaRnedinadctC.SS.
t

aepersopieocnts’srietanedcrm.
cohnecfidenhnesptlfdormwoeartehitahtecr-hdtstinbeusaliuttieVivueldvece
□
□
e

T □ aseedsrecoacl-tsipmseboefiratoytijoens.atndactsasastrongproofof
t

5.2 Project Report

DThePrjet

unrlohdcbeiesoxcsnssalPdetap-lsnalrtdfplhoomcwyisdbetnajeaigoetn,pulsteiragnesmwefhtheenditeavwd,patslmeguvdt eilohr
pteacs roemctiscItser,vde ili

rledvaolpsceumnaatec

5

dTh.2.1ereWaRletaitmeereDraview

livestpdi se-taasjstiufecahsrtobnaimrsatlisbpinoafnsiddaebsl,epuprtetdhe,tOypeanlaldnCeWtMJnthiegSrfMc
aesrepa

Andrayeg eytlcnhgVg.itepnofonrenmotp

ThPeIfmorspsailnivoengdivaet

e fs tthhi rsopi nurgohj eacnt ii sn tpi vr oe vdi da es hub oe ar sr dwi int

K eeya tFheeart podaal o ttuoi s

w DReul-ure:t

isymewether

□ isodlatmisctnbeamuprpadiitaeaibrimspe,sdiaeyinnegutws,apnuoackcodrwie

□ rnp dlicnkggerrfooarutinndedvaalnudmsdueagshtoerwceoantdhietirotnypiceo

□ Dry

E tblioa-lhdfraiinegndtilmyeanwitahdVpitteivpoepdtiemsindigzant.ion.

M

Fas

5.21..2TPorojectloOpbajectives

2.wToebdpleoevwmseenrtiureal-nitmeerfaotrievcasntdingosyusteemruseinsteirfacfaecuesinugRreactand

toailimuwdizdeCSS.taxternalweatherAPI(OpenWeatherMap)foraccurate,real-

3.TTTomeetiiInsaut.ane

doepinnlotegraeros

4 ymreeatcnt.Gist-HduebvifoercvoemrspioantibcoilinttyroaladnpdeNrfeotrl

5.2.3 ThearScyhsitteecmturAerocfhtihteecLtiuvereWeatherDashboardfollowsaclient-sid

Ar 2cdlitUpscwtrlepdFeRaclyst:wT:he s

3.OAeRnonWeptut:heuferrendetnstarigcgiteyrsnaamfeetcinhtoretqhueessetatorcthhbe

tetsienTMg:aPpt.IAon

(tapetmarc

Dr t cR hepuneddr ea rn a ictcnugaoersptemxetnRi udpcialsyadteAd,etltesedandre

fU

4. eI stheUIdynamicallywiththe

a5.Eerored rdmlain.g:If

o→nsRDeeraoil(Ht:Utgastedpdia:inotfound,anerrormessageisdisplayed.

UExemlrp InxUdp→daFteetc)hRequest→OpenWeatherMapAPI→JSON

Ressp

c

5.2.4 Technologies Used

Technology	Description
React.js	coromnpteonndenlitbsr.aryforbuildingdynamicandreusableUI F
TailwindCSS	fatsitlietyr-dfierssitgCnS.Sframeworkforresponsivestylingand
Vite	Nhoetxtm-goednuelrearteiopnlafcreomnte-ennt.dtoolingforfaste
OPpIenWeatherMap	Plorcoavtiidoenss.real-timeandforecastweatherdataforglobal
GitHub	Repositorymanagementandversioncontrol.
Netlify/Vercel	Platformsforcontinuousdeploymentandlivehosting.
VSCode	Codeeditorfordevelopmentanddebugging.

5h.2e.5imImplementationDetails

rchambieltncytationisdivid

a)TSienatapinle edintomultiplemodulesforcl arityand

t.ion

WtAhexFtuinpeustfaeaiellidtyo

□ fetcehn()tn.h rchablultwtosnuissecrlsictkoede,natefruanncytiocintytrnigagmeers

□

co on ns ts tg re et sWp eo an ts he e =r =a wa as yi tn fce (t)c h= >({

Y)}`;`ftps:i/t/i;a=pmeotpriem`weathe rmap.org/data/2.5/weather?q=${city}&appid=${API_KE
con

};setWstedaathtaer=(daawsaejisto;n(e)spo

b)Dis ⍰ Tphlaeyde Wa dtehaet hde fr omrXatheio nAPIisstoredinastatevariableanddynamically
<h2cdclaisaspNlaame=ue"swgJSefo-c
< a
<[illegible]

<</dp>HTumdiide /p>p>

c)Res

⍰ Tpaoislnwiinvd eDcleassisgenslikemd:,lg:,andxl:makethelayout

<di⍰vcrEelsaoxsapsmNpnlseiv:e.

ame="gridgrid-cols-1md:grid-cols-2gap-4p-5">
<./.d.iv>

d)Er⍰ Wrohreanadlciintygisnotfound,anerrormessageisdisplayed:

{error && <p className="text-red-500">City not found. Please try again.</p>}

5.2.6 PArdvdvaintagesofthleivSystem

⍰ Faigoshteapersrefospcrdeocunreas'aisvtneodeeplydatu.e mizeodbewVdithgi-t ier a
⍰⍰H

□ EuasllyysdceaplalobyilaitbylewoitnhcRloeuacdtpcloamtfopromnse.nts.

□

5.2.7 Future Enhancements

□ Andtdeinrgatag-**dgaeyolfoocraetciaosntd**fe**e**a**te**tuc**r**te**io**u**n**stinogatuhteomexattei

□

Drodagiyanri5ndgindgag**arkir/qliagtuhhatelittyheinmdees**ux**a**s(nin**A**d**Q**lo**OI)**cpeda

□ Ais **we** **rmaps** g tnvprMirreonfuaptyesnlawpaeness.

□

□

5.2.8 Conclusion

Inte**k**iandtWheanilTDtyeurcsgdiheupteeiaj**hs**fedr**de**oilnastuhintaelsyaiaowspaphseoarllidfo

e

5.3 Screenshots / API Documentation

fiunpcsatulsie**s**tewinsuatyl**li**igety**iv**AP.esIseuvasedludo*the*tluonmrcslureeadspinsdngadcrnde

5.3.1 Screenshots

WherPelatio**sIncee**rtt**ssahfotetrs:eachsubtopic**whereyoudescribethefeatureor

□ Usnecet ntaiolintys

fu apnr

dSucncetnnoRiekts"sFsiurehmbiegl'hgaRaebLaoyeufnrctiin"ge:toyrbdueetyroudrFlVpdimorrFig

F io

□ orceuemns

Screenshots for the Live Weather Dashboard:

1. **Home Page:** Show the default UI when the app loads.

[redacted]

2. **City Search:** Show the search bar in action after entering a city.

[redacted]

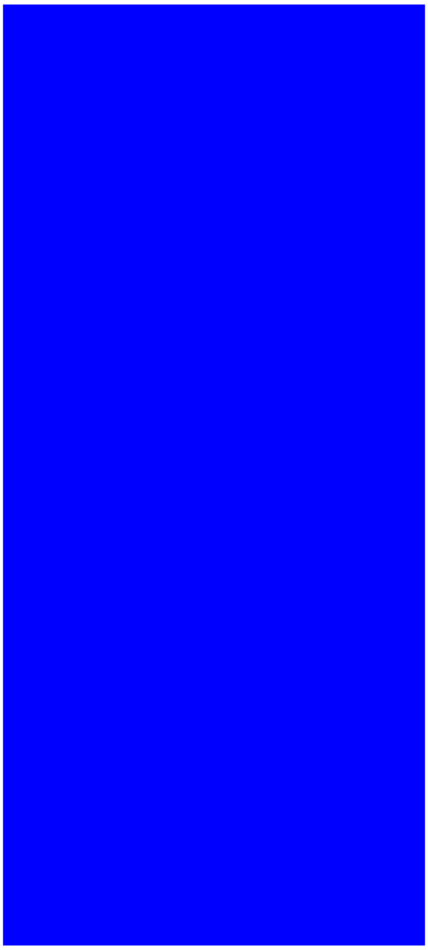
3. a**W**n**e**d**a**ct**o**h**n**e**d**ri**D**tii**o**s**n**p**.lay:**Displaytheweathercardwithtemperature,humidity

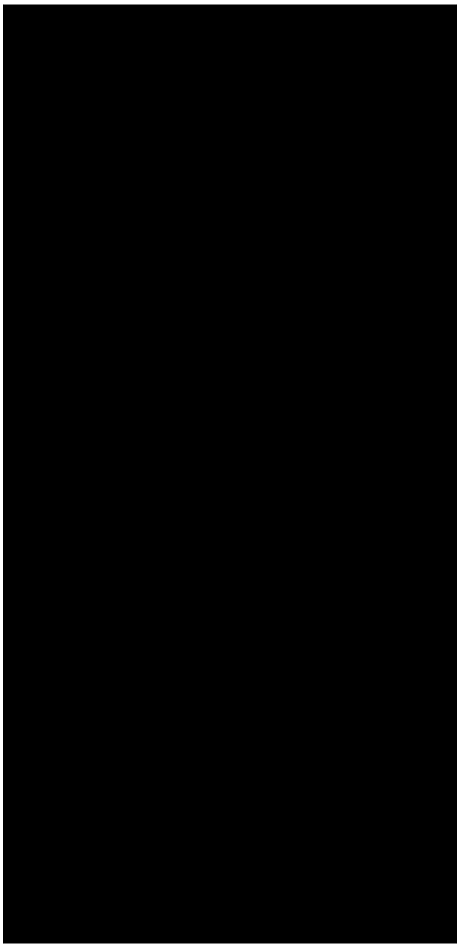
[redacted]

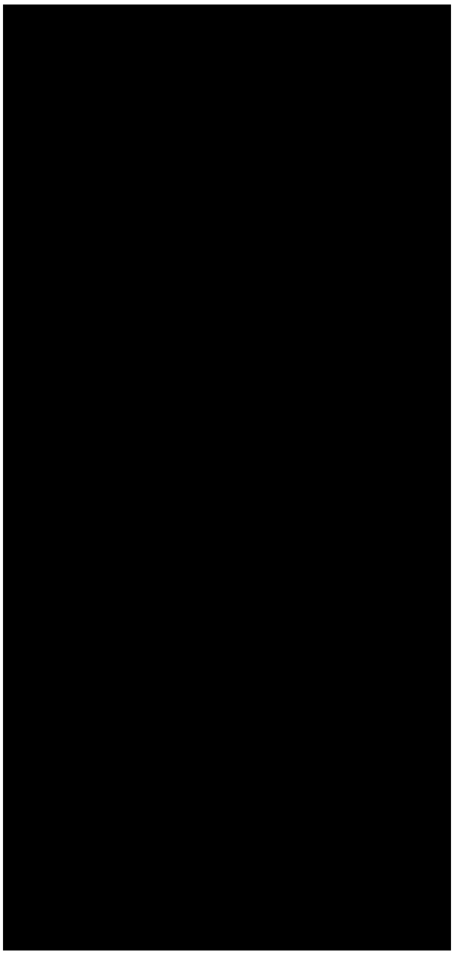
4. **Error Message:** Show the UI when an invalid city is entered.

[redacted]

5. **Responsive View:** Show how the UI looks on mobile screens.







5.3.2 API Documentation

Kanˀosy:Bj/a/asepaAPanhigIDeepqduenstWunedaethrsetraMndasphAoPwI.yPorouprearpdpo

pei.UoRpLse::nweathermap.org/data/2.5/weather

|ReG|esPtPka-e-q|r-r|raimDete-o-n
|P n-a-----e-s-c i- o--|--Exmple|
Supamnitipsdit-le|AUAPnIitRseyy|aL|ppnidd
|qa| eqsuteemst:(me=tYnriOc/UimR_pAePrila_IK)E|Yu|nits=metric|

Sat_mleJpS:Y&Rnespter:moither.org/data/2.5/weather?q=London&appid=YOUR_A

ncse:

```
{

  "{Wematahine"r"::"[Clouds","description":"overcastclouds","icon":"04d"}

  "],m
    " eaipn{:"
    "pturemrstiedy"i"1:85,:17081,2

  "},"w d

}"nainme""":{p"Lsonedeodn"":5.1},
```

- **HowYatheAaepmp[]0s→iniseDDa:aTspl.ay**mpsew
  - oname.s→puemiseddiho→sd→iwrdiasetlhaeycrhseiegnesc.Cu.oeennldtsaituio.
    wiaiindn tyd itpylanywasmeinuodmnstpheiteeypeUdI..
  - om w
  -

5.3.3 Tips for Including Screenshots

3.RARfdtiimzceoapisnttiniosstsfeUepst:ebyds“IRK←eenInssheorttsCuanpitfoiornm”iinnsWizoerf

cecanilnly

t.ex:

mO2,eptthariecwdtokrmeantsaonytMaerhhdtsiygmalhoa,lei.m,gshicintslsyh:lyUuasmepdle”igtpoaoe

4. a

5.4 Challenges & Solutions

yEtvoeurdyspwreijeoeocmtstrneacotrdteeupsrytoocursersspr.iohbnleicmal-saonldvinngonsk-tiellsc

5.4.1 Challenge 1: Real-Time API Data Fetching

Fpertocbhlem:

SinodluetlianygfivreewaspeothseesrodratunfdreofmintehdedOaptaenwWheenatthheerMcitaypr

 Ionep:d

i

gmrelderulelyn.ted**async/await**with**try-catchblocks**tohandleerrors

Co Vadaida odaudsinegrisnpputnetorsptroevinednitcautnendeacetassfaertychAiPnIg

co set EfexrdA tacmhWptelleinather=async()=>{

trnd

sy

ce{otL

AfePtIc_Klin`(tmEl)tr}te&psspgaseeopaew

hrintad.atoai/stpv=maeitrinacw

co

ifds `);eathermap.org/data/2.5/weather?q=${city}&appid=${

atY

} sceattWhe a t r (=ard= =tobn4eo'ewpjsnoenw();Error("Citynotfound");

cd

}seintEclrlryo(errneo'ata")4;

(errrro)r{.message

);

sfetLoad{ing(false);

};}

Impac

Rt**Cle:**hdced

 auncedeurrsoersrsecxapuereiednbcyeiwnvitahlidrecsiptioens.sivefeedback.

5.4.2 Challenge 2: Dynamic UI Updates

Urobaliemg:

Soonbuletitintnshteh UeIUtdaylwnidwaithoic Rteealyctrecfaluescetdthree-ArPenIddaetrainc

one:e

 bsmdittRycta,ndishiteiadlo(useStatle)hgsecomdaptoanyepstoernhydisnplaywe,hendatais

Enilaeid

hxasuampbllece.o

aea

Coddehivtclears&&(:

{w

</dp2i>{wsweaeNtaimtaher}tc<ep/m">.n"awea

em}2°>C</p>

< m

)}<

Impac

Stn:

 PreovoentthteUdleurprdorstews.hencomponentstriedtoaccessundefineddata.

5.4.3 Challenge 3: Responsive Design for Multiple Devices

Tariolwblem:

SaondlutndtaiiobnleCtS-csdcfmie-alpusansgetismoalkeetehdashboard **mobile-friendly**

esse:tdedTai in

 UTastepadilwsoy'onestlenfiltrippoweasstchrseepbrcreagwvsnilzbieesd,resdaulneskdtenoi

Cod<divecElaxdju

sm e

<

</dl-v>WesaNtha"emrec=argdrsidhegrreid---c>ols-1md:grid-cols-2lg:grid-cols-3gap-4">

Impac

Dta:ssba

 uhreodbrdetwteorrkasccseesasmibelielistsylyanodnumsoebrielx,ptearbielentc

5.4.4 Challenge 4: Handling API Rate Limits

Problem: tepen

SomlupoWtiaeth n:raybelorMcRainpgAdulrhinagstreesqtuinegs.tlimits,soexcessiveAPIcallscause

Aor

dpiedcmenbtaeldun

□ Imdpdle de o ceaicmhgthoefsreecaercnhticnitpyustetaorclihmeistiAnPlIorceaqlustea

lsc

ClendseEuleabmcopanltee

cooretttidx

```
              ;u      eSearch= (func,delay)=>{
                        {
  c tl rmen ( .r
   imeuaerrtTFuinsit,)ans(ertogi>
                e         mouetr()(;)=>func(...args),delay);
};};t
```

Impac

Ot:

□ RedtiumceizdedreAqPuIeusstafgaeilu. resduetoratelimiting.

5.4.5 Challenge 5: Deployment and Hosting

Problem: Dyeing:R

StoeapAoidu44earcrtoaistoenwpteefroenshN.etlify/Vercelrequiredcorrectconfiguratio

dd:0eda_redirectsfileforNetlify:

□

```
/* /index.html 200
```

Imp□ac Co:nfiguredVercelwith**single-pageappsettings**.

Stu

□ UscecresscsafnuIrdeefrpelsohympaegnetswwitihthloivuetUerRrLo.rs.

5.4.6 Lefe**f**essonsLearned

□ **AE P I ci nt it veeg rdaet bi oung g**r ei **nqg**u ihr ee lsp cs apr reef uv el ne rt r rour

□ **DResppon**urm**msiveetdknso**t.ent**n e ig** is ruingcha**wn** c clle**lend**g**ge**esiisia fmelpsor

□

□

5.5 GitHub README & Setup Guide

Wanoljeoectrale*e*b**AcR**i**R**l**D**y**o**p**E**d**s**i**D**t**o**NE**W**ill**y**s**E**to**w**pr**o**nye**v**ss**l**ta**o**tpl**t**uo**i**n**s**t**yg**a**j**i**e**ci**e**lde**s**i**o**n**g**e**y**f**o**u**l**y**r**wL
p**GitH**

A.p5r.1ofGesistHiounablRREEAADDMMEEsShtoruuldctiuncrleudethefollowingsections

1. Project Title & Description

Ai#rLispeWeatoidsDahlbBesupipltliwcaarditthioRnetahcatt,TparoilvwidinedsCreSaSl,-atin

2.Fe

Ratures

□ DTeemiarhetetwalhterutdyeisicalpnrdesosurracen,yacityonudnwindspeeddisplay
□
i

□ Ereyrspamorohascnivwdelindgesfiogrninfoovramlidocbii atlyebiannkpdgrutdsesko

□ R

3.ScrIeensehots

□ **Exnolrdae**im**ssaggee**sof**HomePage**,**WeatherDisplay**,**SearchFunction**,and
![WHompMesnapteh/oPlseyarg(aDe/is]kcsrheoetnss/hhootms/ew.penagth)er.png)
wn

4. Tech Stack

□ VRitiaciely(rs(BudiCFldSoTSno(tenoSlt)yldin)g
□
)

□ NOeptelnifWy/VeaetrhceelrM(DaepplAoPyIm(Weneta)ther Data)

5. Live Demo

[Click here to view the live dashboard](~~https://your-deployed-link.com~~)

5.5.2 Project Setup Guide

This section explains **how to run the project locally**:

Step 1: Clone the Repository

```
git clone https://github.com/username/live-weather-dashboard.git
    cd live-weather-dashboard
```

Step 2: Install Dependencies

```
npm install
```

□ Installsallrequiredpackageslistedinpackage.json.

Step 3: Configure API Key

□ Createa.envfileintherootdirectory:

```
REACT_APP_API_KEY=YOUR_OPENWEATHERMAP_API_KEY
```

□ ThiskeepstheAPIkeysecureandseparatefromthecode.

Step 4: Run the Development Server

```
npm run dev
```

□ Openstheprojectathttp://localhost:5173(Vitedefaultport).

□ Anycodechangesauto-refreshthebrowser.

Step 5: Build for Production

```
npm run build
```

□ Createsanoptimizeddist/folderreadyfordeployment.

5.5.3 Deployment Instructions

Deploying on Netlify:

□ CSilgicnki“nNteowNSeittleifyfromGit”→ConnectyourGitHubrepository.

□

□AP**ubBlisuhiDlepCloymamnd**ntpmrunbuild
□ eloliy**co**veSidt**r**e**y**a.:s”dhboardviatheprovidedURL.
□

Deploying on Vercel:

1.I**Sgipnirntayboturr**e**G**geatttiHycuoalbulyrrldeiveetoesUcitRtosrLRy.e.actandViteconf
3.DVeerpcoleol p

5.5.4 Include a Clear Folder Structure

In.5cl.u4dReeapcolseiatorrsytruFcotludreeriSntyruocutruRrEeADMEtohelpothersnavig

```
│live-weather-dashboard/


 ├─public/            #Staticfileslikeindex.html,images
 ├─src/              #Sourcecode
│  ├─components/ #Reactcomponents
│ ├─assets/           #Images/icons
│ ├─App.jsx           #Mainappcomponent
│ └─main.jsx          #Entrypoint
 ├─package.json        #Projectdependencies
 ├─.env              #APIkeys
└─README.md           #Documentation
```

5.5.5 KTeiepsforaProfessionnalREADME

□ Indd**inHeinaeuedischmagdsrtsieG**rpaostemnt.nd
□ AMnvudetdioen**lickvneeodwtuGmioslsrtienaiksedbanhaIlFys.**cetn
□ Prcol i **s** an**n**kcs.d**enstents**ofattuhebosttom.

5.6 Final Submission (Repo + Deployed Link)

dEvoiuefmthdsueth,Vianaoiseddsletlitvnaglsnssclbepttiodiiaheurnetatejourssaedvilgnycti.aanlfaicecse,sps

5.6.1 Included Components

- **Scorejeedctsepnrot**(**lehssaohosruteyg**(**R5**eact+Tailwind+Vite).
- **P** **MtEhopfitolsefo(lidt**
-
- RGiEDAteHuhbosrteepdolsiowgitkory**s**Nbetlinlcias**e**(fpcwcess.
- **u**
-

5.6.2 Submission Structure

```
│Live-Weather-Dashboard/

 ├──src/           #Sourcefiles
 ├──screenshots/ #UIimages
 ├──README.md        #GitHubdocumentation
 ├── project_report.pdf
└── package.json
```

└── package.json

5.6.3 Checklist

- ✓ Allcomponentstestedandfunctional
- ✓ APIintegratedsuccessfully
- ✓ Screenshotsanddocumentationattached
- ✓ Repositorymadepublic
- ✓ Livelinkverified

5.6.3 GitHub & Deployment Links

- **GitHub:** https://veniisha33-code.github.io/Weather-dashboard-code/
-