Tele Mil: 5915

BY ASIGMA
Military College of
Telecommunication Engineering
PIN – 908 768
c/o 56 APO

6621/AI Proj Whitelisting/GS (Tech)

16 Feb 24

DDG IT, DGIS
IHQ of MoD (Army)
New Delhi 110010

WHITELISTING OF AI BASED APPLS

1. Pl ref the policy on 'Whitelisting of Sw' issued by DCOAS (IS&C) Sectt letter No B/04001/Policy/Whitelisting SOP/DDGIT (T&P) dt 19 Jul 22.

2. Military College of Telecommunication Engineering (MCTE) is a premier Cat 'A' Instt of IA imparting trg in contemporary and niche tech domains of Artificial Intelligence (AI), Quantum Technology, 5Gi and EMSO. MCTE has been recog as a Centre of Expertise for Artificial Intelligence (CoE-AI) and is instrumental in infusing AI in the IA.

3. Ten (10) out of 31 projs listed in the AI Compendium issued by Army Design Bureau are of MCTE and numerous other AI projs based on Problem definition Statements (PDSs) recd from the envt are under devp at CoE-AI. In addn, AI Sub-Committee for IA has assigned MCTE with the resp of hosting AI website on ADN. Being suitably geared, MCTE provides necessary eco sys for AI proj incubation, testing and validation.

4. The detls of AI based appls presently being proliferated to the envt are as under:-

Ser No	Proj Name	Pan IA Dply (Locs)
(a)	Pro Active Real Time Int & Svl Monitoring (PRISM) ~ Upgraded as Avekshan.	190
(b)	Biometric Authentication (X FACE).	42
(c)	Veh Tracking Sys (VTS).	34
(d)	Pro-active Mobile Security Sys (PMSS).	36

5. Three (03) AI appls mentioned above (out of a total of four (04)) are fwd herewith as per format att as Appces A to C duly countersigned by the Dy Comdt and Chief Instructor, MCTE for whitelisting:-

(a) Avekshan
(b) F FACE
(c) VTS

6. For info and necessary action pl.

(Anupam Sharma)
Lt Col
GSO-1 (Tech) B
for Comdt

Encls :- (As above)

Copy to:-

ADB, HQ ARTRAC (IT Sec, GS Sec, Tech & Futuristics Sec), DG Sigs (Sigs 1, Sigs 7), CIDSS

SOC FOR WHITELISTING OF AI BASED MONITORING & SVL SOLN (AVEKSHAN)

INTRODUCTION

1. Surveillance Centres at Battalion/ Brigade/ Division/ Corps provides a combined int picture through info recd from multiple sensors (PTZ Cameras, UAV, Drone, LORROS, HHTI, TTIOE). Multiple inputs, along with factors such as visibility, distance from sensor and different defn of crowd/ objects necessitates an AI enabled automated system for obsn, detection, iden and genr of situational awareness inputs.

2. Avekshan is an AI enabled Surveillance Centre Solution devp by CoE AI, MCTE. It identifies and classifies objects on multiple live video feeds simultaneously and automatically generates SITREP for sharing information with all concerned for quick and informed decision making. It is equally effective on video feeds with poor visibility, different weather conditions and objects at larger distance. Avekshan has advanced features like crowd counting, analytics and can integrate surveillance centres to create a grid at various formation levels. The advanced and indigenous version can be dply not only along International Boundary, Line of Control and Line of Actual Control but also for AHQ, peace stns, Cat A ests, CI/CT area etc.

AIM

3. To devp a AI based monitoring & svl soln for impl in the units / fmn of IA .

OBJECTIVES

4. The AI based svl and monitoring sys will have the following objectives and features:

(a) Totally Indigenous solution.

(b) Integrates multiple opto-electric sensors viz PTZ Cameras, UAV, Drone, LORROS, IR, HHTI, TTIOE, etc.

(c) Real-Time object classification and identification over multiple live video feeds simultaneously.

(d) Crowd detection/ Alert.

(e) Real time SITREP generation.

(f) Advanced Database and Analytics.

(g) Multi Class Object Detection.

(h) Pre-designed to integrate custom models for additional object classes developed for other systems.

(j) Highly optimised software enables multi feed AI analytics engine to efficiently run on commercial grade desktops.

(k) Soldier Friendly, Soldier Proof requiring min technical threshold and has Universal Application.

(l) Designed as a system brick for bundled hardware and software.

(m) Operates simultaneously at multiple Headquarters level to form a surveillance grid.

Annx I
(Ref Para 9 (a) of DDGIT
Letter No B/04001/Policy/SW
DDGIT (T&P) dt 20 May 2020)

AI BASED MONITORING & SVL SOLN (AVEKSHAN)

1. **Short Brief**. Surveillance Centres at Battalion/ Brigade/ Division/ Corps provides a combined int picture through info recd from multiple sensors (PTZ Cameras, UAV, Drone, LORROS, HHTI, TTIOE). Multiple inputs, along with factors such as visibility, distance from sensor and different defn of crowd/ objects necessitates an AI enabled automated system for obsn, detection, iden and genr of situational awareness inputs.

2. **Functional Purpose.** Avekshan can concurrently detect and categorize objects across numerous live video feeds, automatically producing SITREPs to promptly share information with relevant parties for swift and well-informed decision-making. It demonstrates consistent effectiveness even in challenging conditions such as poor visibility, diverse weather patterns, and distant objects. Avekshan boasts advanced functionalities such as crowd counting and analytics, and it can seamlessly integrate with surveillance centers to establish a grid across various formation levels. The enhanced and locally developed version is deployable not only along international boundaries, the Line of Control, and the Line of Actual Control but also in diverse areas such as AHQ, peace stations, Cat A estb, and CI/CT zones, among others.

3. Specific details wrt SW proposed to be devp.

(a)	SW ID / Name (Incl ver number)	-	AVEKSHAN
(b)	Est/ Sponsor (Comd) (incl details of PDMG)	-	MCTE, Mhow
(c)	Type of SW (Bespoke/ ERP/COTS/Customized)	-	Customized.
(d)	Purposed/Utility (incl beneficiaries and tgt users)	-	Svl & Monitoring
(e)	Name of devp org/ vendor name and contact details	-	MCTE, Mhow
(f)	Is IPR held with sponsor.	-	Yes(under progress).
(g)	OS & Sys software reqmts. (4GB Graphic card)	-	Win 10
(j)	Language/ Platform of SW devp & dply	-	Python.
(k)	Database reqmts (software, ver, ect)	-	Nil.
(l)	Technology dependencies (if any)	-	AI
(m)	Cost incl Annual Maint Contract	-	Nil.
(n)	Architecture to dply (Centralized / Federated /Hybrid/ ect.)	-	Hybrid
(o)	Details of Licensing (if any)	-	No.
(p)	HW/Server specifications (if any)	-	i3 /i5 processor with 4GB Graphic card
(q)	Enhancement up gradation (incl patch mgt sw spdt procedure and mechanism) -	-	Based on tech adv, MCTE will provide upgrades.
(r)	Recommendation, spl instrs and reqmt (if any)	-	NIL.
(s)	Intended usage and dply – (Standalone/LAN/ADN/Internet) .	-	ADN/ LAN/STANDALONE

Annx II
(Ref Para 9(a) of DDG IT
letter No B/04001/Policy/Sw/
DDG IT (T&P) dt 19 Jul 2022)

CHECKLIST : PRE APLV STG

MANDATORY DETAILS

1.	Name of proj (incl ver)	- Avekshan
2.	Name of sponsor	- MCTE, MHOW
3.	Type of Sw (Bespoke/ COTS/ Customized)	- Customize
4.	Brief justification for devp of Sw appl.	- Avekshan can concurrently detect and categorize objects across numerous live video feeds, automatically producing SITREPs to promptly share information with relevant parties for swift and well-informed decision-making. It demonstrates consistent effectiveness even in challenging conditions such as poor visibility, diverse weather patterns, and distant objects. Avekshan boasts advanced functionalities such as crowd counting and analytics, and it can seamlessly integrate with surveillance centers to establish a grid across various formation levels. The enhanced and locally developed version is deployable not only along international boundaries, the Line of Control, and the Line of Actual Control but also in diverse areas such as AHQ, peace stations, Cat A estb, and CI/CT zones, among others.
5.	Aim & Scope Purpose incl utility, beneficiaries and tgt users	- To devp a AI based monitoring & svl soln for impl in the units / fmn of IA
6.	To be hosted on internet/ ADN with brief justification	- ADN / Standalone/LAN
7.	Being devp in house or through IT funds	- In-house Devp
8.	Usability of proposed appls by other arms / services / org/ est	- All Units/ Fmn
9.	Hw and IT infrastructure reqd	- Windows 10 OS 4GB Graphic card (min)
10.	Brief details of content of the proposed Sw appl	- Svl & monitoring sys
11.	Endorsement by Head of Br/ Svc/ Fmn	- MCTE
12.	Details of user base	- .exe file for usage

IN PRINCIPAL APPROVAL OF DEPUTY COMMANDANT, FOR DEVELOPMENT OF SOFTWARE (AVEKSHAN) BY CENTER OF EXPERTISE, ARTIFICIAL INTELLIGENCE, MILITARY COLLEGE OF TELECOMMUNICATION ENGINEERING, MHOW

In Principal Approval for the development of AI based software (AVEKSHAN) for surveillance & monitoring is here by accorded. The software will be useful in carrying of surveillance & monitoring by automated object detection for units/fmn.

MCTE MHOW (MP) 453441 Date .....

Place : Mhow

Date : 26/1/24

Maj Gen
Deputy Commandant & CI
Military College of
Telecommunication Engineering

SOC FOR WHITELISTING OF AI BASED FACIAL DETECTION SYS (xFACE)

INTRODUCTION

1 The abstract introduces "xFace," an innovative AI-based biometric authentication system developed in-house for military applications. This system leverages cutting-edge AI and Deep Learning algorithms to perform real-time facial recognition and identification of individuals. Through analysis of live video feeds, xFace can swiftly verify the identity of individuals, distinguishing authorized personnel from unauthorized ones. What sets xFace apart is its advanced analytics capabilities. The system's analytics portal, known as xFace Analytics, offers an intricate visual dashboard that provides comprehensive insights. This dashboard enables the identification of movement patterns across different checkpoints. Whether operating in standalone mode or within a multi-point network deployment, xFace excels in its ability to extract individual identities from real-time camera inputs. In cases where an individual is not registered as an authorized person within the organization, the system promptly alerts the on-duty sentry about the presence of an unknown individual on-premises.

2. Although facial recognition systems have become ubiquitous, xFace distinguishes itself by its proficiency in generating actionable analytics. By revealing nuanced movement patterns and behaviors, xFace Analytics equips military personnel with valuable information to enhance security protocols and decision-making processes across various operational scenarios.

AIM

3. To devp an AI based authentication sys using facial recog tech which can automatically iden a person from his facial features and extracts the identity of the indl.

OBJECTIVES

4. The xFace features adv face recog tech to incl single image training of new faces, user regn on-the-go for new users, auto logger for keeping tr of pers moving in/out from an access controlled pt, exporting summary of entries in a day/month in CSV format, storing all previous records in a back-end database for retrieval and further analytics. The sw is optimized for wkg on Windows 10 OS desktop/laptop without any addl GPU sp. The sw can be dply as a standalone / nw model featuring centralized database to facilitate multiple entry exit pts. The sw features adv data analytics portal for providing valuable insights of mov. Advanced analytics portal features a well-defined dashboard to view the move patterns of the indls to gain a deep insightTotally Indigenous solution.

(a) **Op Payoffs**. The facial recog sys finds immense applications over mil envt few of which are enumerated as under: -

(i) **Fd As/ CI/CT Ops**. For maint and tr the local villagers under coy/Bn AoR who are subjected to routine checks on patrolling, iden a presence of wanted pers within the database of known faces etc.

(ii) **Cross Border Civ Mov Tr**. To log and tr the mov of civ pers who mov across the borders and AIOS fences as a part of daily routine.

(iii) **Peace Est / Grn Security / Static Est / Cat A Est.** Dply at entry/exit pts of Grn, Ord depots, office premises, comn centres, CSD depots etc for auto logging and record maint of pers moving in/out from CPs. Also, for maint of student / staff attendance for trg and conduct of classes at trg instts.

Annx I
(Ref Para 9 (a) of DDGIT
Letter No B/04001/Policy/SW
DDGIT (T&P) dt 20 May 2020)

AI BASED FACIAL DETECTION SYS (xFACE)

1. **Short Brief**. xFace is an AI based biometric authentication sys devp in-house which is capb of performing facial recog & iden of pers. The sys uses latest state-of-the-art AI & Deep Learning algorithms for facial recog from real-time video feeds to verify one's identity. The sys is capb of iden indl from a real-time camera input, extracts the iden of the indl whether he is an auth person registered with the org else alarms the sentry on duty about the unknown identity of the indl who is on-premise on a standalone mode as well as multi pt nw mode of dply. Facial recog sys are now-a-days everywhere but the str of our sys lies in bringing out the analytics. xFace analytics portal is capb to bring out detailed visual analytics dashboard which can iden patters of mov across checkpoints..

2. **Functional Purpose.** The xFace features adv face recog tech to incl single image training of new faces, user regn on-the-go for new users, auto logger for keeping tr of pers moving in/out from an access controlled pt, exporting summary of entries in a day/month in CSV format, storing all previous records in a back-end database for retrieval and further analytics. The sw is optimized for wkg on Windows 10 OS desktop/laptop without any addl GPU sp. The sw can be dply as a standalone / nw model featuring centralized database to facilitate multiple entry exit pts. The sw features adv data analytics portal for providing valuable insights of mov. Advanced analytics portal features a well-defined dashboard to view the move patterns of the indls to gain a deep insight

3. Specific details wrt SW proposed to be devp.

(a)	SW ID / Name (Incl ver number)	-	xFACE
(b)	Est/ Sponsor (Comd) (incl details of PDMG)	-	MCTE, Mhow
(c)	Type of SW (Bespoke/ ERP/COTS/Customized)	-	Customized.
(d)	Purposed/Utility (incl beneficiaries and tgt users)	-	Facial recog & iden pers
(e)	Name of devp org/ vendor name and contact details	-	MCTE, Mhow
(f)	Is IPR held with sponsor.	-	Yes(under progress)
(g)	OS & Sys software reqmts.	-	Win 10
(h)	Language/ Platform of SW devp & dply	-	Python
(j)	Database reqmts (software, ver, ect)	-	Nil.
(k)	Technology dependencies (if any)	-	AI
(l)	Cost incl Annual Maint Contract	-	Nil.
(m)	Architecture to dply (Centralized / Federated /Hybrid/ ect.)	-	Hybrid
(n)	Details of Licensing (if any)	-	No.
(o)	HW/Server specifications (if any)	-	i3 /i5 with 4GB Grpahic card.
(p)	Enhancement up gradation (incl patch mgt sw spdt procedure and mechanism)	-	Based on technological advancement, MCTE will provide upgrades.
(q)	Recommendation, spl instrs and reqmt (if any)	-	NIL.
(r)	Intended usage and dply – (Standalone/LAN/ADN/Internet.	-	Standalone/LAN/ADN

Annx II
(Ref Para 9(a) of DDG IT letter No B/04001/Policy/Sw/ DDG IT (T&P) dt 19 Jul 2022)

CHECKLIST : PRE APLV STG

MANDATORY DETAILS

1.	Name of proj (incl ver)	- xFACE
2.	Name of sponsor	- MCTE, MHOW
3.	Type of Sw (Bespoke/ COTS/ Customized)	- Customize
4.	Brief justification for devp of Sw appl.	- The xFace features adv face recog tech to incl single image training of new faces, user regn on-the-go for new users, auto logger for keeping tr of pers moving in/out from an access controlled pt, exporting summary of entries in a day/month in CSV format, storing all previous records in a back-end database for retrieval and further analytics. The sw is optimized for wkg on Windows 10 OS desktop/laptop without any addl GPU sp. The sw can be dply as a standalone / nw model featuring centralized database to facilitate multiple entry exit pts. The sw features adv data analytics portal for providing valuable insights of mov. Advanced analytics portal features a well-defined dashboard to view the move patterns of the indls to gain a deep insight
5.	Aim & Scope Purpose incl utility, beneficiaries and tgt users	To devp an AI based authentication sys by using facial recog tech which can automatically iden a person from his facial features and extracts the identity of the indl. It can be used for units/fmn dply in Op areas.
6.	To be hosted on internet/ ADN with brief justification	- ADN / Standalone/ LAN
7.	Being devp in house or through IT funds	- In-house Devp
8.	Usability of proposed appls by other arms / services / org/ est	- All Units/ Fmn
9.	Hw and IT infrastructure reqd	- Windows 10 OS 4GB Graphic card (min)
10.	Brief details of content of the proposed Sw appl	- Facial recog & iden pers
11.	Endorsement by Head of Br/ Svc/ Fmn	- MCTE
12.	Details of user base	- exe file for usage

IN PRINCIPAL APPROVAL OF DEPUTY COMMANDANT, FOR DEVELOPMENT OF SOFTWARE (xFACE) BY CENTER OF EXPERTISE, ARTIFICIAL INTELLIGENCE, MILITARY COLLEGE OF TELECOMMUNICATION ENGINEERING, MHOW

In Principal Approval for the development of AI based software (xFACE) for facial detection and recognition is hereby accorded. The software will be useful in carrying of automated facial detection and recognition for units/fmn deployed in CI/CT environment.

Place : Mhow

Date : 28/1/24

Maj Gen
Deputy Commandant & CI
Military College of
Telecommunication Engineering

SOC FOR WHITELISTING OF AI BASED VECHILE TRACKING SYSTEM (VTS)

INTRODUCTION

1. Tracking of vehs commuting in/out of sensitive mil stns has been a felt need not only to track mil veh mov but also to keep an eye on suspicious civ activity within our garrisons. The need for tracking mil veh mov arises from the reqmt of automating the MTs, Garrison Entry Exit pts and TCPs for faster and efficient management of mov of mil vehs. Moreover, in recent past weaponizing the veh has been an emerging trend amongst the ANEs in CI/CT envt. These vehs could be civ as well as hijacked mil vehs. Despite deliberate measures, iden of suspicious vehs still remains a challenge to the units/fmns dply in CI/CT

2. Veh Tracking Sys is a state of the art AI based sw tool devp by MCTE for detection and tracking of mil and civ veh using license plates and BA Nos. The sys uses latest state-of-the-art AI & Deep Learning algorithms for real-time vehicle detection from live video feeds. The sys is capb of iden both mil and civ veh from moving tfc in real time. The sys extracts the veh info to incl No plate, Make, Model, Colour etc on-the-fly and in case of Mil Vehs, corroborates the details with registered fmn vehicle database for cross matching the identity of the veh and in case of Civ Veh, both fmn veh databases and MORTH's Vahan database are checked. The sys is capb of raising an auto alarm in case any blacklisted veh moves in front of the VTS camera.

AIM

3. To devp an AI based Veh Tracking and Iden which can automatically iden a vehicle based on its license plate and extract the identity of the veh which can serve as a decision sp sys with an aim to enhance human capb and efficiency of tps dply at veh check posts & grn entry exit pts

OBJECTIVES

4. The objectives are as under:-

(a) **High Accuracy**. Sp detection of standard and non-standard Indian number plates as well as Mil BA Nos with 95% accuracy.

(b) **Four Wheeler Sp**. VTS features seamless No plate recognition of four wheeler non-std number plates.

(c) **Detection on Moving Tfc**. Sys is capb of detecting a mix of civ and mil vehs in real-time continuous fast moving tfc.

(d) **Network Dply**. VTS sp multiple cameras over a nw to cover a stretch of rd.

(e) **Analytics & Insights**. The analytics capb helps to gain more in depth insights on moving pattern of vehs over an AoR.

(f) **Blacklisting & Manual Entry**. Facility to blacklist a known illegitimate veh is included in the sys. Also, manual searching of veh detls from the database has been provided to the opr.

(g) **Efficient Request Handling.** The appln server has been integrated with an API that can receive multiple user requests.The API therefore beomes a single point of contact with Vahaan Server leading to better request handling.

(h) **Convoy Mgt.** The system can be used to tr mil vehs for efficient convoy mgtgrid.

Annx I
(Ref Para 9 (a) of DDGIT
Letter No B/04001/Policy/SW
DDGIT (T&P) dt 20 May 2020)

AI BASED VECHILE TRACKING SYSTEM (VTS)

1. **Short Brief**. Tracking of vehs commuting in/out of sensitive mil stns has been a felt need not only to track mil veh mov but also to keep an eye on suspicious civ activity within our garrisons. The need for tracking mil veh mov arises from the reqmt of automating the MTs, Garrison Entry Exit pts and TCPs for faster and efficient management of mov of mil vehs. Moreover, in recent past weaponizing the veh has been an emerging trend amongst the ANEs in CI/CT envt. These vehs could be civ as well as hijacked mil vehs. Despite deliberate measures, iden of suspicious vehs still remains a challenge to the units/fmns dply in CI/CT As.

2. **Functional Purpose.** Veh Tracking Sys is a state of the art AI based sw tool devp by MCTE for detection and tracking of mil and civ veh using license plates and BA Nos. The sys uses latest state-of-the-art AI & Deep Learning algorithms for real-time vehicle detection from live video feeds. The sys is capb of iden both mil and civ veh from moving tfc in real time. The sys extracts the veh info to incl No plate, Make, Model, Colour etc on-the-fly and in case of Mil Vehs, corroborates the details with registered fmn vehicle database for cross matching the identity of the veh and in case of Civ Veh, both fmn veh databases and MORTH's Vahan database are checked. The sys is capb of raising an auto alarm in case any blacklisted veh moves in front of the VTS camera.

3. Specific details wrt SW proposed to be devp.

(a) SW ID / Name (Incl ver number) - VTS

(b) Est/ Sponsor (Comd) (incl details of PDMG) - MCTE, Mhow

(c) Type of SW (Bespoke/ ERP/COTS/Customized) - Customized.

(d) Purposed/Utility (incl beneficiaries and tgt users) - Auto iden civ & mil veh

(e) Name of devp org/ vendor name and contact details - MCTE, Mhow

(f) Is IPR held with sponsor? - Yes (under progress)

(g) OS & Sys software reqmts. - Win 10

(h) Language/ Platform of SW devp & dply - Python.

(j) Database reqmts (software, ver, ect) - VAHAN & MISO.

(k) Technology dependencies (if any) - AI

(l) Cost incl Annual Maint Contract - Nil.

(m) Architecture to dply (Centralized / Federated /Hybrid/ etc.) - Hybrid

(n) Details of Licensing (if any) - No.

(o) HW/Server specifications (if any) - i3 /i5 4GB Graphic card .

(p) Enhancement up gradation (incl patch mgt sw spdt procedure and mechanism) - Based on technological advancement, MCTE will provide upgrades.

(q) Recommendation, spl instrs and reqmt (if any) - 01x IP whitelisting from VAHAN (MORTH).

(r) Intended usage and dply – Standalone/LAN/ADN/Internet - Standalone/LAN/ADN/Internet (Internet for civ and standalone/army net for mil veh)

Annx II
(Ref Para 9(a) of DDG IT letter No B/04001/Policy/Sw/ DDG IT (T&P) dt 19 Jul 2022)

CHECKLIST: PRE APLV STG

MANDATORY DETAILS

1. Name of proj (incl ver) - VTS
2. Name of sponsor - MCTE, MHOW
3. Type of Sw (Bespoke/ COTS/ Customized) - Customize
4. Brief justification for devp of Sw appl. -

Veh Tracking Sys is a state of the art AI based sw tool devp by MCTE for detection and tracking of mil and civ veh using license plates and BA Nos. The sys uses latest state-of-the-art AI & Deep Learning algorithms for real-time vehicle detection from live video feeds. The sys is capb of iden both mil and civ veh from moving tfc in real time. The sys extracts the veh info to incl No plate, Make, Model, Colour etc on-the-fly and in case of Mil Vehs, corroborates the details with registered fmn vehicle database for cross matching the identity of the veh and in case of Civ Veh, both fmn veh databases and MORTH's Vahan database are checked. The sys is capb of raising an auto alarm in case any blacklisted veh moves in front of the VTS camera.

5. Aim & Scope Purpose incl utility, beneficiaries and tgt users

To devp an AI based Veh Tracking and Iden which can automatically iden a vehicle based on its license plate and extract the identity of the veh which can serve as a decision sp sys with an aim to enhance human capb and efficiency of tps dply at veh check posts & grn entry exit pts

6. To be hosted on internet/ ADN with brief justification - ADN / Standalone
7. Being devp in house or through IT funds - In-house Devp
8. Usability of proposed appls by other arms / services / org/ est - All Units/ Fmn
9. Hw and IT infrastructure reqd - Windows 10 OS
4GB Graphic card (min)
10. Brief details of content of the proposed Sw appl - auto iden civ or mil veh
11. Endorsement by Head of Br/ Svc/ Fmn - MCTE
12. Details of user base - .exe file for usage

IN PRINCIPAL APPROVAL OF DEPUTY COMMANDANT, FOR DEVELOPMENT OF SOFTWARE (VEHICLE TRACKING SYSTEM) BY CENTER OF EXPERTISE, ARTIFICIAL INTELLIGENCE, MILITARY COLLEGE OF TELECOMMUNICATION ENGINEERING, MHOW

In Principal Approval for the development of AI based software (Vehicle Tracking system) is hereby accorded. The software will be used for real time tracking of civil vehicles by reading the number plate and integrating with VAHAN data base of Ministry of Road Transport & Highways for units/fmn.

Place : Mhow

Date : 26/1/24

Maj Gen
Deputy Commandant & CI
Military College of
Telecommunication Engineering

CyberQ Consulting Pvt. Ltd.

IT Consulting | Software Services | Information Security Assurance

Application Security Audit Certificate

CERT-IN Registration No.: 3(15)/2004-CERT-In (Vol. XI) **Date of Issue: 24/11/2023**

To Whomsoever it may concern

Information Gathered for the Application

Reference No.	**DMP-ASA-G-IA-23-093/03**
Application Name:	**Vehicle Tracking System Application and API**
Client Name:	**Indian Army**
Tested EXE File and API	**Vehicle_Tracking_sys.exe, and Vehicle Tracking System API**

Audit Performed by: **CyberQ Consulting Pvt. Ltd., New Delhi**
Final Report Date: **21/11/2023**
Certificate Issue Date: **24/11/2023**

Validity: Certificate is valid for one year from the date of issue or till any changes made at the source code of application and access permission provided during hosting, whichever is earlier.

Audit Conclusion:
This application was audited & found safe for hosting as per the OWASP framework subject to following:

- The application **Vehicle_Tracking_sys.exe** is safe for hosting as per the OWASP framework.
- Folder containing "Python" pages in API's should be given 'Read Only' permissions.

Note:

1. If any modification is required in the application in future should be according to the security audit as per the directives of NIC.
2. It is advised to remove all the malicious scripts and dummy data stored into the database during audit.
3. This application is "CLEARED" on the basis of above-mentioned notes and recommendation.
4. The application **Vehicle_Tracking_sys.exe and APIs** should be deployed over Latest SSL/TSL.
5. This certificate is being issued as per the terms and conditions mentioned below (on page numbers 2 of this document).

Hemant

Reviewed by:
(Mr. Hemant Tiwari)

Terms & Conditions for this Application Audit Certificate

This certificate for application security audit for Thick Client application and API **"Vehicle Tracking System Application"** is subject to the following terms and conditions:

1. CyberQ has performed application security audit for application on a belief that the client fully and absolutely owns the said application.
2. CyberQ has undertaken the security audit with the belief that there are no ongoing legal cases, or investigation proceedings pending against the application before any competent authority, Forum, Tribunal and/or Court.
3. Client acknowledges and agrees that the security audit performed by CyberQ has been based on the mutually agreed security audit features/standards.
4. This security audit certificate issued by CyberQ shall not be seen as in any way endorsement of client's security policies/regulations/standards etc.
5. DISCLAIMER OF ALL OTHER WARRANTIES: EXCEPT AS EXPRESSLY PROVIDED IN THESE TERMS & CONDITIONS 'CYBERQ' HEREBY EXPRESSLY DISCLAIMS, ALL WARRANTIES OF ANY KIND (EXPRESS, IMPLIED, OR OTHERWISE), INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, OR NONINFRINGEMENT, WITH RESPECT TO ITS PERFORMANCE OR ANY MATERIALS PROVIDED TO THE CLIENT HEREUNDER, AND THE ENTIRE RISK AS TO CYBERQ'S PERFORMANCE AND ANY SUCH MATERIALS PROVIDED TO THE CLIENT (OTHER THAN FOR BREACH OF THE EXPRESS TERMS OF THESE TERMS & CONDITIONS) IS ASSUMED BY THE CLIENT.
6. Client will indemnify, defend and hold CyberQ and its directors, officers and employees (collectively "CyberQ Indemnitees") harmless from and against any threat, action, cause of action, suit, proceeding, claim, or demand of any third party that arises from or relates to a breach of Client's obligations. Client will also indemnify and hold the CyberQ Indemnitees harmless from all Losses. "Losses" means damages, obligations, liabilities, harm, injuries, judgments, fines, penalties, interest, assessments, costs, and expenses of any kind that arise out of or that are related to any claim under this clause, including reasonable professional fees (including attorneys' fees and experts' fees).
7. This security clearance certificate issued by CyberQ is **24/11/2023** and **12:00 PM** specific: primarily for the purpose of identifying the date and time, the said certificate has been issued. The **24/11/2023** and **12:00 PM** also recognizes that the said certificate is given as a result of security testing done as a snapshot in time and that any changes made to the application and/or any of its modules subsequently will render this certificate invalid. A copy of the screens of the **"Vehicle Tracking System Application"**, that has been audited, has been submitted as part of L2 report.
8. Client agrees that this security audit certificate is not transferable to any third party without the express written consent of CyberQ.