QUALIFICATION FILE – CONTACT DETAILS OF SUBMITTING BODY

Name and address of submitting body:

- NIELIT Gorakhpur,
  M.M.M.U.T. Campus, Deoria Road Gorakhpur – 273010 (UP)
  Phone No.: 0551-2273371
  Branch Office
- NIELIT Lucknow
  A-1/9, Sumit Complex, VibhutiKhand, Gomti Nagar, Lucknow- 226010(UP)
  Phone No.: 0522 272 0589

Name and contact details of individual dealing with the submission

Name:	Mr.PawanVerma
Position in the organisation	Technical Officer
Address if different from above	NA
Tel number(s)	0522-2720590
E-mail address	pawanverma@nielit.gov.in

List of documents submitted in support of the Qualifications File

1. Detailed Curriculum
2. Industry Validation (Attached at Annexure I)
3. Certified StudentRecords (Attached at Annexure II)

QUALIFICATION FILE SUMMARY

Qualification Title	Certified Android Apps Developer
Qualification Code	NIELIT/MD/1/14
Nature and purpose of the qualification	A Technical Diploma To provide employment opportunities in mobile application development sector
Body/bodies which will assess candidates	**Examination Cell,** National Institute of Electronics and Information Technology, 6-CGO Complex, Electronics Niketan, Lodhi Road, New Delhi. 110003.
Body/bodies which will award the certificate for the qualification.	**Certification Division,** National Institute of Electronics and Information Technology, 6-CGO Complex, Electronics Niketan,Lodhi Road, New Delhi. 110003.
Body which will accredit providers to offer the qualification.	**Accreditation Division,** National Institute of Electronics and Information Technology, 6-CGO Complex, Electronics Niketan, Lodhi Road, New Delhi. 110003.
Licensing requirments	N/A
Occupation(s) to which the qualification gives access	Android Apps Developer
Proposed level of the qualification in the NSQF.	5
Notional Learning Hours	100 hours.
Entry requirements / recommendations.	Graduate/Undergraduate and knowledge of Java, Internet Concepts and Database.
Progression from the qualification.	Android App Programmer ⬇ Android App Developer ⬇ Android App Team Leader
Planned arrangements for RPL.	• Presently only candidates who undergo training shall be assessed. • It will be incorporated once RPL strategy is finalized

Formal structure of the qualification

Title of unit or other component (include any identification code used)	**Mandatory/ Optional**	**Estimated size (learning hours)**	**Level**

Introduction To Android And Creating Applications And Activities	Mandatory	25	5
Creating User Interfaces And Intents, Broadcast Receivers, Adapters, And The Internet	Mandatory	25	
Files, Saving State, And Preference,Database And Project	Mandatory	50	

Please attach any document giving further detail about the structure of the qualification – eg a Curriculum or Qualification Pack.Nil

SECTION 1
ASSESSMENT

Name of assessment body:
Examination Cell
National Institute of Electronics and Information Technology
6-CGO Complex, Electronics Niketan,
Lodhi Road, New Delhi. 110003.

Will the assessment body be responsible for RPL assessment?

Yes. We will conduct Online/Entrance Test/Interview of the Participants for Admission. Entrance test will be based on Aptitude (20%), Logical reasoning (20%), Basic Computer (10%) and Basic Knowledge of computer language (30%) and Internet (20%). At the course end, we will conduct Theory and Practical Examination for each module.A candidate will be eligible for a Certificate, if he/she clears all the papers and submit project.The grading system of Certified Android Apps Developer is given below

- Pass Aggregate - 60 %

Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, consistent and fair and show that these are in line with the requirements of the NSQF:
The emphasis is on practical demonstration of skills & knowledge based on the performance criteria. Each OUTCOME is assessed & marked separately. Student is required to pass in all OUTCOMEs individually and marks are allotted. Following assessment methodologies are used.

A. Written Assessment (Multiple Choice Questions)
B. Practical Assessment
C. Viva Voce Assessment

Supporting evidences for Assessment
The assessment results are backed by following evidences.

1 The assessor collects a copy of the attendance for the training done under the scheme. The attendance sheets are signed and stamped by the In charge / Head of the Training Centre.
2 The assessor verifies the authenticity of the candidate by checking the photo ID card issued by the institute as well as any one Photo ID card issued by the Central/Government. The same is mentioned in the attendance sheet.
3 The assessor assigns roll number.
4 The assessor takes photograph of all the students along with the assessor standing in the middle and with the centre name/banner at the back as evidence.

Please attach any documents giving further information about assessment and/or RPL.

ASSESSMENT EVIDENCE

Complete the following grid for each grouping of NOS, assessment unit or other component as listed in the entry on the structure of the qualification on page 1.

Job Role Android Apps Developer

Title of Unit/Component:

Assessable Outcomes	Assessment criteria for the outcome	Total Mark	Written	Practical	Vivo-voce
OUTCOME-1: Recocgnize Android And Creating Applications And Activities	Follow the concepts of Android	125	25	25	10
	Create Applications and Activities of Android		25	25	15
		Total	**50**	**50**	**25**
OUTCOME-2: Creating User Interfaces And Intents, Broadcast Receivers, Adapters, And The Internet	Core Skills to Create User Interface and Intents	125	25	25	10
	Learn use of Broadcast Receiver, Adapters and Internet		25	25	15
		Total	**50**	**50**	**25**
OUTCOME-3: Files, Saving State, And Preference,Database And	To Create Files, Saving Files in Android	125	25	25	10
	Manage Application With Database		25	25	15
		Total	**50**	**50**	**25**
OUTCOME-4: Project	Acquiring Expert Skills On Android	125			125
		Total			**125**
	Grand Total	**500**	**150**	**150**	**200**

Means of assessment 1

Proctored online assessments (LAN and Web based), carried out using a variety of question formats applicable for linear / adaptive methodologies; performance criteria being assessed via situation judgement tests, simulations, code writing, psychometrics and multiple choice questions etc.

SECTION 2

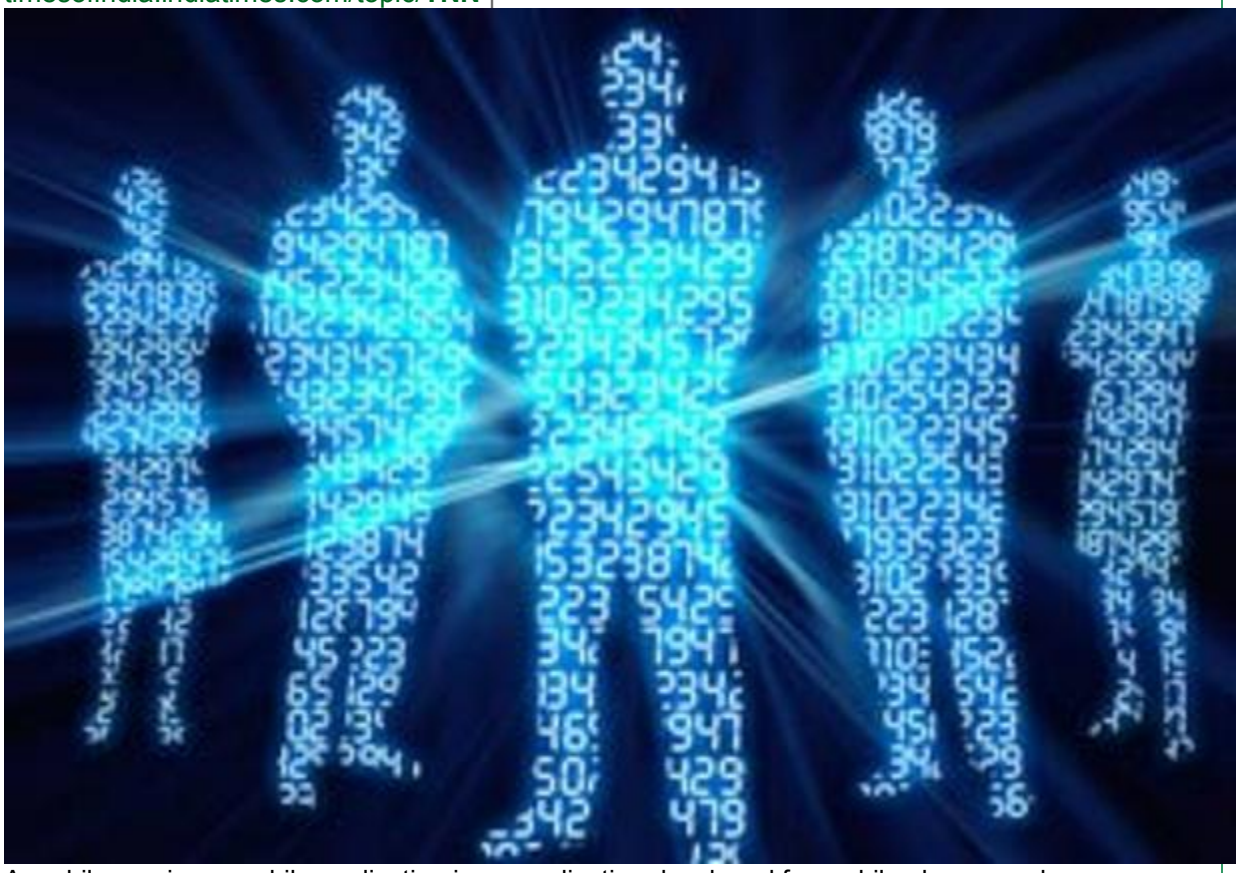
EVIDENCE OF NEED

What evidence is there that the qualification is needed?

Link:http://www.gadgetsnow.com/jobs/Career-in-mobile-app-development/articleshow/14605126.cms

Career in mobile app development

timesofindia.indiatimes.com/topic/**TNN** |



A mobile app i.e. a mobile application is an application developed for mobile phones and smartphones.

A mobile app i.e. a mobile application is an application developed for mobile phones and smartphones. In simple terms, a mobile app is a software programme for ones phone. These can be as simple as a basic flashlight application or a dictionary or something similar to a Google Maps navigation app. There are mobile apps developed for entertainment like the Facebook and Twitter app (social media networks) or the Angry Birds mobile app (games). Mobile applications are basically a lighter version of computer applications meant for mobile devices/tablet devices, which cater to infotainment and entertainment.

The mobile applications market is not just restricted to general users but has also reached out to business and institutional users. This ever-changing and growing industry and its revenue generation opportunities have not only enticed customers, but also business conglomerates. The year 2011 witnessed a breakthrough for mobile application development and many new players have entered this domain, there will be more in the coming days.

This year featured a steep rise in text messaging, Smartphone purchases and mobile advertising. Location-based services, social networking application, m-commerce, context-aware service, object recognition, mobile instant messaging and mobile payment or mobile money transfer will be the areas of growth. Also, more social games apps in mobile devices will be developed.

Industry status

The mobile application market is rapidly growing and gaining popularity as an emerging job opportunities market. India is the third fastest growing app market in the world. As per Gartner report, Indias active mobile connections will exceed 900 million by 2016, which translates to 72% penetration. According to Trai in January 2012 the number of active mobile connections in India has reached 659.99 million and the total mobile subscriber base stands at 903.72 million.

It is estimated that every Indian user spends nearly 52 minutes per-day using mobile apps. Similarly, mobile app economy-estimated at nearly $4 billion (Rs 20,000 crore) in 2009 and expected to grow to $18 billion in half a decade-continues to expand exponentially.

There is an increase in the demand of mobile applications as more and more people are using smart phones. It has been projected that mobile value-added services market (which includes mobile apps) will reach Rs 214.1 crore by the end of 2012 from Rs 158.6 crore in 2011. Revenue generated by mobile VAS was INR 122 billion, as on March 2011. It is estimated to reach Rs 482 billion by 2015.

Growth areas

The future is mobile and all the services and offerings are going to run through application. India has more mobile connections than PCs or TVs and landline phones. Mobile app development is evolving to integrate with television, in-car

navigation and entertainment, shopping, commerce and banking. It is safe to say that the future of apps is This talks about future growth prospects in the industry.

Mobile operators have seen a significant growth in revenues through VAS, which has significantly increased demand for mobile application developers. This booming industry is struggling to get quality developers who have ideas and creativity. Go to any job site and you will observe the number of jobs that come under the M-VAS industry. Here the demand and supply ratio is inadequate and industry is looking for talented professionals. Planning a career in this industry will surely be a good move.

As it can be seen, there is more demand than supply because there arent enough good mobile developers. As mobile phone companies look to attract users through applications, the demand for application developers is growing and will grow.

Skill-setsrequired

Since mobile apps are based on the IT platform, application developers should have a BTech (computer application) or MCA degree with experience of gateways/servers (WAP, XML, VXML, WTA, etc), browsers (WML, XHTML), clients (SMS, e-mail, chat etc), and stacks (WAP2.0 and TCP/IP). Apart from developers, the industry also seeks product and content creators who could be experienced graphics designers, content writers, researchers, etc. Innovation and out-of-the-box thinking can allow freshers in the industry to grow quickly.

With the changing technology, keeping pace with industry trends, technological innovations and new products in the market, it is important that freshers constantly update themselves with the latest developments.

One should also have the ability to understand client requirements, change specifications promptly, if needed, and have the confidence to sell the product in the market. If one wants to become a mobile app developer, one would need to be proficient in a programming language such as C, C++, Objective C for writing applications on iOS (iPhone, iPad) or Java (Android, Blackberry OS). Now private academies and training institutes too offer short-term crash courses and one-year diploma courses in apps development.

Remuneration

The starting salary of a developer at the entry level could be from Rs 3-5 lakh per annum depending on the technology they are working on. Those who are working on content at the entry level could expect anything in the range of Rs 2.5-4 lakh per annum.

NASSCOM 'PERSPECTIVE 2020' Outlines Transformation Roadmap for The Indian Technology and Business Services Industries

NASSCOM today shared the key findings of its report 'Perspective 2020: Transform Business, Transform India', that outlines the roadmap for the Indian Technology and Business Services Industry. The report is based on extensive research conducted over a year by McKinsey & Company.

The NASSCOM 'Perspective 2020' report factors in the current economic environment and identifies the industry's long term certainties and opportunities arising from them. It also outlines specific measures that the industry, NASSCOM and the Government will need to undertake over the next 12 years for the industry to realize these opportunities.

"The Indian IT industry has grown from USD 2 billion in export revenues in 1998 to USD 47 billion today, employing over two million people. Its impact on the Indian economy and stakeholders, including customers and employees, remains unparalleled. Today, the industry recognizes that the next decade will be fundamentally different from the last one, owing to a radically restructured global economy; rapidly evolving customer needs, services and business models; and rising stakeholder aspirations. The NASSCOM 'Perspective 2020' defines the opportunities and the challenges for the industry to drive sustained growth in the domestic and global markets," said PramodBhasin, Chairman, NASSCOM.

DECADE IN REVIEW

GDP: offset 65% of India's cumulative net oil imports.
Employment: 45% of incremental urban employment (direct and indirect); over 30% women employees; 45% new entrants.
Education: 6-7x increase in tertiary education in top 7 states that account for 90% of industry exports.
Customers: Annual savings of USD 20-25 billion in 2008 alone.
Image: Established India as a global business destination by forging relationships with 75% of the Fortune 500 companies.

2020 BUSINESS LANDSCAPE WILL BE DIFFERENT, DRIVEN BY GLOBAL MEGATRENDS

Several global megatrends in economic, demographic, business, social and environmental will create new opportunities for the industry by 2020 in:

New verticals: public sector, healthcare, media and utilities (which have adopted global sourcing only to a limited extent).

New customer segments: small and medium businesses (SMBs).

New geographies: greater outsourcing in BRIC, GCC, Japan and Rest of the World (ROW).

ICT DRIVEN SOLUTIONS

Healthcare: 50% of Indians do not have access to primary healthcare. Technology can deliver healthcare at half the cost.
Financial Services: 80% of Indian households do not have bank accounts. Technology can enable access to 200 million families.
Education: India faces a 3-fold shortage in teachers. Technology can address this through remote solutions.
Public Services: 40-50% of public food distribution in India doesn't reach targeted groups. Technology can ensure transparency.

These new opportunities will result in export revenues of USD 175 billion by 2020. On the back of these megatrends, the Indian domestic industry too will experience significant growth and record a four-fold increase in revenues from USD 12 billion in 2008 to USD 50 billion by 2020.

OPPORTUNITY FOR INDUSTRY TO TRANSFORM BUSINESS AND TRANSFORM INDIA

The evolved landscape of 2020 will present transformational opportunities for the Indian technology and business services industry. India will emerge as a top three global innovation hub with a focus on clinical research, mobile applications and energy efficiency/climate change solutions. Through innovative business models, this sector will also redefine its customer value proposition and capture growth from currently untapped markets. In addition,

harnessing ICT based solutions will help drive inclusive growth by uplifting 30 million citizens each year.

Commenting on the opportunities for the industry, Som Mittal, President, NASSCOM said, "The Indian IT industry is in the midst of unprecedented times because of the current economic environment. We expect the next few quarters to be extremely challenging with companies doing everything required to effectively overcome the challenges. As we continue to address the present situation, we also need stay focused on the opportunities being created by the megatrends underway. India's value proposition remains strong for sustained long term growth.

"80% of the incremental revenue growth by 2020 will be driven by opportunities outside of the current core markets, verticals and customer segments and the industry needs to redefine its value proposition to capture these."

IMPACT ON INDIAN ECONOMY IN 2020

GDP:

6% of annual GDP; 28% of annual exports

Employment:

30 million urban employment (direct and indirect)

Significant job creation in rural and non-metro areas

50% of workforce will be women

Global career opportunities due to location independent models

Infrastructure

8-10 satellite townships around Tier – 1 cities

CHALLENGES THAT EXIST TODAY

The four major challenges which exist today include employability, infrastructure, favourable policies and competition from other low cost countries. Low employability of existing talent with only 10-15% employable graduates in business services and 26% of employable engineers in technology services continues to be a major bottleneck. Infrastructure development is largely constrained to the nine cities, which contribute more than 95% of India's exports and development of tier 2/3 cities has not taken off in a planned manner. The lack of a supportive fiscal environment with a long-term policy framework is also leading to competition from other low-cost countries including China, Philippines and from Eastern Europe with potential erosion of the India opportunity.

http://www.nasscom.in/NASSCOM-PERSPECTIVE-2020-Outlines-Transformation-Roadmap-for-The-Indian-Technology-and-Business-Services-Industries-56269

Industry Validation : Attached Annexure 1

Certified Student Record: Attached Annexure 2

What is the estimated uptake of this qualification and what is the basis of this estimate?

20 students / Batch – 3 Batches /Year

What steps were taken to ensure that the qualification(s) does/do not duplicate already existing or planned qualifications in the NSQF?

Online access of Qualification Register is not yet available.

What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated?

The Qualification is to be monitored and reviewed every two years.

The following data will be used

1. Results of assessments
2. Employer feedback will be sought post-placement
3. Student feedbacks

Please attach any documents giving further information about any of the topics above.

NIL

SECTION 3
SUMMARY EVIDENCE OF LEVEL

Level of qualification: 5

Summary of Direct Evidence:

Justify the NSQF level allocated to the QP by building upon the five descriptors of NSQF. Explain the reasons for allocating the level to the QP.

Generic NOS is/are linked to the overall authority attached to the job role.

Process required	Professional knowledge	Professional skill	Core skill	Responsibility	Level
Individual after acquiring the knowledge of Android is able to Create Applications and Activities Individual After Acquiring The Knowledge Intents Advance Skills To Understand Broadcast Receiver, Adapters And Internet Is Able To Create Network Based Application.	After Acquiring Skill To Create Files, Saving Files And Understanding Database Is Able To Manage Application With Database In order to implement the various processes of the App, the developer must have: The Knowledge of concepts, syntaxes, and implementation of the technology/ Language. The candidate should have the knowledge of all the topics given in the curriculum in terms of the concept as well as its	After Completeling The Project Individual Is Capable Of Developing Application With The Use Of Knowledge Aquired From The First Three Module. Understanding user requirements; envisioning system features and functionality. The core coding skills in terms of making and using the software controls, connecting them to the front end and backend of the software. Coordinating with the team, delivering products as per schedule, contributing to team	The developer should have strong technical, analytical and problem solving, skills. The developer should have the basic communication skills to communicate properly with other team members and with the client as and when required during the software development. The developer must be a team player so as to have a good co-ordination with other team members.	Android Apps Developerare able to Create Applications,Activities, Network Based Application, Application With Database.	**5**

	practical implementation. Must have good understanding of application architecture	meetings; troubleshooting development and production problems across multiple environments and operating platforms.			
5	5	5	5	5	**5**

SECTION 4

EVIDENCE OF RECOGNITION OR PROGRESSION

What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?

This qualification has comprises both technical and analytic skills and can be linked to any qualification higher than this one, existing or to come.

Please attach any documents giving further information about any of the topics above.
Give details of the document(s) here:

NA

SECTION 5

EVIDENCE OF INTERNATIONAL COMPARABILITY

List any comparisons which have been established.
http://www.pearsonvue.com/androidatc/

AND-401: Android Application Development Exam

Questions of this exam are based on the content of “Android Application Development” course. To check the course’s outline, kindly visit this link: AND-401 course outline
To be an Android certified application developer (and to acquire this certificate and the Android certified application developer ID card), you must pass the Android application development exam. Upon completing this exam with a passing grade, you will receive an email in no later than 10 working days from the exam date, containing a username and password to access the Android ATC student’s dashboard. Upon receiving your login information by email you will then be able to download your certificate in PDF format, access your score report, and if you wish you may order your hard copy certificate and ID card.