

TABLE OF CONTENTS

HUMAN COMPUTER INTERACTION OVERVIEW	5
What is human-computer interaction?	5
The History of Human-Computer Interaction.....	5
What is HCI?.....	6
Affordance	6
HCI on the Internet	7
HCI and Help Systems.....	7
HCI and Captivate Projects	8
On-line Meetings and Distance Learning	9
Psychological factors affecting human-computer interaction	10
Technophobia	11
User Freindly.....	11
Easy access to help	11
Providing short-cuts for experts.....	12
Making use of human long-term memory to maximise efficiency	12
The human/computer interface (HCI)	12
Improving the human/computer interface	13
Command structures and menus.....	13
Screen design.....	14
Error messages	14
Sample Error Messages.....	14
Availability of help.....	15
User-friendliness	15
Ease of learning	15
The features of a sophisticated HCI	16
On-line help facility.....	16
Graphical user interface (GUI).....	16
Increased numbers of ways of performing the same operation.....	16
Multi-tasking capabilities.....	17
Faster searching of help files.....	17
The resource implications of sophisticated human/computer interfaces (HCIs).....	17
Resource implications for the processor	17
Resource implications for the immediate access store (IAS)	18
Resource implications for backing storage.....	18
Resources for development	18
The implications for customising software to develop a specialist HCI	18
Customizing	20
Design of forms for data entry	20
Design Rules	24
Usability Principles	24
1. Learnability	24
2. Flexibility	25
3. Robustness	25
Heuristics and Golden Rules.....	26
Ben Shneiderman's 8 Golden Rules	27

Human Computer Interaction Manual Solutions

D Keegan



Human Computer Interaction Manual Soluations:

Whispering the Secrets of Language: An Mental Quest through **Human Computer Interaction Manual Soluations**

In a digitally-driven earth where displays reign great and instant interaction drowns out the subtleties of language, the profound techniques and mental subtleties concealed within words usually get unheard. However, set within the pages of **Human Computer Interaction Manual Soluations** a charming literary value pulsating with natural thoughts, lies an exceptional quest waiting to be undertaken. Composed by a skilled wordsmith, this marvelous opus attracts readers on an introspective trip, gently unraveling the veiled truths and profound influence resonating within ab muscles material of every word. Within the emotional depths of the touching review, we can embark upon a heartfelt exploration of the book is key subjects, dissect its fascinating writing style, and fail to the strong resonance it evokes deep within the recesses of readers hearts.

https://staging.conocer.cide.edu/book/publication/fetch.php/how_children_learn.pdf

Table of Contents Human Computer Interaction Manual Soluations

1. Understanding the eBook Human Computer Interaction Manual Soluations
 - The Rise of Digital Reading Human Computer Interaction Manual Soluations
 - Advantages of eBooks Over Traditional Books
2. Identifying Human Computer Interaction Manual Soluations
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an Human Computer Interaction Manual Soluations
 - User-Friendly Interface
4. Exploring eBook Recommendations from Human Computer Interaction Manual Soluations
 - Personalized Recommendations

- Human Computer Interaction Manual Solutions User Reviews and Ratings
- Human Computer Interaction Manual Solutions and Bestseller Lists
- 5. Accessing Human Computer Interaction Manual Solutions Free and Paid eBooks
 - Human Computer Interaction Manual Solutions Public Domain eBooks
 - Human Computer Interaction Manual Solutions eBook Subscription Services
 - Human Computer Interaction Manual Solutions Budget-Friendly Options
- 6. Navigating Human Computer Interaction Manual Solutions eBook Formats
 - ePub, PDF, MOBI, and More
 - Human Computer Interaction Manual Solutions Compatibility with Devices
 - Human Computer Interaction Manual Solutions Enhanced eBook Features
- 7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of Human Computer Interaction Manual Solutions
 - Highlighting and Note-Taking Human Computer Interaction Manual Solutions
 - Interactive Elements Human Computer Interaction Manual Solutions
- 8. Staying Engaged with Human Computer Interaction Manual Solutions
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers Human Computer Interaction Manual Solutions
- 9. Balancing eBooks and Physical Books Human Computer Interaction Manual Solutions
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection Human Computer Interaction Manual Solutions
- 10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
- 11. Cultivating a Reading Routine Human Computer Interaction Manual Solutions
 - Setting Reading Goals Human Computer Interaction Manual Solutions
 - Carving Out Dedicated Reading Time
- 12. Sourcing Reliable Information of Human Computer Interaction Manual Solutions
 - Fact-Checking eBook Content of Human Computer Interaction Manual Solutions

- Distinguishing Credible Sources
- 13. Promoting Lifelong Learning
 - Utilizing eBooks for Skill Development
 - Exploring Educational eBooks
- 14. Embracing eBook Trends
 - Integration of Multimedia Elements
 - Interactive and Gamified eBooks

Human Computer Interaction Manual Solutions Introduction

In this digital age, the convenience of accessing information at our fingertips has become a necessity. Whether its research papers, eBooks, or user manuals, PDF files have become the preferred format for sharing and reading documents. However, the cost associated with purchasing PDF files can sometimes be a barrier for many individuals and organizations. Thankfully, there are numerous websites and platforms that allow users to download free PDF files legally. In this article, we will explore some of the best platforms to download free PDFs. One of the most popular platforms to download free PDF files is Project Gutenberg. This online library offers over 60,000 free eBooks that are in the public domain. From classic literature to historical documents, Project Gutenberg provides a wide range of PDF files that can be downloaded and enjoyed on various devices. The website is user-friendly and allows users to search for specific titles or browse through different categories. Another reliable platform for downloading Human Computer Interaction Manual Solutions free PDF files is Open Library. With its vast collection of over 1 million eBooks, Open Library has something for every reader. The website offers a seamless experience by providing options to borrow or download PDF files. Users simply need to create a free account to access this treasure trove of knowledge. Open Library also allows users to contribute by uploading and sharing their own PDF files, making it a collaborative platform for book enthusiasts. For those interested in academic resources, there are websites dedicated to providing free PDFs of research papers and scientific articles. One such website is Academia.edu, which allows researchers and scholars to share their work with a global audience. Users can download PDF files of research papers, theses, and dissertations covering a wide range of subjects. Academia.edu also provides a platform for discussions and networking within the academic community. When it comes to downloading Human Computer Interaction Manual Solutions free PDF files of magazines, brochures, and catalogs, Issuu is a popular choice. This digital publishing platform hosts a vast collection of publications from around the world. Users can search for specific titles or explore various categories and genres. Issuu offers a seamless reading experience with its user-friendly interface and allows users to download PDF files for offline reading. Apart from dedicated platforms, search engines also play a crucial role in finding free PDF files. Google, for

instance, has an advanced search feature that allows users to filter results by file type. By specifying the file type as "PDF," users can find websites that offer free PDF downloads on a specific topic. While downloading Human Computer Interaction Manual Solutions free PDF files is convenient, it's important to note that copyright laws must be respected. Always ensure that the PDF files you download are legally available for free. Many authors and publishers voluntarily provide free PDF versions of their work, but it's essential to be cautious and verify the authenticity of the source before downloading Human Computer Interaction Manual Solutions. In conclusion, the internet offers numerous platforms and websites that allow users to download free PDF files legally. Whether it's classic literature, research papers, or magazines, there is something for everyone. The platforms mentioned in this article, such as Project Gutenberg, Open Library, Academia.edu, and Issuu, provide access to a vast collection of PDF files. However, users should always be cautious and verify the legality of the source before downloading Human Computer Interaction Manual Solutions any PDF files. With these platforms, the world of PDF downloads is just a click away.

FAQs About Human Computer Interaction Manual Solutions Books

How do I know which eBook platform is the best for me? Finding the best eBook platform depends on your reading preferences and device compatibility. Research different platforms, read user reviews, and explore their features before making a choice. Are free eBooks of good quality? Yes, many reputable platforms offer high-quality free eBooks, including classics and public domain works. However, make sure to verify the source to ensure the eBook credibility. Can I read eBooks without an eReader? Absolutely! Most eBook platforms offer web-based readers or mobile apps that allow you to read eBooks on your computer, tablet, or smartphone. How do I avoid digital eye strain while reading eBooks? To prevent digital eye strain, take regular breaks, adjust the font size and background color, and ensure proper lighting while reading eBooks. What the advantage of interactive eBooks? Interactive eBooks incorporate multimedia elements, quizzes, and activities, enhancing the reader engagement and providing a more immersive learning experience. Human Computer Interaction Manual Solutions is one of the best book in our library for free trial. We provide copy of Human Computer Interaction Manual Solutions in digital format, so the resources that you find are reliable. There are also many Ebooks of related with Human Computer Interaction Manual Solutions. Where to download Human Computer Interaction Manual Solutions online for free? Are you looking for Human Computer Interaction Manual Solutions PDF? This is definitely going to save you time and cash in something you should think about.

Find Human Computer Interaction Manual Solutions :

how children learn

how come the wise men are in the dempster dumpster a celebration of children

how brown mouse kept christmas

~~how the experts buy and sell gold bullion gold stocks & gold coins~~

~~how to be a winner~~

how local area networks work what they are what they do 1995

how fishes live how animals live ; v. 3

how people first lived

how the foal crossed the stream

how do apples grow lets-read-and-find-out science

how to be a motivation sensation

how god made the world





how long o lord by carson d a

how i cook it

~~how many frogs~~

Human Computer Interaction Manual Solutions :

bbc compacta class 9th practice assignment 2 unseen youtube - Jun 16 2023

web class 9th bbc compacta module 1 solution     how to use chat gpt for beginners in 30 minutes 2023 matter in our surroundings in one shot from zero to hero class 9th class

bbc compacta class 9 module 5 tenses ca 19 solved - Jun 04 2022

web jun 14 2023 save 3 2k views 3 months ago bbc class 9 series bbc compacta class 9 module 5 tenses ca 19 solved explained bbc class9 tenses more more

bbc compacta class10 worksheets learny kids - Jan 31 2022

web bbc compacta class10 displaying top 8 worksheets found for bbc compacta class10 some of the worksheets for this concept are english bbc compacta for class 8 bbc compacta class 9 english guide bbc compacta class 8 english answer pdf

bbc compacta class 9 english guide bbc literary companion class 10 pdf cbse class 10

bbc learning english easy grammar 6 minute grammar - Dec 10 2022

web easy grammar with 6 minute grammar improve your grammar with easy 6 minute grammar our grammar series for beginner level learners on this page you ll find a range of easy grammar programmes to

bbc learning english bbc learning english homepage - Apr 14 2023

web learn english with these free learning english videos and materials from bbc learning english this site will help you learn english and improve your pronunciation grammar and vocabulary

bbc compacta english class 7 basic marudhar - Feb 12 2023

web frequently bought together this item bbc compacta english class 7 basic 49900 bbc compacta english class 6 basic new edition 2020 21 55000 bbc compacta english class 8 basic new edition 2020 21 52000

bbc compacta english class 10 set of 3 books - Jul 17 2023

web bbc bbc compacta english class 10 set of 3 books paperback bunko 1 january 2019 4 2 130 ratings see all formats and editions paperback bunko 780 00 2 used from 490 00 2 new from 770 00 save extra with 3 offers bank offer 10 instant discount up to inr 500 on j and k bank debit card non emi txn minimum purchase v details

bbc learning english course upper intermediate unit 8 - Aug 06 2022

web these are a combination of second and third conditionals dan explains all in 90 secs watch the video and complete the activity show transcript hide transcript hi guys dan from bbc learning

bbc compacta english class 11 set of 2 books - May 15 2023

web bbc compacta english class 11 set of 2 books paperback 31 december 2017 by bbc author contributor 4 4 4 4 out of 5 stars 56 ratings

bbc compacta articles a an the of class 5 part 3 youtube - Jul 05 2022

web oct 18 2023 bbc compacta articles a an the of class 5 part 3 articles a an the of bbc compacta welcome to fluentiq i am sangeeta in this video we ll learn about

class 8 bbc compacta solutions edurev - Jan 11 2023

web edurev s class 8 bbc compacta solutions course for class 8 is an all inclusive learning package that provides comprehensive solutions to the bbc compacta textbook the course is meticulously designed to help students grasp complex concepts and enhance their understanding of various subjects

bbc learning english course intermediate unit 11 session 2 - Apr 02 2022

web open unit selector close unit selector unit 11 the diary of a double agent select a unit 1 pop ups 2 hidden talents 3 can t buy me love 4 travellers tales 5 the colleague from hell 6

bbc compacta for class 12 english bbc set of 2 - Mar 13 2023

web bbc compacta for class 12 english bbc set of 2 books bbc amazon in books

maximina thome book full bbc compacta english core class - Aug 18 2023

web may 3 2020 the writers of full bbc compacta english core class 11 have made every inexpensive attempts to come up with the money for latest and precise counsel and facts for the readers of this publication the creators will not be held accountable for any unintended flaws or omissions that may be found

class 6 bbc compacta solutions edurev - Oct 08 2022

web the class 6 bbc compacta solutions course for class 6 by edurev is an excellent resource for students looking to excel in their studies this course provides comprehensive solutions to all the chapters and exercises in the bbc compacta textbook for class 6 covering important topics in english mathematics science and social science

bbc compacta class 11 solutions edurev neet question - Sep 07 2022

web bbc compacta class 11 solutions bbc compacta is a popular textbook for class 11 students it covers a wide range of subjects including english mathematics physics chemistry and biology the textbook is designed to help students understand complex topics in a simple and easy to understand manner here are some solutions to the

class 10 brajindra book co - Nov 09 2022

web portfolio activities activities with assessment scales on reading writing grammar vocabulary and asl download pdf

brajindra book company - Sep 19 2023

web we are a three decade old publishing company headquartered in karnal haryana we are mainly engaged in producing and marketing quality english teaching and learning materials under the brand name compacta for classes 3 to 12 of cbse affiliated schools

bbc compacta english core for cbse class 12 snatch books - May 03 2022

web quick view bbc compacta english core for cbse class 12 books for the student of bcom bms bfia economics hons bsc university of delhi ip university

bbc compacta worksheets learny kids - Mar 01 2022

web bbc compacta displaying top 8 worksheets found for bbc compacta some of the worksheets for this concept are bbc compacta of class 8 solutions pdf bbc compacta class 8 english answer pdf keep your english up to date 2 teachers pack bbc compacta class 12 solutions delhi public sonapat pdf cbse class 10 bbc english literature

solutions manual for spectrometric identification of organic - Aug 23 2023

web get instant access to our step by step spectrometric identification of organic compounds solutions manual our solution manuals are written by chegg experts

solutions manual of spectrometric identification of organic - Jun 09 2022

web chm 3122 notes spectrometric identification organic compounds solutions manual testbank solution manual is available

for the book mentioned below spectrometric

spectrometric identification of organic compounds silverstein 8th - Dec 03 2021

free download spectroscopic identification of organic - Feb 05 2022

web download free spectrometric identification of organic compounds silverstein 8th edition solutions manual answers pdf

spectrometric identification of organic compounds solutions - Jul 22 2023

web robert m silverstein francis x webster david kieme solutions manual for spectrometric identification of organic compounds wiley 2005 free ebook

review of spectrometric identification of organic compounds - Jul 10 2022

web since the indicated carbon of phenylacetonitrile is sp^3 hybridized it is reasonable for this compound to show c h stretching at less than 3000 solution solutions manual

solution manual for spectrometric identification of organic - Sep 12 2022

web aug 4 2015 robert m silverstein s spectrometric identification of organic compounds first appeared 50 years ago throughout these 50 years this book has undergone many

spectrometric identification of organic compounds journal of - Mar 18 2023

web spectrometric identification of organic compounds 8th edition welcome to the web site for spectrometric identification of organic compounds eight edition by robert

robert m silverstein francis x webster david kieme solutions - Jun 21 2023

web spectrometric identification of organic compounds solutions manual by silverstein robert m webster francis x isbn 10 0471190926 isbn 13 9780471190929

spectrometric identification of organic compounds 8th edition - Oct 13 2022

web request pdf on jan 1 2005 r m silverstein and others published spectrometric identification of organic compounds 7ed 2005 silverstein webster kieme find

spectrometric identification of organic compounds 7ed 2005 - Aug 11 2022

web spectrometric identification of organic compounds is written by and for organic chemists and emphasizes the synergistic effect resulting from the interplay of the

solutions manual for spectrometric identification of organic - Nov 14 2022

web description solution manual for spectrometric identification of organic compounds 8e silverstein solution manual for spectrometric identification of organic

spectrometric identification of organic compounds 8th - Feb 17 2023

web jan 3 2005 spectrometric identification of organic compounds is written by and for organic chemists and emphasizes the synergistic effect resulting from the interplay of

[spectrometric identification of organic compounds 8th edition](#) - Jan 16 2023

web solutions manual for spectrometric identification of organic compounds 7th edition by silverstein 25 00 complete downloadable solutions manual for spectrometric

[solutions manual for spectrometric identification of organic](#) - May 08 2022

web solutions manual of spectrometric identification of organic compounds by silverstein webster 7th edition isbn 9780471393627 this is not the text book you are

spectrometric identification of organic compounds 7th edition - Dec 15 2022

web oct 30 2014 spectrometric identification of organic compounds is written by and for organic chemists and emphasizes the synergistic effect resulting from the interplay of

spectrometric identification organic compounds solutions - Apr 07 2022

web jan 31 2023 the book presents a unified approach to the structural determination of organic compounds based largely on mass spectrometry ms infrared ir

solutions manual of spectrometric identification of organic - Mar 06 2022

web here you will be able to download silverstein spectrometric identification of organic compounds answer key ebook online and without stress what more could you ask for

solution manual for spectrometric identification of - Sep 24 2023

web solutions manual for spectrometric identification of organic compounds 7 ed 2 624 298 3kb english pages 231 year 2005 report dmca copyright download pdf

answer manual to accompany spectrometric identification of - Apr 19 2023

web presents a sequence of procedures for identifying an unknown organic liquid using mass nmr ir and uv spectroscopy along with specific examples of unknowns and their

silverstein spectroscopy solution manual pdf - Jan 04 2022

web first published over 40 years ago this was the first text on the identification of organic compounds using spectroscopy this text presents a unified approach to the structure

[spectrometric identification of organic compounds solutions](#) - May 20 2023

web answer manual to accompany spectrometric identification of organic compounds sixth edition 0 reviews authors robert m silverstein francis x webster print book

spectrometric identification of organic compounds 8th edition - Nov 02 2021

tutti vivi storie vere di colloqui quotidiani con ada gobetti - Oct 26 2022

web 4730486 tutti vivi storie vere di colloqui quotidiani con 1 2 downloaded from robbinsmanuscripts berkeley edu on by guest tutti vivi storie vere di colloqui quotidiani con recognizing the mannerism ways to acquire this books tutti vivi storie vere di colloqui quotidiani con is additionally useful you have remained in right

tutti vivi storie vere di colloqui quotidiani con ragazzi in un altra - Sep 05 2023

web tutti vivi storie vere di colloqui quotidiani con ragazzi in un altra dimensione è un libro di angela de francesco pubblicato da minerva edizioni bologna nella collana i misteri di minerva acquista su ibs a 14 25

tutti vivi translation into english examples italian reverso - Jul 23 2022

web translations in context of tutti vivi in italian english from reverso context vogliamo tornare tutti vivi ai loro genitori

free tutti vivi storie vere di colloqui quotidiani con - Mar 31 2023

web storie vere di colloqui quotidiani con ragazzi in un altra dimensione apr 01 2023 storia d italia narrata al popolo dalla fondazione di roma alla grande guerra nazionale apr 20 2022 i colloqui di erasmo da rotterdam jun 22 2022

free delivery worldwide on all books from book depository - Feb 27 2023

web book depository is the world s most international online bookstore offering over 20 million books with free delivery worldwide

free tutti vivi storie vere di colloqui quotidiani con - Sep 24 2022

web tutti vivi storie vere di colloqui quotidiani con diplomazia consoli e ambasciatori aug 16 2022 questo lavoro nasce quale continuazione di una prima ricerca pubblicata quattro anni fa consoli e ambasciatori a torino 1861 2011 ricostruzione storica delle legazioni estere presenti nella prima capitale del regno d italia la

tutti vivi storie vere di colloqui quotidiani con - May 21 2022

web pages of tutti vivi storie vere di colloqui quotidiani con a mesmerizing literary creation penned by a celebrated wordsmith readers embark on an enlightening odyssey unraveling the intricate significance of language and its enduring effect on our lives

tutti vivi storie vere di colloqui quotidiani con ragazzi in un altra - Aug 04 2023

web acquista online il libro tutti vivi storie vere di colloqui quotidiani con ragazzi in un altra dimensione di angela de francesco in offerta a prezzi imbattibili su mondadori store

tutti vivi storie vere di colloqui quotidiani con ragazzi in un - Jul 03 2023

web jun 4 2023 tutti vivi storie vere di colloqui quotidiani con ragazzi in un altra dimensione by angela de francesco tutti vivi storie vere di colloqui quotidiani con ragazzi in un altra dimensione by angela de francesco is accessible in our novel gathering an online access to it is set as public so you can get it immediately

tutti vivi storie vere di colloqui quotidiani con ragazzi in un'altra - Jun 02 2023

web tutti vivi storie vere di colloqui quotidiani con ragazzi in un'altra dimensione libro di angela de francesco spedizione gratuita per ordini superiori a 25 euro acquistalo su libreriauniversitaria.it pubblicato da minerva edizioni bologna collana i misteri di minerva brossura ottobre 2019 9788833242163

tutti vivi storie vere di colloqui quotidiani con ragazzi in un'altra - Oct 06 2023

web scopri tutti vivi storie vere di colloqui quotidiani con ragazzi in un'altra dimensione di de francesco angela spedizione gratuita per i clienti prime e per ordini a partire da 29 spediti da amazon

tutti vivi storie vere di colloqui quotidiani con ragazzi in un'altra - Nov 26 2022

web not  5 retrouvez tutti vivi storie vere di colloqui quotidiani con ragazzi in un'altra dimensione et des millions de livres en stock sur amazon.fr achetez neuf ou d'occasion

tutti vivi storie vere di colloqui quotidiani con ragazzi in un - May 01 2023

web raccontano tutti vivi storie di colloqui quotidiani con ragazzi che libro tutti vivi storie vere di colloqui quotidiani con antigone delle citta pitu re vivi percorsi di consapevolezza giovanna garbuio un urlo verso il cielo storia di un legame d'amore lungo tutti vivi storie vere di colloqui quotidiani con ragazzi notizie su

translation of tutti erano vivi in english reverse context - Aug 24 2022

web translations in context of tutti erano vivi in italian english from reverse context ho messo la noce di cocco in un acquario con piccolissimi avannotti e gamberetti e tutti erano vivi e felici

tutti vivi storie vere di colloqui quotidiani con ragazzi in un'altra - Jan 29 2023

web tutti vivi storie vere di colloqui quotidiani con ragazzi in un'altra dimensione i misteri di minerva de francesco angela amazon.es libros

tutti viventi translation into english reverse context - Mar 19 2022

web translations in context of tutti viventi in italian english from reverse context tutti gli esseri viventi

tutti vivi storie vere di colloqui quotidiani con ragazzi in un'altra - Dec 28 2022

web compre online tutti vivi storie vere di colloqui quotidiani con ragazzi in un'altra dimensione de de francesco angela na amazon frete gr tis em milhares de produtos com o amazon prime encontre diversos livros em

traduzione di storie di tutti i giorni in inglese reverse context - Jun 21 2022

web traduzioni in contesto per storie di tutti i giorni in italiano inglese da reverse context ci  che rende instagram un successo   la sua capacit  di creare foto straordinarie utilizzando i filtri e condividendo storie di tutti i giorni

tutti vivi storie vere di colloqui quotidiani con pdf concita de - Feb 15 2022

web may 6 2023 concita de gregorio takes the unadorned terrible facts of this true story and embodies the protagonist s

voice in a narrative that is fast and urgent she unravels these traumatic events to tell the story of a mother bereft of her children a state for which there is no word the missing word delves deep into irina s thoughts

tutti vivi storie vere di colloqui quotidiani con frederika - Apr 19 2022

web comprehending as with ease as treaty even more than new will have enough money each success next to the statement as competently as insight of this tutti vivi storie vere di colloqui quotidiani con can be taken as with ease as picked to act belfagor 1957 murphy s boy toreya hayden 2018 02 20